



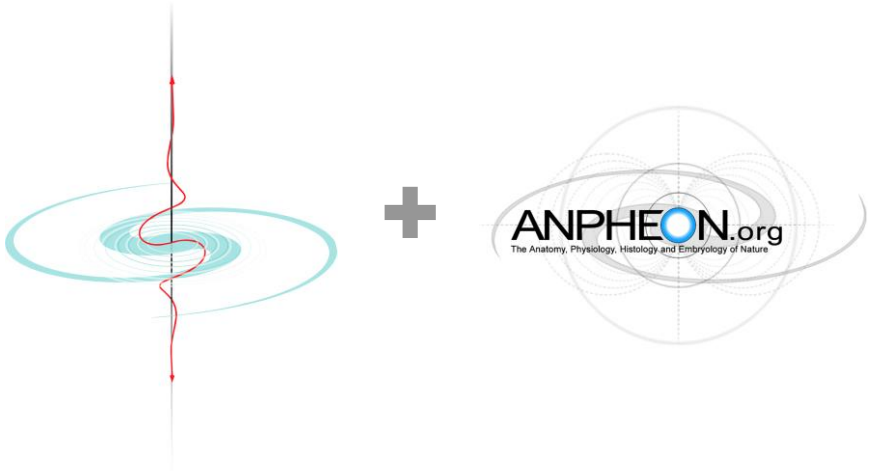
Sorce Theory:

Unlocking the Basement

by Joel Morrison

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Unlocking the Basement



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Joel Morrison

*...the wise man looks into space
and does not regard the small as too little,
nor the great as too big,
for he knows that there is no limit to dimensions.*

—Lao-Tzu

*... dedicated to my mother, a true renaissance woman whose
wisdom and patience provided an invaluable genesis in the womb
of the arts, from which possibility flows without end from the
infinite.*

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A NOTE TO THE READER

The present work is predicated on two main sources of alternative interpretation: Gerald Lebau's many books on Sorce Theory (found at www.anpheon.org) and my own prior work on the fundamentals of Interface Philosophy, *SpinbitZ: Volume I — Interface Philosophy, Mathematics, and Nondual-Rational Empiricism*. Though much of this exposition can be understood without a full working knowledge of either of these bodies of thought, it will be much better understood within their context. However, I have provided an introduction to the core Sorce Theory concepts in the context of this new foundation, so the present work may also suffice for an introduction to the model for the initiate.

In order to facilitate the cross-study between these works, the following notation will be used to identify terms and concepts which are explicated further in these respective works. Following a reference to a term or concept to be found in Sorce Theory or in *SpinbitZ: Volume I*, the following tag will appear (ST), or (SZ), respectively. Often within this tag a sub-tag will be present referencing the section within the work in which the subject can be found. For example, with the tag (SZ: Interface Mathematics) we know that the subject can be found in the chapter Interface mathematics in *SpinbitZ: Volume I*.

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Every science begins in philosophy and ends in art.
— Will Durant



INTRODUCTION

It is impossible to conceive anything without a cause; the attempt to do so makes the mind a blank. This implies that there must be a great many scientists walking round with blank minds! — H.P. Blavatsky The Secret Doctrine

And so at last I admit to an error in my metaphysics. A void does exist. Several hundred thousand of them. Locked in some ivory towers with eyes that don't believe what they see; ears that don't allow reasonable questions; tongues that speak only in mystic signs and symbols; because right where there should have been a brain, there's "The void"! — Gerald Lebau, In the Beginning there was God

Sorce Theory,ⁱ developed by Gerald I. Lebau, is a rigorously causal and extremely detailed theoretical or qualitative paradigm of fundamental physics. It is based on the wave-harmonics and fluid-dynamics of a continuous and compressible subatomic superfluid as the medium for the wave-nature of matter and energy at all observable levels in the cosmos. Sorce Theory is the conceptual operating system for a radical reinterpretation, reorientation and reintegration of a

ⁱ See <http://www.anpheon.org>

qualitative understanding of fundamental physical reality. Far beyond the broken qualitative limits of the causal foundations of classical physics, Sorce Theory demonstrates a new “post-quantum” causal underpinning—a qualitative OS—to reinstate causality itself in our understanding of physical reality. Importantly, however, it does this entirely without limiting or affecting the empirically-derived and extremely useful quantitative infrastructure of modern physics—except for in the inevitable illumination and understanding of the mathematics which hopefully will indeed reveal its limitations such that we can begin to move beyond them.ⁱ

The main beneficial feature Sorce Theory imparts upon those who would venture to install this qualitative OS and take it for a test run, is a visceral sense of organismic unity and self-similar harmony permeating the cosmos. This is because it finally allows one to visualize and make *sense* of the unification of the forces and the self-similarity of the patterns between the macro- and the micro-cosmic levels. And in this way Sorce Theory unifies the core macro-micro schism (e.g. relativity vs. the quantum) infecting all of modern physics and cosmology. It resolves this core-level problem by digging beneath the axiomatic wave-particle paradox and its attendant neuroses of “weirdness,” indeterminacy and acausality—not to mention its schizophrenic “complementarity.” By digging into, and entirely re-guttingⁱⁱ the qualitative “legacy code” of this unwieldy “Standard OS,” Sorce Theory thus finds a new integration and a unity for all known physical energy forms, and forces, in purely visualizable and causal terms.

Beyond the Foundational Abyss

There is a slight problem with this model as it stands, however. The paradigm is built on a “foundational” ontology common to

ⁱ See my *SpinbitZ: Volume I — Interface Philosophy, Mathematics, and Nondual-Rational Empiricism*, for the foundations of a visual understanding of mathematics itself in a nondual and holarchical framework.

ⁱⁱ Or re-GUT-ing

all of modern science. And these foundational models have been shown to be highly problematic through the last hundred years of research in epistemological models of truth and justification (i.e. the study of what constitutes a valid approach to constructing a knowledge-system (episteme) of the ultimately real (ontic)). For instance, the original Sorce Theory model assumes a fundamental level (scale) of absolute fluid-continuity from which the first forms of the discrete and solid emerge, i.e. the atoms. Albeit highly useful, successful, and perhaps even originally necessary, Sorce Theory's "continuity bias" and reductionism is perhaps a direct reactionary reflection of the "particle bias" and reductionism to which it rightly attributes (and brilliantly corrects through its reaction) the host of problems plaguing the orthodox family of physical models. This implicit reductionism is ultimately caused by the original retention in Sorce Theory of the common medieval and pre-rational foundationalism inherent in all physical theories. And in turn—as my *SpinbitZ: Volume I - Interface Philosophy, Mathematics, and Nondual-Rational Empiricism* demonstrates—this foundationalism ubiquitous in the sciences is caused by an aborted project of rationalism, leaving unfinished a truly rational and logical exploration of the nature of the infinite, which Deleuze and Merleau-Ponty see as the “secret of rationalism.”ⁱ

What Sorce Theory offers in potential (among other things) is a new, nondual, non-reductionistic, coherent and integrated understanding of reality, from metaphysics to physics. Indeed, the expansion into a trans-foundational model herein—and the foundations of Interface Philosophy in *SpinbitZ: Volume I*—

ⁱ See my *SpinbitZ: Volume I — Interface Philosophy, Mathematics, and Nondual-Rational Empiricism* for discussion on the “shadow-element” of rationality in modern thought, and its solution through a recognition and a reconstruction of a collapsed retroaggressive historical rendering and brutally oversimplistic bifurcation between the “rationalists” and the “empiricists”. Spinoza, for example, may indeed properly be seen as a pivotal figure for both rationalism and empiricism, but he is misinterpreted and miscategorized as merely a rationalist, and even a materialist. *SpinbitZ* demonstrates that Spinoza's thought was properly considered a non-foundational model if however rendered in the foundational terms he inherited from the medieval philosophers, such as substance and attributes, etc.

helps Sorce Theory to realize this potential without collapsing into “flatland”ⁱ materialism, nor inverting the ontic/epistemic polarity into an absolutized idealism. With this foundation, the physical and logical roots remain in perfect harmony with the truths of the nondual traditions—open and ontologically neutral at its roots maintaining a space for mind and matter as two symbiogenetic epistemic functions. And interestingly, the meta-mathematics—or Interface Mathematics—demonstrated in Interface philosophy shows an entirely resonant holarchical form to mathematics, while also revealing the “purified” or rarified nature of the embryogenesis of the concept itself, given the nature of mathematics as the “art and science of pure relation.”

This new view of Sorce Theory, opened to the rational truths of the infinite (or deep infinity), for instance, offers a perspective on the fundamental morphological complementarity of the wave and particle which is *not* paradoxical and *not* impossible for the human mind to grasp, but precisely the opposite, entirely causal and explicable in mechanistic terms at all levels in the manifestly self-similar cosmos. The wave and the particle (and by corollary, the continuous and the discrete, and the fluid and solid, etc), become symbiogenetic, or “other-engendering,” self-similar and recursively regenerating concepts. They are the two basic modes or morphologies of existence wherein each one includes, and is composed of the other at the next deeper level. Every wave (or fluid continuum) is made of particles and each of those particles is in turn made of deeper waves (of a deeper-level fluid continuum) which in turn are made of more particles and more waves, *ad infinitum*.

To the general reader this may seem an infinitely deep problem, i.e. a “disastrous infinite regress,” rather than a sought-for solution, but the “regress,” in this medieval and negative way of conceiving of the infinite, is a direct function of

ⁱ See the work of Ken Wilber

the backward-looking frame of reference of the default foundationalist and pre-rational mind-set itself. The idea that we must search the past, or the inward levels of substrates (immanence), for an arbitrarily and tacitly preconceived “ultimate beginning,” initiates the regress in the first place. If we fail to find our preconceived boundaries in this regressive operation, it is not a problem for infinity or eternity itself, but for our failed foundationalist preconceptions. A positive conception of the “infinite regress” as an infinite “*progress*,” a forward-directed emergence from infinitely deep complexity, is a key feature of integrative, non-reductionistic or open-ended (i.e. non-dual) modern ontologies and epistemologies.ⁱ Furthermore, this “deep infinity”ⁱⁱ (as I will call its inward, or immanent, variation) is key to the revolutionary mathematical fields of the “calculus,” “complexity science” and “Chaos Theory,” and a key feature of fractals. Indeed, it is shown in *SpinbitZ: Volume I*, that “infinite determinism equals indeterminism” and this Principle of Infinite Determinism is seen as a resonant chord from the fundamental principle of Nondual Rationalism itself.

The last century of research in ontology and epistemology, coupled with the fundamental discoveries of the mathematics of the transfinite and the continuum (transcendent and immanent infinities, respectively), as well as the critical findings in quantum and complexity science, has rendered moot the lingering, peculiarly medieval fear of the infinite regress and thrown it into positive relief. Instead of viewing the problem from the negative point of view of looking backward or inward to find an origin in space, scale or time, and fretting when these hypothetical beginnings can’t be found, the problem is turned on its head. If there are no origins to begin with—in other words, if, contrary to our tacit predispositions, the universe is eternal and infinite, in both depth (immanence) and span (transcendence), then the search for an origin is itself a false

ⁱ

ⁱⁱ a phrase borrowed from M.C. Escher

problem engendered by the false premise that such an “ultimate beginning” or “ultimate foundation” necessarily exists.

The epistemological framework for foundational ontologies would counter a “disastrous regress” by positing a root-level scale or substratum of axiomatic origin for the higher-level “modifications” and forms made therefrom. One of many problems with this scenario, however, is that a medium cannot have conceivable properties with which to be modified without deeper levels of complexity and form. As a logical corollary, a foundational level of axioms cannot be questioned and indeed there can be no logical or epistemological justification for the existence of those axioms. Hence such foundational models are said to be “self-justifying,” which as scholars generally seem to agree, is merely a statement of *belief* that they need no justification. But very often these foundation-level axioms are far from intuitive or self-evident.

This problem is intimately related to the foundational dichotomy of substance with its “*substance* and *bundle* views.” Substance views of substance posit that the ontological foundation (substance) is an amorphous and propertyless substratum in which properties (or modes) ultimately inhere or find their originary material substratum. And from this formless foundation, patterns, modes and objects, with their attendant properties and complexities, can emerge. Bundle views, on the other hand, posit that such an amorphous substance *before*, and hence without properties, is meaningless and that properties themselves are the only things that are real, having and needing no substance in which they inhere.

The bundle-view critique of the substance-view can be explained thus; properties and modifications could not *inhere* in substance if it had no *inherence properties* in the first place. In other words, if substance had no properties to begin with, such as the property of modifiability, then how could it ever be modified into patterns, modes, objects and higher-level properties, in the second-place? Doesn’t modifiability presuppose properties that can be modified? At the very least doesn’t it presuppose the general property of modifiability or

inherence itself? Isn't substance, therefore, at the very least, necessarily pre-modified with the property of modifiability—whatever that must entail? Conversely, is it really any better to take the view that there is no substance to reality and that it is all merely bundles of properties ultimately inhering in ... nothing *ad infinitum*?

With this dichotomy of opposing and equally bizarre paradoxes in mind, it is clear that each contains a truth in its critique of the other, as well as a relative truth in its own basic concepts. Therefore, as is usual with controversies that rage for centuries with brilliant proponents for each side, the truth is likely somewhere in the middle. As Ken Wilber says, no one is smart enough to be completely wrong and therefore, to one extent or another, “everyone is right.” This is specifically true in the case of heated intellectual controversies over competing models each of which has a broad base of adherents all recognizing some validity to their preferred model.ⁱ A case in point is the “nature v. nurture” debate in which it is now understood that both sides were correct and that nature and nurture both play key, indeed symbiogenetic, roles in the development of the individual. It is clear therefore that some integration of this useful differentiation between substance and bundle views is in order.

But what can a “substance-bundle view of substance” (to temporarily retain the cumbersome nomenclature) look like? And for the logical corollary, what would an axiomless-axiom look like? A useful clue for resolving the “substance-bundle” dichotomy can be found in the Buddhist concept of “nonduality,” or the Taoist notion of “the identity of opposites” (i.e. polarity), both of which can be summarized as “the belief that dualism or dichotomy are illusory phenomenae.”ⁱⁱ In nondualist philosophies such as Taoism, all dichotomies and

ⁱ Indeed we will come to see this historical pattern of conceptual differentiation, which generates a highly polarized false-dichotomy, which in turn must finally be integrated into a symbiotic (and symbiogenetic) conceptual polarity, or indeed a complimentary set of practical axes, or praxes.

ⁱⁱ wikipedia: nondualism

opposites are sybiogenetic (to use a more modern and precise vocabulary) or “other-engendering,” and other-necessitating. In other words, neither “substance” nor its “bundles” (properties formed from low-level modifications) are “foundational,” but both must exist and dependently arise at every conceivable level whether the substance “appears” continuous and amorphous or not. This is explicitly embodied in the non-dual notion that form and “emptiness” (formlessness) are one, and this is also embodied in the theosophical notion of a “rootless root.” This means that the substance-bundle dichotomy, as should be expected, is purely a function of the foundational bias in modern thinking.ⁱ Substance views appear correct when we are observing a level that appears amorphous, yet the fact that this amorphousness and morphability are themselves properties tells us that there are yet deeper levels of morphology and complexity statistically arising as these emergent properties. Conversely, at this point the bundle view might appear correct if it were not for the recognition of the absurdity of the idea that properties (bundles) could inhere in nothingness. Thus at every level there is necessarily both substance and bundles, stuff and its properties, or emptiness and form.

But what of an axiomless-axiom? The pattern should be obvious; the axiomless-axiom is the logic-version of the rootless-root. The only irreducible axiom of a system must be the postulated irreducibility itself, and it must be maintained in “epistemic space,” i.e. with the unambiguous treatment of these axioms as purely mental constructs, or “orienting generalizations,” as Ken Wilber puts it. This notion, we will see, has been expanded into the conceptual system called Interface Philosophy, with its “Vision-Logic Coordinate System (VCS).” And the “axiomless-axiom” will be conceptualized by a single axis, conceptually akin to the ancient axis mundi, or world axis

ⁱ This treatment, of course, is only meant to be suggestive of the solution, and in order to rigorously counter the many objections from academia regarding this clearly “easy fix” for a problem that has been raging for centuries, it is fleshed out much more thoroughly in *SpinbitZ: Volume I — Interface Philosophy, Mathematics, and Nondual-Rational Empiricism*.

between the micro and macro universe. This axis embodies the “infinite regress” itself in positive form, and taken as an *a priori* unity also as an “infinite progress,” (depending entirely upon the direction one is “traveling”) with no beginning nor end in time, scale or space.

This single axiomless-axiom, or rootless-root, will be the “orienting generalization” within which the unlocked “basement-level” definitions or axioms of Sorce Theory will become axiomless, self-similar recursions, endlessly enfolding and unfolding, merging and emerging, up and down, within and without, the infinite holarchy of existence. All such definitions and “basic items” will be opened up to (at the very least the possibility of) deeper causal explanations, and we will find immediately, that hidden and locked within the foundations of the “basement level,” awaits an endless rhythmic pattern within which the “fundamental properties” enfold and unfold along this rootless axis, each symbiotically and interdependently explaining and catalyzing the causation and properties of the others. In resonance with the hermetic principle of analogy (“as above so below” and vice versa), this conveniently allows the insights gained at any level in the holarchy to be used to explain every other level, into a self-reinforcing and indivisible whole.

A BRIEF NOTE ON PURPOSE

It must be stressed that these are mainly philosophical and metaphysical speculations at the foundational interface (metaphysical axioms) of the original Sorce Theory model. The purpose is to render Sorce Theory compatible with the newly emerging “integral” or transrational philosophy as it is manifesting in Interface Philosophy, Integral Methodological Pluralism and elsewhere. These speculations do not impact this model at the higher level of its physical constructions except perhaps to infuse them with a deeper causal, non-foundational/non-reductionistic and integral context, which I believe can be quite useful and illuminating (as I will attempt to show) and which I feel is absolutely necessary for compatibility with the truths gleaned from the entire history of philosophy, from the great wisdom traditions to “post-modernism,” to “Integral post-metaphysics,” and “post-ontology.”

The goal of philosophy, and of my own work, is to integrate the truths gained from all modes of knowledge. Sorce Theory is one such truth that I feel is key to the further evolution of human knowledge. And so placing Sorce Theory on a non-reductionistic (non-foundationalist) and non-dual footing is key to upgrading the model to fit the truths of ancient, modern and “post-modern” philosophy as it progresses into the coming integral and transrational age of which the cusp is already manifest in “integral methodological pluralism” (IMP) and SpinbitZ. Hopefully I can demonstrate this here, to some degree.

PRELIMINARY DEFINITIONS

Reductionism:

There is not enough time or space here to include an exposition of the many different types and meanings hidden in the word ‘reductionism’ (these will be explored in much greater depth in *SpinbitZ Volume II*, of which this treatise will also be included). The one type of reductionism that I will use herein is actually one of the simplest, and easiest to understand. It means merely a truncation of the infinite holarchy to a single root level of scale (e.g. foundationalism), wherein all higher levels can be reduced to the mysterious and unexplainable properties of this root. This “scale reductionism” or depth reductionism, is in contrast to the “rootless root” of the great (non-dual) wisdom traditions as represented in the quote from Lao-tzu: *...the wise man looks into space and does not regard the small as too little, nor the great as too big, for he knows that there is no limit to dimensions.*

There are much worse types of reductionism than this holistic kind of “subtle reductionism,” however, such as the “gross reductionisms” (“quadrant absolutisms”) of absolute (atomic) materialism, but we won’t go into those here since they do not apply to the holistic model of Sorce Theory.

Solid-Bias:

The word ‘bias’ will be used here to refer to the preconceptual cause and effect relationship between a reductionism (see above) and the thinking it induces in its user. A bias can also be

seen as a preference for one conceptual pole over its opposite. In SpinbitZ, it is a “solid-bias” that gives rise to the “particle-bias,” and a transcendent-biasⁱ that gives rise to the solid-bias.

The solid-bias has been encoded into our brains through the effects of our evolutionary (transcend-and-include) history as a tool-making species (e.g. *homo habilis*). We can see this solid-bias in the homuncular map of the somatosensory cortex with the hands of this homunculus being extremely large relative to the rest of the body. It is largely (though obviously not exclusively) through the manipulation of solids, as opposed to liquids, that the brain evolved, and so we tend to think in terms of solids because they are the easiest and most natural for us to manipulate both

physically and mentally. Given that we evolved from a fluid state, and likely even had a recent aquatic-primate past,ⁱⁱ fluids represent a background context, like the air, which we tend to take for granted, and which we find difficult for useful manipulation, such as in the creation of tools. For this reason fluidity generally remains a background conceptual model. We do have the capacity to think in terms of fluids, of course, even though we tend to reduce them to solids in the particle bias (e.g.



Figure 1: The Chirocentric-andromorph.

This artists representation of the somatosensory map illustrates the extreme focus the mind has in its map of the hands. This in turn shows the evolutionary importance placed upon manipulation. Given that it is generally solids which the hands excel at manipulating, there is then also a “solid-bias” accompanying the chiro-centrism of man, the tool-maker.

ⁱ This transcendent-bias is explored in great depth in *SpinbitZ: Volume I*.

ⁱⁱ See, for example, the “Aquatic Ape Hypothesis,” of Elaine Morgan.

the kinetic atomic theory). But the solid-bias, enforced by the lowest-common-denominator of orthodox, institutionalized thought, is toward the easiest to conceive—and hence the general bias is toward the solid, rather than the fluid.

Continuity:

From countless discussions involving the term “continuity,” it has become apparent that this term has hidden within it several different meanings. Any rigorous discussion of continuity would break down these definitions and keep track of them separately through specific terminology so as to avoid ambiguity and confusion. I have done this elsewhere in discussions for this purpose, and to great usefulness and effect. But this cumbersome definitional infrastructure is not needed here, though we will break it down partially as useful.

One of the main connotations of “continuity” is “ALL-space-filling” or “All-touching,” as in an omni-non-local plenum. This will be the absolute scopeⁱ of the meaning of “continuity” (and the basis for its relative anti-pole “discrete”) used herein, and we will take this unity of existence as a given. Another common meaning of “continuity” is a kind of homogeneity or amorphousness. This will be the higher-level, perspectival or *relative* scope meaning of continuity herein. Unless otherwise specified as “absolute” or “reductionistic,” the term ‘continuity’ herein will be used at the relative scope and refer to a relative or merely *apparent and effective* homogeneity and amorphousness, as opposed to an absolute continuity and opposed to a perceived *inhomogeneity* and discreteness or thingness. An absolute and actual continuity, taken in this amorphous sense, would be a perfectly static, non-acting, and therefore nonexistent, simplicity. It would thus be inverse-identical to the void.

ⁱ See SpinbitZ: Volume I, for an in depth discussion of scope.

This gives us the relative polarity of the continuous and discrete based on a fundamental unity and fullness of existence,ⁱ wherein any active, existing, and actual continuity can be zoomed into to reveal its deeper levels of active and *relatively* discrete modification and morphology. And conversely, such revealed form and *relative* discreteness can be zoomed in upon to reveal the gradients of the deeper continuum (fullness of existence) from which it is made, *ad infinitum*. This “continuity aspect of matter,” underlying all discreteness is called the “(a)ether,” in Sorce Theory, though the model lacks an understanding of its polar opposite, which together would form the basis for a perfectly causal and understandable nondual principle of complementarity.

Note: A unified model must be predicated on an absolute continuity in the sense of “ALL-touchingness” or unified existence not separated by an absolute non-existence. This is in the same sense as the modern mathematics of the continuum, where the continuum itself is formed from an infinite divisibility of elements. And this is what gives us our Fundamental Principle of Nondual Rationalism, in Interface Philosophy, where :”infinite division equals indivisibility. This is an absolute-level, or Infinite Unity ALL is ONE, where infinite multiplicity equals absolute Unity. It is a “univocity,” rather than “ALL-connectedness” because ALL-connectedness implies restricting links between its components which leads us back to the solid bias. This ALL-touchingness simply means that there cannot be an absolute void, “nothingness” or non-existence separating any somethingness, or existence from any other. These are polar terms, and hence relative. Non-existence cannot *be* absolute because being presupposes existence and non-existence is a negation of the property of existence.

ⁱ We could just as easily call it an “emptiness” given that polarity cannot apply to the absolute level which unfolds and enfolds all polarities

PART I - META-PARADIGM CONTEXT

INTERFACE PHILOSOPHY

This section on Interface philosophy is a modification of various fundamental sections of *SpinbitZ: Volume I* needed flesh out this extension of Sorce Theory as its philosophical or meta-paradigm context. The key items here are the embryogenesis of the concept (EOTC) and the Vision-Logic Coordinate System (VCS), as they form the aperspectival or vision-logic level space from which to make these critical distinctions.

Embryogenesis of the Concept (EOTC)

The Tao begot one.

One begot two.

Two begot three.

And three begot the ten thousand things.

— Lao tzu, *Tao te Ching*

Because evolution itself, on its various planes, unfolds from simplicity to complexity through a process of “multiplication through division” and “differentiation and integration” (e.g. cellular mitosis from a single cell to an integrated multicellular organism), the ideal explication of conceptual categories and orienting generalizations in a nondual framework should be, at least in part, a similar organic process of growth, just as it also occurs in the definition of healthy development in the integral

models of developmental psychology.ⁱ This cellular growth process is a multiplication-through-division whereby a general conceptual unity or category is broken into a specific, integrated and functional multiplicity through a recursive differentiate-and-integrate process.

We can see this process occurring all the time in conceptual development. First there is a general concept put forth—for example of organismic development. Then there is a theoretical distinction made, such as that between nature and nurture. Next, factions divide up along opposing sides of this line, exploring each option on its own terms in opposition to the other. This creates a controversy, dichotomy and dualism that cannot be resolved at this level of factional distinction. Only when we recognize from a higher level that the distinction itself is important, not any side over the other, can we move forward. And in this way, the original conceptual distinction and differentiation, the new functional polarity, is integrated into a higher level of functioning as we move from simplicity to complexity in the embryogenesis of the concept, see Figure 2, below..

ⁱ See the work of Ken Wilber, for an overview.

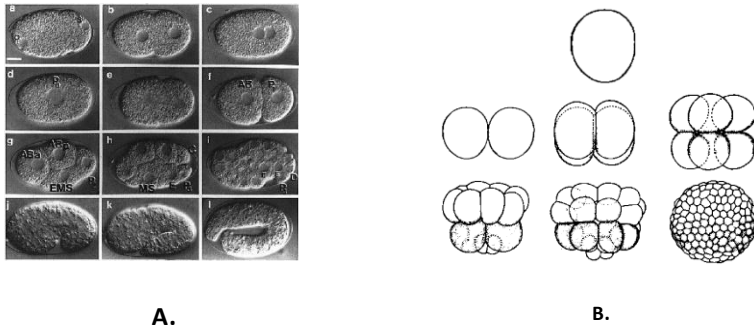


Figure 2: Embryogenesis of the Concept:

A) A generalized image of cellular differentiation. B) The embryogenesis of the worm *C. elegans*.

This ideal process—an embryogenesis of an “orienting generalization holarchy”—would begin with unity and maximum generality (a single conceptual cell) and end with an integrated and comprehensive multicellular conceptual organism. When such a scheme is viewed from the outside—and this is the function and power of a Vision-Logic Coordinate System—one can ascend or descend to any level of generality or detail one needs, from indefinitely detailed multiplicity to simplified conceptual unity. One can then jump into the system at that desired level. This would enable people of virtually all stages of intellectual development to understand the system naturally at their current preferred level of specificity.

Ideally, this holarchical unfolding begins with a chosen orienting conceptual holon of abstract unity which is then divided (multiplication through division) into a polarity. The focus is then placed on the integrating interface between the two poles of the polarity which manifests the inherent triunity in all polarity: the interface itself becomes the “cultivated third”ⁱ in the triunity, and the two begets the three. In some cases, it

ⁱ “cultivated third”: a term borrowed from Michel Serres

could go the same for the next levels of recursion; the conjoined interfaces, integrations and intercourses between the compartments are given focus and manifest a new integrating level of further differentiation. Or it could be that the new holons from the first division, undergo a similar process of differentiation themselves, a holonic mitosis, and the process repeats, after which, or simultaneously, the differentiations between them become further cultivated into thirds or triune interfaces (SZ).

These two methods, analogous to sex, in the first instance, and mitosis in the second, would likely be intermixed throughout the developing conceptual organism, depending on the specific natures of the conceptual holons and their interfaces and relations between other holons. In any case, the previous, more general conceptual level of description is *transcended-and-included* by a more specific and detailed version of itself. Unity differentiates into polarity which integrates through triunity which differentiates further into multiplicity, “the ten thousand things” and so on.

The critical point is that ideally, this history would be recorded, or reconstructed, so that one can see the whole from the outside (the level of vision-logic, which we will explore shortly) and travel up and down between levels of description, from general unity to specific multiplicity, because this orienting and zeroing-in general-to-specific, transcend-and-include holarchical historical procedure ensures that the ONE is included in differentiation to the MANY just as the MANY is transcended and integrated back into the ONE.

This is an idealized description of the evolution of knowledge systems from simple to complex. “Complexity is but the many faces of simplicity,”ⁱ but it can only unfold this complexity, in such a simple and orderly fashion, near the root level. At the

ⁱ From Gerald Lebau

higher levels, the complexity takes on its own, far more interesting and critical forms and attractors.

To be sure, these abstracted categories at all levels are designed to fit the function of the model at hand (the categories and concepts herein are no exception), and it is indeed arguable (as we have discussed) that properties themselves cannot exist without the substance already being modified and complexified (enfolded) at deeper levels, and *those* properties required for such complexity and modification can't arise without deeper levels, *ad infinitum*. In other words, ultimate simplicity and unity is ultimate abstraction in the representational layer of the embryogenesis of the concept. In reality, Unity *is* Multiplicity, the ALL is the ONE.

With this ideal embryogenesis of the concept in mind, the delineation of this conceptual scheme will hopefully unfold in the most natural progression as it works itself out through the basement level tombs of the pyramid of complexity.

Phase ONE: Unity

This is the simplest, most abstract and general level of conceptual orientation. The absolute level of Unity is purely abstract, enfolding all possible descriptions and polar conceptions. Because it is the indivisible essence of everything and beyond or prior to polarity, all adjectives and analogies apply to it equally and therefore none have any conceptual differential advantage over any other. That is why the absolute scope is ineffable. This is also why some people choose to call the absolute 'conscious,' or 'intelligent' or 'living,' and others not. All and none of these adjectives apply simultaneously, because, in any univocal and nondual framework (SZ) all of their identical-opposites are also necessarily enfolded at the absolute scope.

In the embryogenesis of the concept, absolute Unity is not the ultimate ground of Being, but merely the simplest, most general level of description available that conveys, contains, or exfoliates the desired message, resonance or feeling of the

whole. Furthermore, in the representational level of the embryogenesis of the concept, Unity is not even the chronological beginning. It was, and is always, “historically” brought into being from multiplicity, specifically through the extension of polarity and the relative scope to its ultimate self-defining end, to find its context-defining identical-opposite in the absolute (SZ).

In the case of this ontological system, however, Unity is nondual: it is “not two,” and in the same sense that it is “not two,” it is “not one.” Unity is never without its identical-opposite, multiplicity, in the ALL is ONE; the representational and the sub-representational.

Phase TWO: Polarity and the Opposable Thumb of the Mind

Polarity: Effing the Ineffable

Alan Watts explained the concept of polarity very simply when he said, “The axis of opposites is the perception of polarity. The difference between them is explicit, but the unity is implicit.” We speak (explicate) in terms (terminals) to make things nice and simple, black and white, but we know that between black and white there is always at least a *little grey* on the edges of vision.ⁱ

Mankind breaks into consciousness through the use of sensory, and then conceptual contrasts: light-dark, hot-cold, sharp-dull, loud-quiet, and so on. This is the defining feature of the relative scope: one sensation or concept in relation to the other.

M. C. Escher writes in his essay, *White—Gray—Black*:

ⁱ ...or if one is lucky, always in the center of it.

Life is possible only if the senses can perceive contrasts. A “monotonal” organ sound that is held too long becomes unbearable for the ear, as does, for the eye, an extended solid-color wall surface or even a cloudless sky (when we are lying on our backs and see neither sun nor horizon). It seems, so I have been told, that the following torture was practiced by the people of an ancient culture: the head of a prisoner who was to receive punishment was tied immovably in place in such a way that his eyes could not observe anything other than an evenly lit, smooth, white-plastered wall surface (one can possibly imagine it as being concave).

The sight of that “nothing,” completely lacking in contrast, on which the eye cannot find a supporting or resting point (as a result of which an awareness of the concept of “distance” also disappears), becomes in time unbearable and leads to insanity, since our willpower isn’t strong enough to keep our eyes closed continuously.

Isn’t it fascinating to realize that no image, no form, not even a shade or color, “exists” on its own; that among everything that’s visually observable we can refer only to relationships and to contrasts? If one quantity cannot be compared with another, then no quantity exists. There is no “black” on its own, or “white” either. They only manifest themselves together and by means of each other. We only assign them a value by comparing them with each other.

This passage brings to mind my own experience, albeit self-imposed, with sensory uniformity. I sleep to a background of white-noise; painstakingly searching the radio-waves for a reliably dead channel. In a sense it is “turning up the silence,” as I crank up the “noise floor,” to drown out the distracting sounds around me. Occasionally—when I would enter a certain entheogenic, contemplative state—as my brain tried to grasp and make sense of the uniformity—interfacing my mind with this rather loud homogeneous and smooth “floor,” or “wall” of noise—I would experience the most complex and beautiful soundscapes. It sounded and felt as if I were inside a battle arena for helicopters and weed-eaters spinning and whipping their whooshing and humming threads and blades around my head in fractal patterns, surrounding, infusing and fabricating a vastly intricate auditory space; creating it all out of the

reactionary “thin air” of the brain’s attempt to deal with—to *relate to*—unrelenting uniformity, homogeneity and immanent Unity.

This self-imposed auditory insanity was indeed breathtakingly and frighteningly beautiful, but if I did not will it into action myself and release myself into this monstrous and powerful state of mind, I can certainly imagine the torturous mental state that could ensue.

Polarity is one of the most, simple, pervasive, powerful and critical concepts to become aware of. It can be seen virtually everywhere in thought and nature at the most rudimentary and fundamental levels. Observation itself functions on polarity in multiple ways. The nerve cell either fires or not and all perception is, at the basis, contrast dependent. Perception breaks into subtleties as it matures, certainly, similar in this way to the embryogenesis of the concept, but in the beginning it is fundamentally polar, and retains a strong element of polarity throughout its course.

We cannot function without differences and extremes. In thought and language, pairs of opposites are ubiquitous. And for pinning down a distinction they are as indispensable as an opposable thumb. As powerful as they are, however, they can easily be abused through ignorant and/or dishonest manipulation, such as in a bait and switch, or in the very common rhetorical and political divide-and-conquer devise of the false-dilemma.

Phase THREE: Triunity: Cultivating the Interface of Polarity

At every polarity there is a boundary, an interface. This accounts for the psychological power of the number three. For example in the Christian trinity, Jesus is the cultivating third and triune interface between heaven and earth or between God and mankind. Triunity gives resolution to duality in the recognition of unity in polarity. These triune interfaces exist

everywhere there is a gradient, and that is indeed everywhere at some perceivable level—e.g. the markedly different properties of the surface of water as opposed to its depths and the air above it; the present as interface between the past and the future (memory and anticipation); the human as interface between the animal and the divine, as a recognition of the gradient between the origins and potential (the current stage as a “developmental interface”) of humanity; the triunity in the dialectic (thesis, antithesis and synthesis). And Ken Wilber’s “pre-trans fallacy” is a perfect example of the codification of this realization into a cognitive tool for straddling any developmental interface and triuning its polarity.

In *The Two Hands of God*, Alan Watts gives a good illustration of the triunity of polarity:

[Polarity] is something much more than simple duality or opposition. For to say that opposites are polar is to say much more than that they are far apart: it is to say that they are related and joined—that they are the terms, ends, or extremities of a single whole. Polar opposites are therefore inseparable opposites, like the poles of the earth or of a magnet, or the ends of a stick or the faces of a coin. Though what lies between the poles is more substantial than the poles themselves—since they are the abstract “terms” rather than the concrete body—nevertheless man thinks in terms and therefore divides in thought what is undivided in nature. To think is to categorize, to sort experience into classes and intellectual pigeonholes. It is thus that, from the standpoint of thought, the all-important question is ever, “Is it this, or is it that?” Is the experience inside, or is it outside? By answering such questions we describe and explain the world; we make it explicit. But implicitly, in nature herself, there are no classes. We drop these intellectual nets and boxes upon the world as we weave the imaginary lines of latitude and longitude upon the face of the earth and the, likewise imaginary, firmament of the stars. It is thus the imaginary, abstract, and conceptual character of these divisions which renders them polar. The importance of a box for thought is that the inside is different from the outside. But in nature the walls of a box are what the inside and the outside have in common (p49-50).

The phrase, “the walls of a box are what the inside and the outside have in common,” brings us to the triunity in polarity. In the following diagram I have emphasized the triuning Emptiness of polarity in the ancient Chinese Yin/Yang (see, Figure 3 below), showing the walls of the box of this “Diagram of the Supreme Ultimate.”ⁱ

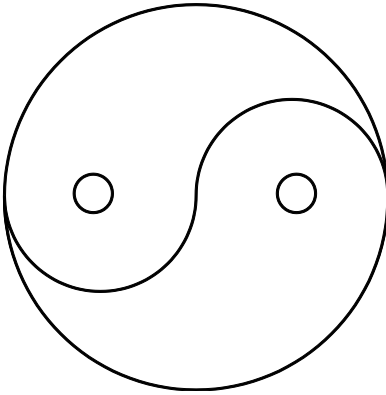


Figure 3: The Yin-Yang of Emptiness and Form:

The values of the polarity have been removed so we can focus on the triuning interface between the poles; walls or interfaces without which the opposites couldn't emerge and persist. And thus arises another polarity, that between the original polarity, now seen as the white space, and the interface itself, the black lines which divide it, i.e. Emptiness and Form.

Between all poles there is an interface and beneath all interactions there is deeper ground of Being. This triunity can be seen in the “lazy eight” infinity symbol below, where each lobe is formed from the continuation of the curve of the other and both are unified through the one curve passing between them, (see Figure 4, below).

The Escher drawing with the infinity sign presented as a mobius strip shows more clearly the duality of finite unity, and inversely, the unity of finite duality (SZ).^{ii*} The single circular strip can be twisted in such a way that the distinction between the inside and outside dissolves, revealing it for the relative division that it always was.

ⁱ <<http://www.hartford-hwp.com/archives/55/069.html>>

^{ii*} See SZ: Finite Unity

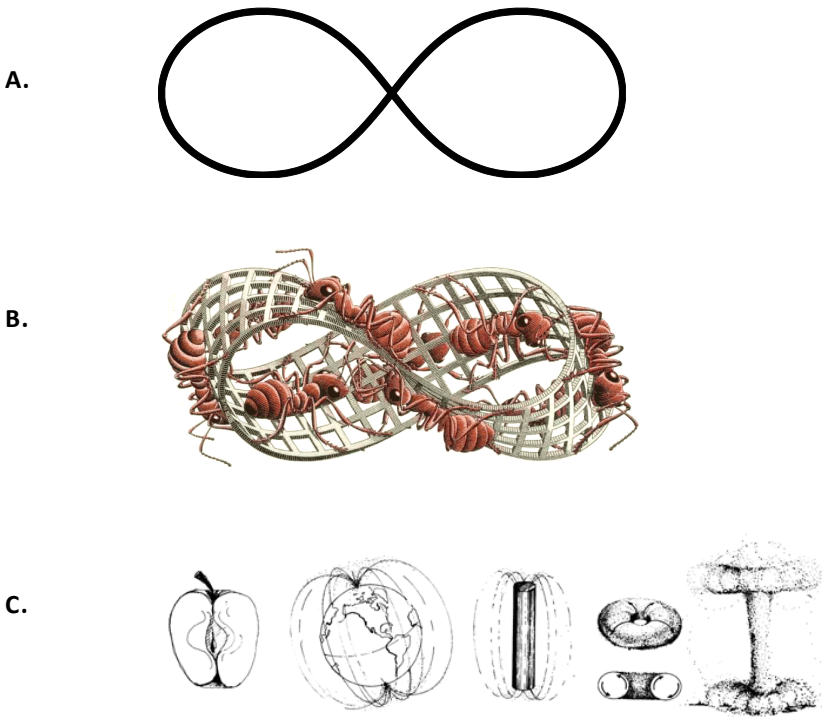


Figure 4: Polarity:

A) The infinity sign. B) Escher Drawing “Mobius Strip II.” C) The lower half of a diagram from Buckminster Fuller’s *Synergetics*, originally illustrating the polar concept of involution and evolution.

In *The Joyous Cosmology*, Alan Watts says:

The principle is that all dualities and opposites are not disjoined but polar; they do not encounter and confront one another from afar; they exfoliate from a common center. Ordinary thinking conceals polarity and relativity because it employs terms, the terminals or ends, the poles, neglecting what lies between them. The difference of front and back, to be and not to be, hides their unity and mutuality.

It is thus when anyone draws attention to the implicit unity of polar opposites we feel something of a shock. For the

foundations of thought are shaken by the suspicion that experiences and values which we had believed to be contrary and distinct are, after all, aspects of the same thing....(p49-50)

The Vision-Logic Coordinate System (VCS)

“Vision-logic,” a term borrowed from developmental psychology, denotes a stage in intellectual development, a “meta-vision” whereby one can transcend the limits of singular perspective and attain an meta-perspective, simultracking, integrating many perspectives at once, i.e. “integral-aperspectival.” It is also called “network logic,” in the sense that it can actually begin to make networks of perspectives; moving among them, forming comparisons and contrasts, higher-level systems of inter-perspective translation, co-operation and conjunction, integrating and transcending.

As Ken Wilber states in *A Brief History of Everything*, vision-logic is “the capacity for taking multiple perspectives and then integrating them to some degree. Unlike formal operational thinking, which *tends* to be single perspective, abstract-formal, and monological ..., vision-logic is postformal and ‘integral-aperspectival’ (p191)” A loose analogy can be drawn with the difference between the limitations of a painter vs. those of a sculptor. The painter must represent his vision from a single perspective (or a fractured perspective if he is a cubist), but always onto a flat plane. The sculptor, on the other hand, can execute his vision in three dimensions, view it from any angle he wishes and effectively work in them all simultaneously because he is operating volumetrically rather than merely on a flat plane.

Now expand this analogy further, and imagine that the sculptor can shrink into his own creation and inhabit its various nooks and crannies. Eventually he settles down in one location and lives out his long life, even perhaps forgetting about the

sculpture as a whole, coming to believe that this one viewpoint and its visible landscape is the sole design.ⁱ

A Vision-Logic Coordinate System serves the function of uprooting such a provincial inhabitation allowing the territory to again (or for the first time) become an object of perception as a whole in the mind, with the capacity to descend and ascend at will to see the whole object/system from various vantage points in a higher-dimensional space. The VCS serves the function of visualizing and coordinating conceptual relationships (networks) free from a singular rooted perspective, and at the vision-logic, or integral-aperspectival level of cognition which, as Ken Wilber states in his *A Brief History of Everything*, “synthesizes, integrates, and sees networks” between otherwise opposing systems, rather than being rooted defensively and offensively within any of them.

This may seem a daunting and unrealistic task, but it is actually quite simple, taken step by step. And, with the help of language, we will bootstrap this conceptual and inter-dimensional space from the 2D frame of this paper (or computer screen). The flat diagrams and linear text will suggest to the mind the intuitive, non-linear and aperspectival forms, the plane of immanence, from which they were derived. These emergent (non-platonic) forms are to be used loosely, intuitively and organically, as orienting generalizations from the aperspectival vision-logic level of cognition.

It must be pointed out again, at this point, that in harmony with the Deleuzean definition of philosophy as an essentially creative act, this system itself is purely imaginary, and indeed a synthetic and even an *aesthetic* creation; a toy demi-mythology; Philosophy as the art and play of the concept. This system does not claim existence for itself outside the mind or the paper. As in Buddhism, in this demi-mythology of an imagined world of ordinary concepts, an enlightened man is more powerful than

ⁱ This is similar to Phillip K. Dick’s conception of God, getting lost in his own creation...and it is ironically similar to the role of the author, as I am right now lost inside this creation as I create it.

any of its would-be gods, and one must always be on the look out for any enslavement by these concept-gods (platonic forms), as well as ways to transcend them (negating if necessary, but including if possible).

The system is not conceived as a ‘pure’ platonic form preexisting all human thought and action that must descend into impure materiality. But it does indeed map—in the general and abstract way of all maps—a deeper and vastly more complex emergent territory beyond itself; A dynamic reality of conceptual attractors, dimensions, drives and motions, pushing and pulling the mind in these abstract intuited directions which are only mapped *a posteriori*, and even empirically, to the artificial geometries (points, boundaries, axes and planes) and concepts of the system.¹ These basic emergent directionalities of thought, can be found in virtually all philosophical systems, and in the hidden structure of mathematics itself (SZ) and they are essential for the task ahead, as we will see.

The Two VL- Axes: Immanent/Transcendent and Transitive

When this, the subjective, and that, the objective, are both without their correlates, that is the very axis of Tao. And when that axis passes through the center at which all infinities converge, affirmations and denials alike blend into the infinite ONE. Hence it is said that there is nothing like using the light.

— Alan Watts, *The Wisdom of the Ridiculous*

¹ This is the essence of Deleuze’s conception of Empiricism, an intensely creative and conceptual endeavor coupled always and ultimately with immanent and causal explanations of emergent and sensate reality. That is why he considered Spinoza one of the key empiricists, as opposed to Descartes who imposed his system from the outside, from the limitations of his own mind, rather than recognizing the limits of the mind to grasp the immanent capabilities of matter to be at one with mind as aspects, or attributes, of a single immanent causal reality.

In the embryogenesis of the concept, the ineffable absolute breaks into the relation of cognitive operationⁱ first in the polarity of the immanent/transcendent axis and then in the orthogonal transitive axes. In this vision-logic meta-system, then, we have only two main “axes,” “vision-logic axes” or “VL-axes,” which are conceptual forms of directionality as a pre-operational context for the operations of mathematics itself. Because we have only two VL-axes in mathematics there it has an underlying binary, and it manifests into various cycles between zero and one, as we will see (SZ). These VL-axes are the immanent/transcendent (I/T) and the transitive, and, as we will see, they correspond roughly to Cantor’s uncountable and countable infinities (SZ).^{ii*} Unlike the axes of the Cartesian system, the orthogonality between these VL-axes is not really perpendicular, and the VL-axes are merely forms or concepts of directionality, of motion, and not necessarily linear, as we will see. They are often, however, *necessarily represented* merely “on paper” as linear and perpendicular axes, such as in the main diagram of the VCS which we will encounter below, and doing so can be very beneficial, so long as their real nonlinear and non-rectilinear nature is kept in mind. So the term ‘VL-axis’ can function by operationalizing a polarity, and invoking the diagram and the differentiating orthogonality represented therein, rather than forcing the mind to conceive of each of these directional concepts as *uni*-directional and perpendicular linearities. Viewing them as single linear axes would collapse the system to the merely transitive, as we will see.

It is best to imagine these VL-axes as being *abstracted from* the absolute infinite as mere concepts or “directional aspects” of the infinite (aspect infinitiesⁱⁱⁱ), rather than *constructed* from the finite as indefinitely expanding sequences. These VL-axes, or conceptual directionalities, are roughly and respectively the

ⁱ A conceptual “symmetry breaking”

^{ii*} (SZ) See *To Infinity and Beyond: Tuning and Triuning the Paradox*, and its subsections *Galileo, Cantor and the Transfinite* and *Back to Zeno*.

ⁱⁱⁱ (SZ) This is the essence of the concept of the “Aspect Infinite,” which is the 2nd order infinite, found in (SZ: Spinoza’s Triune Infinite).

singular omni-directional in/out polarity (I/T axis)—the “axis” opened up in the rational numbers, as we have already seen—and the infinite uni-directional polarities, often collectively called the “transitive axis.”ⁱ

The quickest way to verbalize this distinction is through a common mathematical example which we will explore below. We will start with the transitive axes (uni-directions, and each one of itself a typical axis) since they are the most familiar and indeed the birth-place of organized thought in polarity, opposition and relativity. But it is the immanent/transcendent omni-directional VL-axis which is primary, before thought and number, and from which the transitive axes naturally “exfoliate” and find their reference before mathematical operations can even begin.

The polymath and “visionary” R. Buckminster Fuller, in his *Synergetic Geometry* renders in spectacular relief the idea, which Interface Mathematics expands still further, that the development of mathematics (from the transitive to the immanent) occurred in reverse order to the hidden structure of the system (from immanent-transcendent to transitive operation and back to immanent-transcendent). As Bucky relates in his historic 36 hour lecture, *Everything I Know*:

I was really so terribly impressed when I was a kid by the fact that whereas chemistry was always ... associating and disassociating in beautiful, whole rational numbers, physics was always coming out with irrational numbers. And I felt that what was really causing it was that we were really using yardsticks that were not the logical yardsticks—that we came in the attic window and were trying to measure all the rest of the windows by the attic window or something....But it was a flat earth anyway so you might as well plan on cubes, and that's the way to divide the Universe. The minute you get into the spherical you're going to realize that they [the cubes] are not going to work very nice...

ⁱ True to the Tao, the omni (infinite) is singular and the singular is omni (infinite) — ALL is ONE.

It is the immanent-transcendent axis of volumetric, omnidirectional, radial expansion/contraction, we will find, that is essentially the primary axis of his exquisite geometric, intrinsically rational and trans-“Rational” dimensioning system, and indeed, the primary VL-axis in the Vision-Logic Coordinate System and Interface Mathematics and Philosophy.

Fuller followed this notion to its exquisite culmination in his Synergetic Geometry, which Interface Mathematics effectively serves, among many other things, as a conceptual bridge and meta-mathematical context for (SZ).

The Transitive Axes: In Through the “Attic Window”

Picture the sequence of integers on the familiar Cartesian coordinate system. It extends infinitely up and down the scale, in both positive and negative directions. Between any two numbers there is always a finite and discrete (quantized) number of *integer* coordinates to be found. This intrinsic finity (boundedness), within an extrinsic or indefinitely extending positive and negative infinity, is the defining feature of the transitive VL-axis, and it arises as a function of the inherent *quantized* and composite *uni-linear* nature of this level of the system. This is also what gives the transitive-axis its “countable” nature, as opposed to the uncountability of the infinity of the immanent/transcendent axis (SZ).

These are the two main elements of the transitive: its *uni-linearity* and its *quantized, or discrete nature*. Each of the two main elements, uni-linearity and quantization, alone, is enough to denote the transitive quality. The transitive axis only gets into continuity when it begins to move into operation on the immanent-transcendent axis, such as in the real number line, and with the labyrinth of the continuum opened up first in the rational numbers (SZ). But it is critical to note that any line is transitive, even if it has elements within it derived from immanent-transcendent operations. The Cartesian axes, then, even though they can represent the rational numbers, are intrinsically transitive-axes, because they are a composite of

linear dimensions. They are transitive-axes merely populated with the results of operating on the immanent/transcendent axis, namely the operations of the ratio and its resultant rational numbers.

The *transitive axis*, includes any of an “infinite number”ⁱ of dimensions as a **linear** direction, as seen from any possible fixed scale of reference; from any fixed unit, even if that fixed unit is opened to deeper levels of immanence by the “violation of the closure property” in the mathematical ratio. If the axis is linear, it is transitive. And a single transitive axis is simply an axis, whereas the transitive-axes taken together are called the transitive-axis, which is a VL-axis in orthogonal opposition to the immanent/transcendent VL-axis. However, the VL-axes, used with their descriptors (e.g. immanent/transcendent or transitive) won’t require the VL- tag at the beginning, so long as we remember that these are pre-operational and pre-mathematical axes, at the vision-logic level of the meta-paradigm.

The Cartesian coordinate system, is the traditional embodiment of the transitive axes, but they can be oriented and/or skewed into any single, or multiple set, of directions imaginable. Thus the transitive axes, each taken separately, are **uni-directional**, but they operate *within* an “omni-directional” or even a “non-directional” space.ⁱⁱ This is in opposition to the immanent-transcendent axis which, in a sense, IS the omnidirectional, and indeed the “omnidimensional” space, within which the transitive uni-directions, or uni-dimensions, operate—exfoliating from, and always in reference to, a specific location on the I/T axis. This will become much clearer as we proceed.

ⁱ Or “numberless,” as Spinoza might say, to avoid the oxymoronic pitfalls that befall us when thinking of the infinite in terms of a number, or the finite.

ⁱⁱ ...Invoking the Principle of Absolute Reversal to invoke the identical opposite, omni=non.

The Immanent/Transcendent Axis

The intersection of the macro universe and the micro universe will create a gate, or a door. Lao tzu called this “the door to all wonders”. This is where yin and yang merge harmoniously. This is also called the Middle Way.

— Henry Chang

In my adolescence, I had an abstract dream of a “disembodied flight” across a ticking strip of “acoustic ridges,” like a pull-string for interfacing and accelerating the gear system of a toy car. At every crossing of a ridge of the strip, I would hear and feel very distinct ... *TICK* ... and another ... *TICK* ... *TICK, TICK, TICK, |||||*... . As I continued my bodiless travel along this linear, acoustic and tactile axis of ticking units, the pattern soon became tedious, monotonous, overwhelming. I quickly developed a trick: I began to skip units, to expand awareness up and out, and then down and inward, at will. I began to see patterned regions on the infinite line, places to which I would jump, connecting and collecting organizations—organisms, forming and informing an emerging whole.ⁱ

This strange little dream, typical of the abstraction of many of my oneironauticⁱⁱ escapades, gave rise to the idea in my early philosophy, of “the unit as the collapsible scale.” This concept of scales as expanding and collapsing endlessly to and from their units—“a doorway into the identity of within and without,” as I called it—was an early anticipation of the concept of the holon, the “part-whole,” which had been invented decades earlier by Arthur Koestler, but about which I was ignorant. This simple idea—that every unit is a collapsible and expandable scale, the very environment of deeper, “collapsed” units, (or every *part* is a whole) and its corollary that every

ⁱ Interestingly, this was also the period in my life when I was experimenting with the interface between tedium and excitement, or repetition and difference in music.

ⁱⁱ “Oneirology is the scientific study of dreams. The term comes from the Greek *oneiro* which means dream.” An *oneironaut*, then, is a creative practitioner, or explorer of dreams.

scale is collapsible to, or expandable from, a unit (or every *whole* is a part)—necessitates an “endless holarchy” of collapsible/expandable unit-scales.

When reading over my old notes, I found it fascinating that this transition from the transitive “ticker-line” to the immanent-transcendent holonic axis, or the “scalaxis,”ⁱ as I originally called it, was directly enacted, and indeed discovered in this simple little dream. In retrospect, it seems but a vivid reenactment of Zeno’s hypnotic brand of toys—which themselves break into the fundamental binary VL-axes of conceptual relation—but used as a seed for my wanderings in the conceptual space of the new biological genome. I include it here for a nice little diversion into dreamland, perhaps providing a self-similar historical echo, and a convenient segue; an intuitive bridge from the transitive to the immanent-transcendent dimensions in an infinite holarchy of unit-scales.ⁱⁱ

The immanent/transcendent axis is first operationally accessed *in mathematics* with the “violation of the closure property” of the integers in the function of the mathematical ratio culminating in the notion of a continuous numberline. But it is the evolution of the immanent operations of the calculus, or perhaps the trans-rational escape into immanence in the “irrational” (or wholly rational)ⁱⁱⁱ and transcendental numbers which define the most salient mathematical aspect of nondual-rational philosophy, as opposed to the transitive, dual/oppositional (positive-negative) Cartesian coordinate-system, which mirrors the surface-level, relative-bound, proto-rationality, dualism and transitivity of the Cartesian philosophy.

ⁱ With the adjective form, ‘scalactic’ having a nice sci-fi ring to it.

ⁱⁱ One of the motivations for using the term immanent-transcendent axis, rather than ‘scalaxis,’ is that operationalizing the idea of ‘transcendence’ as a common, and fundamental aspect of reality, will help bring it “down to earth”, so to speak, and help reconcile the transcendent-bias, and immanent-transcendent dualism infecting pre-rational modernity (and post-post whatever).

ⁱⁱⁱ ...and here we find yet again a transcendent-bias in that immanent boundless numbers are “irrational” and transcendental numbers are merely transcendental.

As shown in *SpinbitZ Volume I*, *a priori* continuity is the essence of the immanent-transcendent axis, because continuity entails infinite divisibility, and, as Nondual Rationalism demonstrates, division is the first mathematical operation on the immanent/transcendent (I/T) axis.ⁱ The I/T axis is, very roughly, the mapping of this immanent and transcendent infinity as a continuous “axis of scale,” between the *omni-directional* concepts of “infinite smallness” (immanence or yin), and “infinite largeness” (transcendence or yang), neither of which terminate (being infinite and unbounded) at any final level.

The I/T axis is the *axis mundi*, or world axis of esoteric philosophy. It is the axis between the micro and the macro universe. We encounter the I/T axis and its polarity (as well as the concept of involution and evolution, to be explored later)^{ii*} in the following quote from Plotinus, “there is nothing transcendent that is not also immanent,” and in this aphorism from Heraclitus, “The way up is the way down, the way down is the way up.” The I/T axis has been implicit throughout recorded history in one form or another. As Karin Verelst demonstrates—in her article *Some remarks on the relation between the microcosmical and macrocosmical instantiations of the mythological World-Axis*—the axis mundi is found virtually throughout all religions and philosophies of the world. In the trinity of Western religions, Judaism, Islam and Christianity it is generally symbolized as a tree, such as the trees of life and good and evil, as well as the Kaballistic Tree of the Sephiroth. It is also found in the East, in the religions of India, China and Indochina. In Taoism, for example, it is known as “the door to all wonders,” and in ancient Mesoamerica it is symbolized in the form of a mountain, for example the Mayan sacred mountain *Mixik Balamil* at Zinacantan.

ⁱ And here we see the age-old dichotomy between the continuous and the discrete embodied as the distinction between the two conceptual directionalities in the VCS.

^{ii*} See (SZ Evolution is Involution Seen in Reverse).

Take the following quote from the *Corpus Hermeticum* of the 3rd Century, “God is an intelligible sphere whose center is everywhere and whose circumference nowhere.”ⁱ And the I/T axis is found in tetrahedral or systematic-structural form in Buckminster Fuller’s idea of the “Omnidirectional Halo” which he describes thus, “The difference between nonconceptual, nonsimultaneous Universe and *thinkability* is always two tetrahedra: one as macro, to complete the convex localness outside the system, and one as micro, to complete the concave localness inside the system, to add up to finite but nonconceptual Universe.”

It must again be emphasized that despite the linear connotations of the word “axis,” and the necessary linearity of some of the vision-logic renderings (or interfaces), the I/T “axis” is not properly conceived as linear or uni-directional at all, but rather is ***inherently omnidirectional***. The I/T axis is an axial representation of the unbounded polarity of volumetric, or geometric expansion or contraction (see Figure 5, below).

ⁱ Notice the modal-centric emphasis on locality, as in the center is everywhere. The law of absolute reversal requires that this polarity be switched to operationalize its inverse. It then becomes “God is an intelligible sphere whose center is nowhere and whose circumference everywhere.” It works from either an inward or an outward perspective.

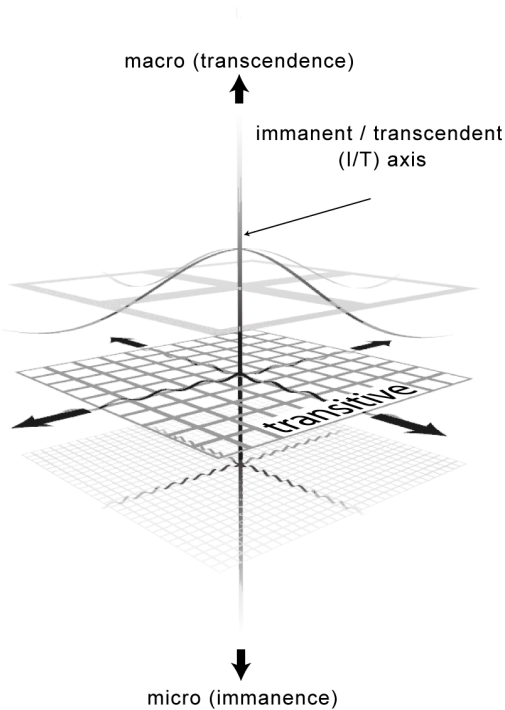


Figure 5: The Main VCS Diagram:

This diagram is perhaps the simplest of the many ways to represent the distinction between the immanent and transitive axes, but it is critical to note that the diagram flattens the dimensionality of the transitive space into planes in order to represent the I/T axis uni-directionally. The omni- and non-directionality of the I/T “axis” is here drawn, unfortunately but necessarily, as a linear “axis” rather than an inherently volumetric, spherically coordinated polarity.

In the figure above, the I/T axis is drawn, unfortunately but necessarily, as a linear, unidirectional, “axis” rather than an omni-directional expansion or contraction. The transcendent “direction” on this axis zooms outward from any “position” (fixed volumetric scale) on the I/T axis and the immanent “direction” zooms inward. The familiar 3-dimensions, *xyz* and all infinite uni-directions in-between, have been collapsed—for the sake of higher-level, aperspectival, visualization—into the transitive plane fixed upon the central I/T axis. Also note that the orthogonality between these VL-axes is represented by perpendicularity, which is also entirely misleading. Perpendicularity is simply the easiest and most direct way to visualize orthogonality. The orthogonality between these two VL-axes, however, is best understood as a scale invariance between transitive relations. In other words, in a system of transitive relations, such as any mathematical geometry (or self-similarity), if you change the scale itself (changing

coordinates on the I/T axis) the pattern of transitive relations will always remain the same. Transitivity—at least in the ideal world of mathematics and the abstract realm of the concept—is thus invariant and orthogonal to immanence and transcendence, or scale.

The crucial function of this diagram is to demonstrate the relation between transitive planes as fixed with respect to specific positions on the immanent/transcendent axis, and that these “positions” correlate in this higher-dimensional interface, not to position itself, but to size or scale. But it is more crucial, when needed, to be able to forget the unfortunate flatness of the transitive “axes” and “planes,” and the linearity of the immanent-transcendent axis in this rendering. We will see a more accurate rendering below of this critical distinction which, when used in conjunction, will help us recall the omni-directionality and continuity of the I/T axis, vs. the linearity of the transitive and that the transitive axis always functions from a fixed frame of reference.

The crucial point here is that the transitive axes regularly collapse (or instantaneously manifest) the immanent/transcendent infinities, as Zeno demonstrated. Otherwise any transitive distance between two points would be infinite, and the hare could never overtake the tortoise, nor the arrow reach its mark, since, on the I/T axis, there are an “infinite number” of “infinitely small” intervals to cross between them.ⁱ

The most crucial distinction between the I/T axis and the transitive polarities is that the I/T axis deals exclusively with *a priori* volumetric omni-directionality, inward-and-outward, and the transitive axes are exclusively unidirectional abstractions, such as the three uni-directions that make up Cartesian coordinate space.

ⁱ It is clear, however, that an infinitely small distance, were it not a contradiction in terms, would take zero time to cross, which we will explore in greater detail in Nondual Mathematical Rationalism.

Coordinates on the Immanent-Transcendent Axis

When one dives into endlessness, in both time and space, farther and farther without stopping, one needs fixed points or milestones past which one speeds. Without these, one's movement does not differ from standing still. There must be stars along which one shoots, beacons from which one can measure the road covered. ... He must divide his universe in distances of a specific length, in compartments that repeat themselves in endless series.

— M.C. Escher, Approaches to Infinity

A quick look at coordinates on the I/T and transitive axes will help make the distinction clear. To aid in representation, we can use an enclosing surface, a sphere (see Figure 6, below), representing or embodying the particular volumetric scale. This sphere is *a coordinate*, on the I/T axis; a fixed scale which is inherent to (unfolding as) the particular transitive axes, represented as a plane on the main VCS diagram (above).ⁱ And so even the rational and continuous numberline, such as that drawn on a Cartesian graph (or any of the single lines passing through the infinity within the I/T axis below), is, in a sense, merely a uni-directional, or transitive, cross-section or rendering of the spherical/omni-directional I/T axis.

ⁱ ...and as we will see, the sphere is the most general representation of number, in identical opposition to this same immanent-transcendent axis (the identical opposite of number), The Infinite.

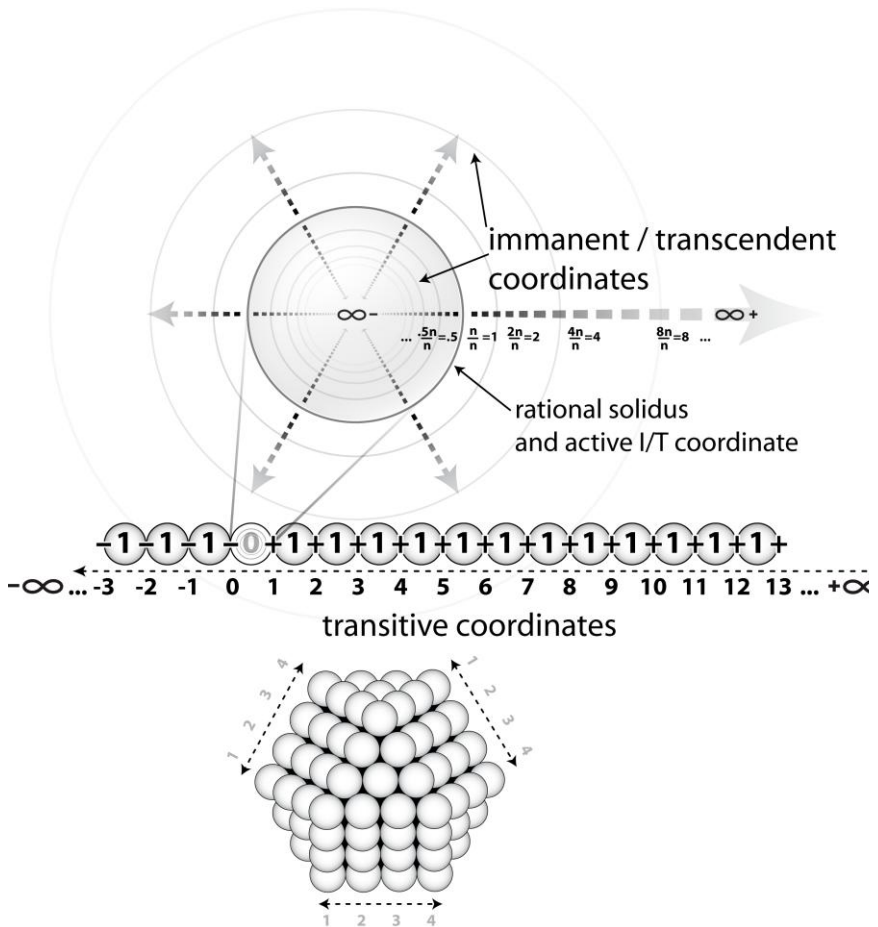


Figure 6: The Nuclear VCS Diagram With Coordinates:

This diagram is from Interface Mathematics (SZ), so some of the notation may be a bit unfamiliar, but it offers another way of visualizing the difference between the I/T and transitive axes. The I/T axis represents the infinite omni-directional aspect of scale and the transitive represents the uni-directional axes of measurable distance.

On the immanent-transcendent axis, coordinates (i.e. “positions” *on the representational axis*, not necessarily in space itself) denote inherently *spherical* or *volumetric* differences, as degrees of omnidirectional expansion and contraction, of the “spherical coordinate,” regardless of real-world position. In

other words, ***the position on the immanent-transcendent axis does not represent spatial position.*** It represents scale, denoted by the variable size of the sphere (see above), which itself is the representation of the actual coordinate in “immanent-transcendent space.” This “immanent-transcendent space” (a space of “intensive forces,” as Deleuze might say) is merely mapped abstractly, as a visual aid, by the linearity of a transitive axis, as in the main VCS diagram (see Figure 5, two figures above, p50).

This *omnidirectional* expansion and contraction inherent to the immanent-transcendent axis, is opposed to the *linear, unidirectional* movement from position to position, number to number, on the transitive axes, where changes in position on the axes correlate, often directly, to actual changes in space.ⁱ

The coordinates on the transitive axes are fundamentally composed of quantized finite unities or unit-spheres, and merely abstracted as infinitely-precise positions (implicit singularities) with no volumetric extension whatsoever. This is very loosely analogous to the difference between scalars (magnitudes) and vectors (directions), except that scalars are represented as a function of abstract magnitude and the I/T axis maps the polarity of *volumetric scale* itself as magnitude.

I/T Omni- and Uni-axes

The immanent-transcendent axis, can be further analyzed, delineated and differentiated, into ONE *omni-axis* which is composed of an “infinite number” (or the numberless ALL) of *uni-axes*; this is the univocal ONE-ALL relation, as we will see.^{ii*} The omni-axis is best demonstrated mathematically as a “Zenonian binary tree and semi-lattice,” as shown by Karin Verelst in her paper, *Zeno’s Paradoxes. A Cardinal Problem: I. On Zenonian Plurality*, and as we explore in great depth later. In

ⁱ Note that we are not concerned here with the use of transitive axes to represent non-spatial, or non-physical aspects, at this point, except for the representational use of the transitive-axis to stand for the immanent-transcendent axis in the main Vision-Logic Coordinate System diagram (two figures above).

^{ii*} See, for example, (SZ: The Univocity Framework).

this paper Verelst demonstrates that this “simultaneous ‘through and through’ division”—what we are calling the omni-axis—is identical to Cantor’s uncountable infinite and the cardinality of the transrational continuum—and thus it is the conceptual incarnation of our PNDR.

The uni-axis is the I/T axis as we have already seen it in the Nuclear VCS Diagram above. ***The uni-axis is always centered on a single position***, whose “infinitely small” Euclidean point is its unbounded immanent pole, and whose transcendent pole “reaches to” the unreachable transcendent infinity of the ONE-ALL. The uni-axis, therefore, is always conceived through the relative aspect of position or finite locality (relative to any *other*) and, therefore, ultimately through the “eye” or aperture (boundary or spherical “yard-stick”) of the transitive unit i.e. the spherical coordinate making up the linear directionality of the transitive-axis.^{i*} The I/T uni-axis is the immanent and transcendent, internal and external boundless dimension of this spherical, *a priori*-extended unit.^{ii*}

Conversely, the immanent-transcendent omni-axis (or just the “omni-axis” as we will often call it) enfolds into its concept the *labyrinth of the continuum* of extension itself, and all of its “infinitely infinite” positions; EVERY conceivable and inconceivable, rational and trans-rational location—each one of which is the immanent pole of a uni-axis. ***The omni-axis, then, contains all, or omni-, of the uni-axes.*** This omni-axis, therefore, “is an [abstract] sphere whose center is everywhere and whose circumference is nowhere.”

The omni-axis can be seen as the abstracted and generalized essence of the ancient esoteric anima-mundi (or world soul), with its ONE as ALL, whereas the uni-axis can perhaps be seen more as the axis-mundi of the I/T axis in general, with its ONE vs. its one implicit singularity and immanent pole.

ⁱ Recall The Nuclear VCS Diagram.

ⁱⁱ (SZ) See The Embryogenesis of Nondual Mathematical Rationalism.

I/T Interfaces, the Omni-Uni and the Omni-Non

Because the immanent pole of each uni-axis represents an “infinitely small” Euclidean point, or an implicit “singularity,”ⁱ it is thus the identical opposite of extension and continuity itself. It is therefore the non-extension of the abstracted immanent *aspect* of infinitely precise locality. This is why the labyrinth of the continuum itself exists, because the continuity aspect cannot be formed agglomeratively from its identical opposite in the Euclidean point. But, as we will see,^{ii*} and according to the Principle of Absolute Reversal, the identical opposite of the extensionless point in the continuum is found by taking the concept to the ineffable absolute scope, and this is the polarity enfolded in the uni-axis, i.e. between the immanent point and the transcendent continuum.

The uni-axis is thus the omni-non of extension with its polarity and cultivated third between omni-extension in the ONE and the non-extension of an immanent singularity at one Euclidean point. An interesting feature, therefore, shared between the infinite I/T uni-axes, *and* the one omni-axis which they compose, is that they ALL converge and overlap at the transcendent pole of the ONE. At the same time, however, the immanent poles of *any* two selected uni-axes, at whatever scale you may choose, are separated by an “infinite number” of other uni-axial singularities (see Figure 7-A below, p60).^{iii*} This recognition—that two points can be “infinitely close” together and always infinitely far apart, in terms of other points—is one of those counterintuitive, labyrinthine aspects of the absolute scope of immanence (or yin) and continuity which Leibniz recognized in his exploration of the continuum. He reconciled it

ⁱ We are not here using the term ‘singularity’ in its strictly mathematical and operational sense. Rather, we use the term to highlight the infinity hidden in the “infinitely small” Euclidean point. Indeed, this implicit infinity is the very source of the immanent infinities (mathematical singularities) found when physicists of the early twentieth century tried to calculate the energy of an electron—represented as such a point—as an inverse-squared function of the distance to its center and its non-existent terminating surface.

^{ii*} See (SZ: The Exploring the Univocity Framework).

^{iii*} This is another aspect of the trans-trans-bias. See (SZ: The Trans-Trans-Bias).

finally, as we will see (SZ), in his secret “Spinoza studies,” of 1667ⁱ when he acquired Spinoza’s (now famous) *Letter XII* on the infinite. At this time, Leibniz began to see mathematical points not as Euclid saw them, as elements “composing” the continuum, but the reverse, as Spinoza saw them, essentially as immanent aspects (singularities) *abstracted from* The Infinite univocal ONE is ALL.^{ii*}

Identically-opposed to the immanent *singular infinity* of the I/T uni-axis is the *infinity of singularities* of the omni-axis. The omni-axis is the I/T-axis, and its Euclidean singularity, conceived not as a finite unity^{iii*}—or “one” single uni-axis and abstracted position—but as an infinite totality of uni-axes, “composing” or *a posteriori* abstracted from the labyrinth of the *a priori* continuum of the undifferentiated absolute scope. Because the omni-axis is omni-local, it is also non-local, in the sense that it does not differentiate one uni-axial position from any other, but conceives of them all as an undifferentiated continuum of loci making up the singular ALL of extension. To take on *ALL* positions is to take on *none* of them and thus the omni of position is also its non, as we would expect with the Principle of Absolute Reversal and the univocal aspects of the absolute scope (SZ).^{iv*}

The omni-axis is the IT axis whose locality aspect is “seen” (or unseen) at the absolute scope, through the “eye” of Infinite Unity^{v*} to give us omni-non-locality.^{vi} Poetically speaking, in the omni-axis, the pupil of the eye of locality and its boundary is *fully and entirely* opened, so that the eye itself—and its limiting/enabling differentiated, boundaries, positions and perspectives—has actually disappeared in the complete omni-

ⁱ As Samuel Levey termed it in his article “Leibniz on Mathematics and the Actually Infinite Division of Matter.”

^{ii*} For further information, see, for example, (SZ: Spinoza’s Triune Infinite).

^{iii*} See the related discussion on the (SZ: Cycle of Unity)

^{iv*} (SZ) See (SZ: Exploring the Univocity Framework).

^{v*} (SZ) See (SZ: Infinite Unity: ALL is ONE).

^{vi} ... incorporating in the omni-non the identical opposite necessary at the absolute scope...

directional opening of its boundary. This, in part, is the continuity aspect of The Infinite.

The omni-axis is the VCS representation of the ‘ONE-ALL’ tautology and identity of univocal multiplicity, whereas the uni-axis is merely the locus of the ‘one’ of “finite unity;” i.e. the immanent singularity and its boundary, respectively (SZ).^{i*} But it is important to note that both the uni and omni forms of the immanent-transcendent axis—as all VL-axes of the Vision-Logic Coordinate System—are mere abstracted *aspects* of “The Infinite,” as is shown in Spinoza’s Triune Infinite (SZ).ⁱⁱ

Recalling the two previous diagrams of the immanent-transcendent axis, we can simplify, modify and compare them, side by side, to differentiate-and-integrate the omni- and uni-axes (See Figure 7, below). The interface or cultivated third of the immanent/transcendent polarity in its *omni-non-local* aspect (i.e. the omni-axis), is a transitive “plane,” (see side A of Figure 7, below). Recall, however, that the image of the plane is a mere convenience, both of speech and of imagination. For the sake of higher-level, aperspectival visualization and simplification of the omni-directional I/T axes as a uni-directional axis, the familiar 3-dimensions—xyz and all infinite uni-directions in-between—have been collapsed into the “transitive” planes fixed upon the central I/T “axis.” Such transitive planes—“planes of existence” or “levels of reality” as they are often called in cosmogonic textsⁱⁱⁱ—in the real world correspond to the emergent/transcendent, yet relatively fixed scales (or “Kosmic grooves”) of nature, such as the “Planck scale,” the level of atoms and the level of cells. The “transitive plane,” therefore, is actually a planar *cross-section* of an infinite

^{i*} (SZ) See (SZ: Unity and Nonduality). And (SZ: The Binary Cycle of Unity)

ⁱⁱ (SZ) The I/T omni-axis is, mathematically-speaking, non-operational, due to its taking on of the properties of the absolute scope in its omni-/non-locality. In other words, in order to operate mathematically, one position (ideal point and immanent pole of an I/T axis) from the infinite must be abstracted and selected so as to construct the first number in Operational Mathematics, the volumetric boundary (a real-point). We’ll explore this in much more detail later. See for example (SZ: Buckminster Fuller’s “Operational Mathematics”), (SZ: The Binary Cycle of Unity) and (SZ: The Holarchical Unfolding of Number and Operation).

ⁱⁱⁱ See, for example, The Secret Doctrine, by H.P. Blavatsky or Ken Wilber’s Integral model.

volume or *extension* whose vastness is *defined* relatively and transitively to a specified scale (coordinate on the I/T axis) of *a priori* volumetric spherical units. Each one of these nested (holonic) units, however, is the spherical and omni-directional I/T interface of a single uni-axis.

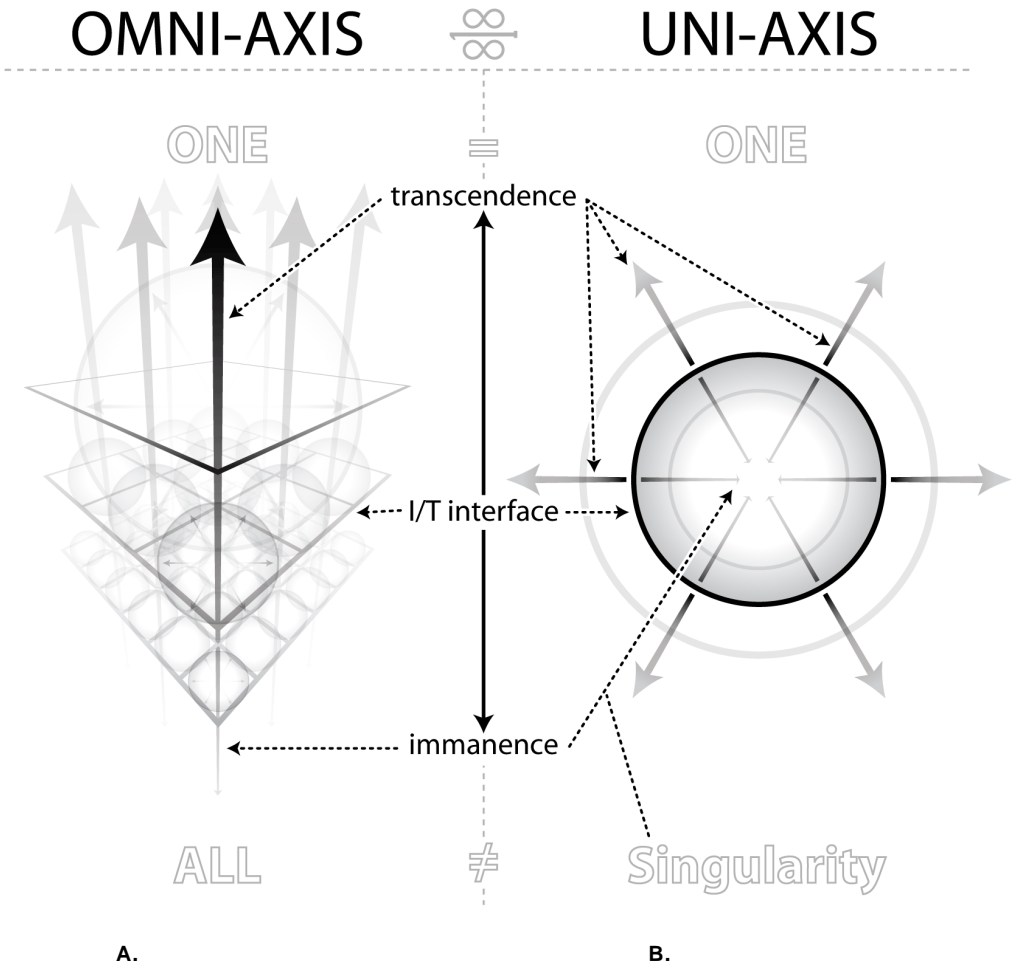


Figure 7: The Omni and Uni Axes and Interfaces:

Figure A shows an “expanded view” of the omni axis and the “transitive planes” as the interfaces of the immanent and transcendent directions in the omni-axis. If we collapse the representationally expanded planes, again overlapping the spheres making them concentric, however, we can see that the transcendent direction is not really upward, or linear, but outward, from all points of the continuum. Each of the boundless series of nested spheres in the transitive plane of the omni-axis is the interface of a uni-axis (B) ALL of which are contained in the omni-axis, and each of the points making up the volumetrically extended continuum of the omni-axis is the immanent pole or Euclidean singularity of a uni-axis. Note also, that as we move immanently on the omni axis, the number of uni-axes between any two (and their spherical interfaces) increases indefinitely, and—at the absolute scope of The Infinite ONE-ALL—actually *is* infinite.

A Concluding Note on the VCS: Integrating the Differentiations

The tendency when we delineate all of this stuff and break it down into its subcomponents, with infinite levels of transitive planes exfoliating from an immanent-transcendent axis (itself composed of two types), is to forget to put it back together. The immanent-transcendent and transitive axes ultimately form an orthogonal polarity; a conceptual symbiosis. The first unit, the number 1, emerges from the uncountable I/T axis as the decided unit-boundary, the chosen scale of measurement, allowing the transitive operations of addition and subtraction (and in physical reality, agglomeration and evolution) to begin. Then, with the operations of division, the immanent-transcendent axis is again invoked or awakened as the mathematical ratio dissolves or “violates” the “closure property” of the integers, and opens up the immanent pole of the Rational numbers (all of which is discussed in detail in Interface Mathematics (SZ)).

Furthermore, these infinite levels abstracted and represented on the immanent-transcendent axis, do not necessarily exist *somewhere else*, in the *erewhon* of “mere mathematics,” or in different worlds, but, as *SpinbitZ: volume II* will explore in depth, they *emerge* into every scale as the very forms of the relative, such as the “ergodic” and fractal complexities of nature (see Saturn’s rings, for instance that manifest the infinite complexity in its energy fields, as an instance-definition of ergodic).

With this conceptual framework in mind, our task ahead will be much simpler because we have made explicit the many implicit, “pre-fused” differentiations that so often *conflate* and “con-fuse” these absolute-level discussions, manifesting in the various paradoxes of the infinite, and of free-will vs. determinism, for example. We can now cast aside the shells so often unwittingly employed in the game of philosophy and, perhaps for the first time, begin to move these symbols around freely, on our conceptual game-board, in the light of reason.

THE FLUIDITY OF NATURE: CALIBRATING THE SOLID-BIAS

This section is adapted from my introduction to the Sorce Theory website at anpheon.org. For a much more in depth account of this subject please see Juan Calsiano's article, "A Case for a Fluid Substrate."ⁱ

Scientific Revolution: An Imperfect Reaction to the Accumulating Errors of Science

We of the present generation are too impatient to wait for anything. Within thirty years of Michelson's failure to detect the expected motion of the earth with respect to the ether we have wiped out the slate, made a postulate that by no means whatever can the thing be done, and constructed a non Newtonian mechanics to fit the postulate. The success which has been attained is a marvelous tribute to our intellectual activity and our ingenuity, but I am not so sure with respect to our judgment.

— Max Born, *Einstein's Relativity* - 1962

Science progresses linearly. The outcome of each step is pre-conditioned by the result of the previous step, and each step in

ⁱ http://www.aethernitatis.net/articles/fluidic/A_Case_for_a_Fluid_Substrate_-_04_14_2006.pdf

turn conditions the outcome of the next step. As science progresses, it accumulates vast amounts of knowledge in a step by step fashion. It acquires a linear history—a time-line. Science cannot see what lies ahead on this time-line. It cannot know the facts that will eventually be discovered which could, in principal, alter the context of the reception and understanding of the new facts that it is attempting to understand in the present. As we shall see, this temporal-scope is a crucial limitation inherent in the linear accumulation-process of science. It is a constant and continual source of error. A “Scientific Revolution,” it will be shown, is a reaction to correct these intrinsic errors.

Depending on the type of the revolution taking place, as a response to specific definable criteria, the direction that science moves during one of these “revolutions” can be either towards its ultimate goal of understanding or it can be a temporary movement in a direction away from that goal. If it is the latter, then it becomes a compounded error, an erroneous reaction to an erroneous assumption. This compounded error is due, once again, to the limited temporal scope of the progression of science. Science looks for immediate answers, but sometimes the important clues to those answers are not immediately available.

To better understand this evolutionary, accumulative process we can view science as an attempt to build a rational and functional puzzle from a relatively small percentage of the total number of pieces critical to a comprehensive theoretical construction. It is the monumental task of science to take this incomplete yet vast collection of puzzle-pieces and form a coherent and accurate picture of observed reality. To do this, science takes the raw pieces of observational evidence (our puzzle pieces), and then produces rigid quantitative models of those separate pieces and creatively integrates them into an interpretive, qualitative framework. This interpretive framework is what gives human meaning to the collection of raw facts and the disconnected quantitative models. It is the integrated form of our collective *understanding* of Nature, and sometimes, unfortunately, when this framework consists of a

retreat from causative interpretation, our understanding temporarily takes the form of confusion.

Interpretation is a creative product of the imagination of mankind, and as such it is inherently arbitrary. It could, in principal, take many varied forms, as seen in the fantastical interpretations populating the vast historical continuum of scientific, philosophical and mythological history, such as: the cosmogonies and mythologies of the ancient world; the four elements-fire, earth, water and air; Ptolemy's Earth-centric model of the solar system; the Copenhagen Interpretation of Quantum Mechanics; Many Worlds Theory; The Big Bang Theory; String Theory etc..

At every step of the way, science tends to assume that the interpretive-framework of the puzzle, is fairly complete and accurate, because if it isn't, then science has failed at its job. A tremendous cultural pressure is therefore placed upon science to give an authoritative 'stamp' of finality to its constantly evolving theories. This stamp superficially solidifies science by shifting the cultural focus to the popularly selected theories while damping cultural interest in the competing alternatives, thus it plays a key role in determining what is considered 'acceptable science' to the scientific peer-review community.

At the beginning of a new paradigm, the solidified puzzle evolves continuously for long stretches of time as each new-found piece is simply incorporated into the puzzle framework in the easiest way possible so as not to disturb the functional order of the established construction. If the current framework is insufficient for the correct integration, or if a specific piece is still missing which is crucial for making sense of and integrating the newly discovered pieces, then the integration of the new pieces into the puzzle framework will generally contain a crucial error. Decades, or even centuries later, when the crucial missing piece is finally discovered, it must then be integrated into an already established and stabilized structure which necessarily contains the original critical error due to the non-optimal order in which the pieces were initially integrated into the puzzle framework. The puzzle-picture at any point in time

is therefore largely an accident of history: a result of the “random,” linear, step-by-step accumulation of puzzle-pieces (facts) and of the idiosyncrasies of the solutions (interpretations) for the integration of those pieces as they are discovered along the way.

Even within a limited, specialized domain such as Physics, the puzzle is so vast in its scope and complex in its inter-dependencies that rarely can any single scientist successfully disassemble a large number of the intricately integrated pieces, and reconstruct them into the proper hierarchical order required to fix the linearly accumulated errors. As a result, the error-prone accumulative process generally continues unchallenged until the structure encounters a puzzle-piece whose integration with the current framework is fundamentally impossible. The puzzle then becomes culturally ‘unsolidified’ and unstabilized as the majority of the scientists finally realize that the puzzle framework contains a crucial error. At this point an intensive investigation is initiated in order to fix the instability at all costs. A “Scientific Revolution” has begun. The end result of this process is an emergent product of at least the following discernable factors:

1. **Historical Continuity:** There is a strong cultural pressure on science to maintain a superficial historical continuity in the evolution of its theories, if at all possible. This results in a tendency towards the limitation of the depth of the scientific reconstruction, and a tendency to select superficial “patches” or “bug-fixes” instead of a needed root-level “overhaul.” An excellent example of this is the Copernican Revolution where the addition of epicycle after epicycle to the Ptolemaic earth-centric model was, for many hundreds of years, preferable to a root-level heliocentric reconstruction. When the qualitative reconstruction was finally accepted it greatly simplified both the qualitative and the quantitative aspects of the planetary model.
2. **Cultural Mood or Receptivity:** This is a complicated factor as it depends on the current “state of mind” of collective humanity. Current trends influenced by multiple factors

such as: wars, the economy, the common opinions of science and religion, education etc. all play a part in determining which theories are acceptable and resonant with any given society.

3. **Reconstruction Resources:** There are specific and obvious limitations on the critical resources available to science. These limited resources include:

- a. **Knowledge:** the available observational “facts” (our current stock-pile of puzzle-pieces).
- b. **Intelligence:** the mental capabilities and strategies of the scientists to integrate the facts into the framework of science.

The scientists can only work with the knowledge and intelligence at their disposal, therefore the limitations on both of these resources play a crucial role in determining the resultant structure of the “revolutionary” theoretical framework.

History Revisited

In light of our new focus on the linear accumulation of scientific errors, let’s take a look at an important, more modern example of scientific history.

It is commonly “understood” that the Michelson and Morley (M&M) interferometry experiment in 1887 proved once and for all, the non-existence of an “all-pervading” and “luminiferous” substance called the “ether.” This article is not an attempt to discredit or even to challenge the physical results of these important and revolutionary experiments. Such challenges have already been taken up by Dayton Miller, et al. The following is taken from “Dayton Miller’s Ether-Drift Experiments: A Fresh Look” by James DeMeo, Ph.D.ⁱ

“Should the positive result be confirmed, then the special theory of relativity and with it the general theory of relativity,

ⁱ see <http://www.orgonelab.org/miller.htm>

in its current form, would be invalid. Experimentum summus judex. Only the equivalence of inertia and gravitation would remain, however, they would have to lead to a significantly different theory."

— Albert Einstein, in a letter to Edwin E. Slosson, July 1925

"I believe that I have really found the relationship between gravitation and electricity, assuming that the Miller experiments are based on a fundamental error. Otherwise, the whole relativity theory collapses like a house of cards."

— Albert Einstein, in a letter to Robert Millikan, June 1921 (in Clark 1971, p.328)

[...]

Dayton Miller's 1933 paper in *Reviews of Modern Physics* details the positive results from over 20 years of experimental research into the question of ether-drift, and remains the most definitive body of work on the subject of light-beam interferometry.

[...]

Miller's work, which ran from 1906 through the mid-1930s, most strongly supports the idea of an ether-drift, of the Earth moving through a cosmological medium, with calculations made of the actual direction and magnitude of drift. By 1933, Miller concluded that the Earth was drifting at a speed of 208 km/sec. towards an apex in the Southern Celestial Hemisphere, towards Dorado, the swordfish, right ascension 4 hrs 54 min., declination of $-70^{\circ} 33'$, in the middle of the Great Magellanic Cloud and 7° from the southern pole of the ecliptic. (Miller 1933, p.234) This is based upon a measured displacement of around 10 km/sec. at the interferometer, and assuming the Earth was pushing through a stationary, but Earth-entrained ether in that particular direction, which lowered the velocity of the ether from around 200 to 10 km/sec. at the Earth's surface. Today, however, Miller's work is hardly known or mentioned, as is the case with nearly all the experiments which produced positive results for an ether in space. Modern physics today points instead to the much earlier and less significant 1887

work of Michelson-Morley, as having ‘proved the ether did not exist’.”

Miller’s results—which have recently been confirmed by a group of South American scientists—were certainly not the “null results” upon which Einstein had built his Theory of Relativity, and which “collapses like a house of cards” without it. But they were definitely not what the scientists were expecting either, as will be shown below. The following is from Caroline Thompson’s “Forgotten History.”ⁱ

Did the Michelson-Morley experiments prove there was no "aether wind"?

Probably not! They have been accepted by almost everyone as giving a “null” result, but in point of fact they showed a very interesting periodic variation indicating something. If it was the presence of an aether wind, then it was not behaving in the way they expected, but it was definitely something that needed further investigation, and Dayton Miller, working at first with Morley, undertook the task. The variations proved to be reproducible and to show systematic changes with time of year and some other factors. He also showed, incidentally, that the effect disappeared if you put the apparatus in a thick-walled enclosure, which nullifies several of the more recent tests.

Objections to the Michelson-Morley experiments aside, the immediate goal of this article is to understand just *what*, the results *really* claim to have proven or disproven. It is therefore important to take into account the theoretical context within which the “null results” of the M&M experiments were so shocking and paradigm-shattering in their implications.

What was the theoretical context of the Michelson-Morley experiment? More to the point, what was the “ether” that Michelson, Morley and many others were trying and “failed” to detect?

ⁱ at <http://freespace.virgin.net/ch.thompson1/History/forgotten.htm>

A Solid Ether?

The “ether” at that decisive point in time was conceived as an isometric solid. This crucial premise of the solid ether, was the core conceptual groundwork of the entire structure of knowledge about electromagnetic fields and waves. It was also the context and motivation behind the M&M experiment. The premise of the solid ether follows directly, as we shall soon demonstrate, from the historical error-prone process of the linear accumulation of scientific data and is thus a demonstration, in historical fact, of the process outlined above.

In an address titled *Ether and the Theory of Relativity* delivered on May 5th, 1920 at the University of Leyden, Einstein said:

When in the first half of the nineteenth century the far-reaching similarity was revealed which subsists between the properties of light and those of elastic waves in ponderable bodies, the ether hypothesis found fresh support. It appeared beyond question that light must be interpreted as a vibratory process in an elastic, inert medium filling up universal space. It also seemed to be a necessary consequence of the fact that light is capable of polarization that this medium, the ether, must be of the nature of a solid body, because transverse waves are not possible in a fluid, but only in a solid. Thus the physicists were bound to arrive at the theory of the “quasi-rigid” luminiferous ether, the parts of which can carry out no movements relatively to one another except the small movements of deformation which correspond to light-waves.

In the early 1800’s the existence of the phenomenon of polarized light was quite well established. In 1816-1817, as a result of investigations by Fresnel and others on the interference of polarized light, an interpretation of this phenomenon was given by Thomas Young in which it was concluded that light waves are transverse (shear waves) and not, as had been previously thought, longitudinal (pressure waves). In 1865, Maxwell formulated his electric and magnetic field equations from his technique of analogy where he likened magnetic lines of force to incompressible fluid flow. The waves

in his electromagnetic field theory, however, are transverse—as postulated by Young. In 1887 Lord Kelvin had demonstrated that a “vortex saturated” region of a fluid is capable of sustaining transverse waves, and even though there was scientific support from Kelvin and others for a fluid ether, it was still the common assumption at this critical point in history (and this “common assumption” is indeed the crucial error of history), that transverse waves could not travel through a body of liquid or gas. These types of waves were generally thought to be exclusive to propagating through solids, or at best on the *surfaces* of fluids such as water. Therefore, the common reasoning went, the ether cannot be a fluid because the observed transverse waves of polarized light would not be able to pass through it. The ether must therefore (somehow) be a solid.

It was assumed, therefore, that this solid ether must have the shear modulus of elasticity no less than that of solid steel to account for the observed properties of the electromagnetic waves. It was also necessarily assumed that objects, such as an atom, a molecule, the human body, a laboratory, or the earth—somehow moved through this solid steel-like ether and that the ether passed through solid objects as if neither were solid at all, as if they were not really even there. like ghosts walking through walls. Light, however, was understood as being a disturbance propagating within the solid ether. The ether was thus said to be “luminiferous,” or light-bearing.

Since the earth and the laboratory of the M&M experiment were thought to be moving independently of, and freely through, the solid-steel ghost-like luminiferous ether, and since light was thought to be a disturbance of—and thus moving with respect to—this absolute etheric frame of reference, then the motion of the earth relative to the ether should be detectable as an “ether wind” altering the relative speed of light-waves depending on their direction of travel with respect to the moving system of measurement. The M&M experiment attempted to detect just such a relative motion of the Earth through the ether using the interference of lightwaves.

The M&M experiment produced a “null result,” meaning that it failed to detect any significant relative motion or “ether-drift.”ⁱ This simply proved conclusively that the theoretical context of the M&M experiment was false, because it is that construct which generated the hypothesis which was tested. There simply was no solid, etheric frame of reference as postulated by classical science. This new and entirely unexpected null-result puzzle-piece simply did not fit the current framework of the puzzle, given that the entirety of the vastly successful theory of electro-magnetism of Maxwell was founded upon it. The order of the empirical puzzle pieces was now in question, and it was up to the scientists to reconstruct a new theoretical context in which they would all fit together and in which the null results of the M&M experiment made sense. The revolution had begun!

Einstein took up this challenge and formulated an answer with the experimental data available at that historical moment (this data-set was critically limited as we will soon show in retrospect). The answer he came up with, as we know, was to throw out the concept of the classical solid ether altogether and to assume that the speed of light was absolute with respect to ALL frames of reference whether in motion or not. Thus Einstein mathematically satisfied the null result while he simultaneously dissatisfied the human attempt to *understand* the nature of reality, especially the electromagnetic waves permeating all space. Much later, however, Einstein explained that the concept of the ether was absolutely *essential* for an understanding of what his abstract notion of “curved-space” physically represented. He suggested in *Ether and the Theory of Relativity* that the M&M experiments proved not that the ether did not exist, but merely that the ether was somehow (confusedly) dynamic. He stated that it was not *immobile* yet paradoxically he also claimed that it was not *mobile* either (my ***emphasis***):

ⁱ Though as discussed, it did indeed detect some unexpected aspects of etheric drift, which Miller expanded upon further.

It may be added that the whole change in the conception of the ether which the special theory of relativity brought about, consisted in ***taking away*** from the ether its last mechanical quality, namely, ***its immobility***.

[...]

What is fundamentally new in the ether of the general theory of relativity as opposed to the ether of Lorentz consists in this, that the state of the former is at every place determined by connections with the matter and the state of the ether in neighbouring places, which are amenable to law in the form of differential equations

[...]

According to the general theory of relativity ***space without ether is unthinkable***; for in such space there not only would be no propagation of light, but also no possibility of existence for standards of space and time (measuring-rods and clocks), nor therefore any space-time intervals in the physical sense. But this ether may not be thought of as endowed with the quality characteristic of ponderable media, as consisting of parts which may be tracked through time.

The idea of motion may not be applied to it.

So the Theory of Relativity has taken away from the ether, its classical property of immobility, i.e. solidity, but given that it could not make sense of polarized light in a fluid context, it couldn't coherently give it the property of mobility or fluidity in return. Thus Einstein began to solidify or encapsulate his paradox into the pearl of "wisdom" we call his principle of relativity.ⁱ

By this time in history, a time of extreme scientific, political and social turmoil, Einstein's theory "brought a vision of the

ⁱ (SZ) See the "Pearl Principle" in *SpinbitZ: Volume I*

Universe as a whole, a vision that appeared as a solace to a tormented society,” says Eric J. Lerner in “The Big Bang Never Happened.” It was too late now for Einstein’s “mature reflection” to find a favorable reception and to undo his original and “revolutionary!” denial of the ether. Only Einstein’s vague and confused notion of its oxymoronic “not-immobile yet not-mobile” dynamics, could take root as it was applied to the abstraction of “curved space.” By the time of this “mature reflection” the physics community and the scientific and popular culture in general had largely abandoned the concept of the ether altogether, even though a material medium was (and still is) essential and fundamental to an understanding of the waves and fields ubiquitous to all regions of matter and space, “for in such space there not only would be no propagation of light, but also no possibility of existence for standards of space and time ... nor therefore any space-time intervals in the physical sense,” said Einstein.

Einstein was well aware that “It is impossible to conceive anything without a cause; the attempt to do so makes the mind a blank,” as H.P. Blavatsky would put it. He was after-all later to have found in his possession miss Blavatsky’s book, *The Secret Doctrine*.

The Hidden Error: Superfluidity and Transverse-Waves

A few questions from our outlined premises are in order. What errors can we find hidden in the linear accumulation of scientific-data demonstrated in this historical episode? Can we demonstrate a “non-optimal sequence” of the accumulation and integration of facts which has given rise to an error at the foundation of the “Revolution of Modern Physics”? More precisely, can we find a crucial piece of the puzzle that Einstein and others were missing in order to properly integrate the new-found puzzle-piece of the M&M null-result into the puzzle framework of that pivotal moment in time? Or perhaps we could probe even further back and finally ask, what was the historical error which necessitated the faulty theoretical

context in the first place in which the M&M experiment was conducted?

To answer these questions, we must get a wider and more comprehensive scope of the time-line of scientific discovery. Consider this scientific finding from 1999 as reported on Science Daily (my *emphasis*):ⁱ

Superfluid Is Shown To Have Property Of A Solid

EVANSTON, Ill. --- Northwestern University physicists have for the first time shown that superfluid helium-3 -- the lighter isotope of helium, which is a liquid that has lost all internal friction, allowing it to flow without resistance and ooze through tiny spaces that normal liquids cannot penetrate -- actually behaves like a solid in its ability to conduct sound waves. The finding, reported in the July 29 issue of the journal *Nature*, is the first demonstration in a liquid of the 'acoustic Faraday effect,' a response of sound waves to a magnetic field that is exactly analogous to the response of light waves to a magnetic field first observed in 1845 by British scientist Michael Faraday. ***The acoustic effect provides conclusive proof of the existence of transverse sound waves — which are characteristic of solids but not of liquids*** — in superfluid helium-3.

I wouldn't say that our discovery is of that magnitude [says William Halperin. (if only he knew!)], but ***it is*** significant as ***the first observation of a previously unknown mode of wave propagation in a liquid*** — one that is of the type you would expect to see in a solid.

Remember that Einstein said in his "Ether and the Theory of Relativity" speech that a fluid body could not transmit transverse waves? Einstein again:

It also seemed to be a necessary consequence of the fact that light is capable of polarization that this medium, the ether,

ⁱ <http://www.sciencedaily.com/releases/1999/07/990730072958.htm>

must be of the nature of a solid body, because ***transverse waves are not possible in a fluid, but only in a solid.***

This tacit assumption of erroneous “fact” was the main reason behind the acceptance of the counter-intuitive hypothesis that the ether must be a solid with the elastic properties of steel, through which all objects somehow moved with zero friction (note that “zero friction” is another property of a superfluid). Imagine if it had been known in the 1800s that fluids could transmit transverse waves. If the scientists at the time would have still concluded initially (for some reason) that the ether was a solid, then when the M&M null-result showed this reasoning to be false, would the scientists have taken the easier road instead (much easier, conceptually, than abandoning the medium of the light-waves and electromagnetic-fields themselves) and simply reformulated the ether as an inhomogeneous fluid moving *with* the earth instead of an isotropic, solid-steel-ghost-like, absolute frame of reference moving *through* and relative to the earth?

It is hard to know exactly what would have happened in our little what-if story had the collection of facts happened in an ideal sequence, but there would have been nothing to stop the simple and straight-forward conclusion of the fluid ether from being reached. In such a scenario, the ether would not have been abandoned which would have satisfied the null-result of the M&M experiments and left intact the conceptual underpinnings of the theory of electromagnetism and light. Physics would not have needed to abandon causality and adopt mathematical abstractions such as randomness and probability in its place as the “medium” of the wave-nature of all matter and space. Of course we can't know the details of the Physics that we would now have, had the course of events happened in the optimal sequence, but it is readily apparent that the difference could have been great indeed.

It should be clear now, how the sequence of the discovery of facts can drastically influence the flow of scientific “progress.” And that perhaps this non-optimal, linear sequence has actually generated an historical scientific error against

which the “Revolution” known as “Modern Physics” was merely an erroneous, but necessary reaction. It should be clear that this error was due in part to the lack of a critical piece of information demonstrating the propagation of transverse waves through a fluid, thus enabling the fluid model of the ether to model the transverse waves of polarized light. Of course we can’t change history itself, but we can surely overcome the inevitable errors of its linear flow! In retrospect, with a more complete collection of the critical pieces of the puzzle now in hand, the answer to the classical dilemma culminating in the Michelson and Morley experiment, is quite simple. If hind-sight is 20/20 then let us use this neglected heightening of historical scientific vision and declare right now a revision of the errors of history...

... “The ether is a dynamic fluid!”

The Evidence for the Fluid Nature of Fundamental Physical Reality



It is becoming more and more apparent that even in the darkness of the abandonment of causal understanding, the “Standard Model of Physics” appears to be steadily groping its way unconsciously toward the fluid-dynamic nature of fundamental physical reality—the dynamic “ether” vaguely and confusedly intuited by Einstein as not immobile, yet not mobile either. Despite coming from a faulty conceptual paradigm which it must eventually abandon altogether, Physics is slowly and blindly modeling its path, by experiment and equation, toward the alternate fluid-dynamic route that it did not have the initial framework to sufficiently formulate or accept at the crucial historical bifurcation point of the Michelson and Morley experiment. Physics is undergoing a slow oscillation back towards the distant beginnings of the ungrasped thread of understanding that it had lost sight of with the revolution of “Modern Physics”—the slippery concept of the fluid ether as the physical medium of the wave nature of all matter and space.

As Sorce Theory demonstrates, however, the actual “thread of error” goes much deeper than the simple historical flaw

exposed above. This thread "permeates all the branches of the existing tree of knowledge".ⁱ It goes right down to the ancient Greek foundations of science—to the very coalescence of the fundamental framework of the standard paradigm of physical reductionism itself—straight to the core kinetic-atomic foundation and the never-ending "quest for the fundamental particle of matter"—the a-tom existing and acting in the always-hypothetical "void." This thread of error—this solid-and particle-bias—manifests itself as a wide-spread and self-limiting set of incorrect and artificial categories and concepts that render the most qualitatively simple of subjects, not only impossible to truly understand, but also extremely difficult to discuss and theorize about. Take for instance this quote from G.E. Volovik in *The Universe in a Helium Droplet* [my **emphasis**].

According to the modern view the elementary particles (electrons, neutrinos, quarks, etc.) are excitations of some more fundamental medium called the quantum vacuum. This is the new ether of the 21st century. The electromagnetic and gravitational fields, as well as the fields transferring the weak and the strong interactions, all represent different types of collective motion of the quantum vacuum.

Among the existing condensed matter systems, the particular quantum liquid-superfluid ³He-A most closely resembles the quantum vacuum of the Standard Model. This is the collection of ³He atoms condensed into the liquid state like water. But as distinct from water, ***the behavior of this liquid is determined by the quantum mechanical zero-point motion of atoms. Due to the large amplitude of this motion*** the liquid does not solidify even at zero temperature.

In the entire first paragraph, we can see the recent trend of the Standard Model of Physics toward the conception of the "quantum vacuum" as a "zero-energy superfluid" or "quantum liquid." Apart from the erroneous conceptual structure of the Standard Model and the superficial, oxymoronic denial of the material substance that the "quantum liquid" is composed of—

ⁱ From the Preface to Lebau's "The Orb."

the substance which the fluid equations actually quantify—despite all of these very important considerations, this basic quantitative conception of the fundamental level of physical reality as a “quantum liquid” or “superfluid,” is tantalizingly close to the basic foundational conception of the fluid-dynamic continuum of matter proposed in Sorce Theory. The simple conceptual differences that *do* exist, however, at this foundational level, are CRUCIAL to a coherent understanding of Nature.

Further down in the second paragraph the meaning of the explanation gets obscured and highly distorted by the abstract theoretical baggage, the erroneous and artificial categories and knowledge partitions inherent in particle-biases of the Standard Model. The entry point to the crucial error is exposed in the last two sentences of the quoted passage, “the behavior of this liquid is determined by the quantum mechanical **zero-point motion** of atoms.” So as the liquid cools down, according to the kinetic-atomic theory of heat, the atoms or molecules will slow down their billiard-ball like collisions until, **at the point of absolute zero, they will cease motion altogether**. This is what is meant by the phrase “zero-point motion” and it is called the “zero-momentum ground state.” The next sentence goes on to say “Due to the **large amplitude of this motion** the liquid does not solidify even at zero temperature” [my **emphasis!**]. It should be obvious, at this point that a “large amplitude” of “zero-point motion” is an obvious absurdity. How can the lack of oscillatory motion possess a large amplitude except in purely abstract and theoretical potential? How can the physicists routinely get away with such nonsense? Of course you physicists know the simple answer to that apparently naïve question—through an appeal to quantum uncertainty of course!

Heisenberg’s’ Uncertainty Principle states that as the *knowledge* of the momentum of a quantum-scale object gets more and more precise, the *knowledge* of its position, gets *less and less precise*. It is a directly inverse mathematical relation. So as the momentum of each individual atom decreases, the amplitude of our uncertainty (whatever this

physically means) of its actual position steadily increases! In effect, our *knowledge* of the positions of the atoms gets fuzzier and fuzzier simply because we *know* that they are slowing down!?! Despite the obvious (discarded) “common-sense” recognition that the amplitude of the state of knowledge (!) of the motion of the individual atoms should have nothing to do with the actual functioning of the quantum level (or any level) of reality, and despite the fact that we haven't even measured the motions of any of the individual atoms and thus *we don't really know* that their individual motions have actually slowed down or ceased at all, except perhaps through recourse to our interpretive theoretical kinetic-atomic model of heat which states that liquids at that temperature should freeze solid and not become *superfluid*—despite all these rather important theoretical problems the fact is that the Uncertainty Principle tells us absolutely nothing of the PHYSICAL mechanisms which should explain how the lack of liquid-defining inter-atomic collisions, does not instantly render the super-cooled liquid Helium, into a frozen solid crystal Helium popsicle! After-all, a decrease in inter-atomic collisions is the defining property of a solid, according to the kinetic-atomic theory and this is why the discovery of superfluid helium-4, back in 1937 was a complete and total surprise to the experimentalists and is still considered “counter-intuitive” based on the (classical and erroneous, or incomplete) kinetic-atomic model of heat and its relation to the states of matter. There are constant surprises in the field of condensed matter physics because the Standard Model cannot fully account for the appearance and properties of superfluidity even with recourse to the codified uncertainties and mathematical probabilities of quantum mechanics.

What does Heisenberg's Uncertainty Principle *really* have to do with the understanding of superfluidity? As Sorce Theory demonstrates, the Uncertainty Relations are a consequence of the standard lack of understanding of what an atom *really* is, what it is made of and what those “constituents” are made of as

well.ⁱ This ignorance begins at the core level of physical reality which lies beneath the probabilities and uncertainties of quantum mechanics and permeates into the very nature of our understanding of the “fundamental” forces, energy, the quantum, thermo-dynamics, the states of matter, and much else. That is why an appeal to uncertainty must be made by the Standard Model in order to reconcile the surprise appearance of superfluidity with the absence of fluid-defining “kinetic-atomic motion.” The scientists really *are* uncertain as to what physically *causes* the fluid phenomena at the quantum level, and this uncertainty propagates its way pervasively into the “understanding” of macroscale phenomena.

Fluidity in the Fundamental Equations

Despite all of the various manifestations of the deep qualitative, interpretive, errors of Modern Physics, the equations which have been custom fit to model the results of our experimental contact with physical reality, actually tell a quite different story. The equations directly model the fundamental level as a frictionless fluid, yet the Standard Model consistently denies that this fluid physically exists. The claim is that fundamental reality consists merely of probabilistic wave-equations defining the likely positions of its fundamental, extensionless “point-particles” which paradoxically exhibit a “wave-nature.” To admit that the fluid nature of the quantum level *physically* exists would be anathema to the dogma of the denial of the ether initiated by the patron saint of Physics himself, Albert Einstein, who, unknown to most people, later said that *the ether must exist and it must be dynamic*—in Einstein’s peculiar, confused and ill-informed, not mobile, yet not immobile sort of dynamics.”

ⁱ This error is centered on the notion of the electron as a “point-particle” with a fuzzy (indeterminate) mathematical boundary, instead of viewing it as a real, physical gradient with a real, physical shape and size. Of course this erroneous assumption was a result of the ancient Greek reductonist paradigm of Democritus’ a-tom and void and the resultant search for the ‘fundamental particles of Nature’, which don’t appear to be fundamental at all as they contain an internal and external structure known quantitatively as a “probabilistic wave-nature.”

In *The Big Bang Never Happened*, Eric J. Lerner writes [my comments]

... since the nineteenth century it's been recognized that the equations of electromagnetism are almost identical with the equations of hydrodynamics, the equations governing fluid flow. Even more curious, Schrödinger's equation, the basic equation of quantum mechanics, is also closely related to equations of fluid flow. Since 1954 many scientists have shown that a particle moving under the influence of random impacts from irregularities in a fluid will obey Schrödinger's equation.

More recently, in the late seventies, researchers found another curious correspondence while developing mathematical laws that govern the motion of line vortices—the hydrodynamic analogs of the plasma filaments ... The governing equation turns out to be a modified form of Schrödinger's equation, called the nonlinear Schrödinger equation. [This equation is a central part of the study of “quantum liquids” as well. The interesting coincidence is that it is a modified form of the equation describing the shell structure of an atom. How this fluid-dynamic medium gets “quantized” into the shell structure of the known electronic “orbits” is a key concept illustrated in Sorce Theory.]

“Generally in science when two different phenomena obey the same or very similar mathematical laws, it means that in all probability they are somehow related. Thus it seems likely that both electromagnetism and quantum phenomena generally may be connected to some sort of hydrodynamics on a microscopic level. But this clue, vague as it is, leaves entirely open the key question of what the nuclear particles are. And what keeps them together? How can fluids generate particles? [Sorce Theory fills in these crucial gaps as well.]

But the idea of particles formed from vortices in some fluid is certainly worth investigating. (This is a real return to Ionian ideas: the idea of reality being formed out of vortices was first raised by Anaxagoras 2,500 years ago!) However, I think there are additional clues, some developed from my own work, which indicate that plasma processes and quantum mechanical processes are in some way related.

First and foremost are Krisch's experimental results on spin-aligned protons.ⁱ Qualitatively, the results clearly imply that protons are actually some form of vortex, like a plasmoid. Such vortices interact far more strongly when they are spinning in the same direction-which is certainly the behavior Krisch observed in proton collisions. Because vortex behavior would become evident only in near-collisions, the effects should be more pronounced at higher energies and in more head-on interactions-again, in accordance with Krisch's results.

A second clue lies in particle asymmetry .. Particles act as if they have a "handedness," and the simplest dynamic process or object that exhibits an inherent orientation is a vortex. Moreover, right-and left-handed vortices annihilate each other, just as particles and antiparticles do.

Collisionless Dynamics: Seeing the "Quantum Vacuum"

The modern mathematical conception of the quantum vacuum as a "zero-energy superfluid," as we have seen, is virtually identical to the "quantum liquid," superfluid 3He-A. What accounts for this extreme similarity? What is the modern mathematical relationship between a quantum liquid, and the quantum vacuum? Furthermore, what is the relationship between a *quantum* liquid, a *classical* liquid, and heat? Why is it that a reduction of heat is sufficient to convert a molecular liquid into a quantum liquid? And finally, why on earth (or in space) doesn't it freeze solid in the absence of kinetic-atomic motion? How can mere "uncertainty," regardless of its "amplitude," impart a super-fluid dynamics to a bunch of motionless atoms?

If the quantum vacuum is defined as a zero-energy superfluid, and $E=mc^2$ says that the mass of an atom is a measure of its energy, then it appears that the crucial difference

ⁱ Krisch, Alan D., "Collisions between Spinning Protons," Scientific American, vol. 257, n. 2 (Aug. 1987), pp. 42-50. This experiment demonstrates a violation of the basic assumption of QCD that quarks act independently within a proton.

between the superfluid quantum vacuum and the superfluid $^3\text{He-A}$ is simply the presence of the energy-containing helium atoms. Once those atoms are removed, the superfluid becomes a “zero-energy” superfluid, i.e. the quantum vacuum. The difference is merely that one superfluid has atoms in it and the other has none. Otherwise they are virtually identical. The quantum vacuum itself is already possessing of the superfluidity exhibited and slightly modified by the presence of energy-containing atoms. With the reduction of kinetic-atomic collisions known as heat, the inertia-containing helium atoms no longer play a significant role in defining the classical properties of the liquid, and so what is left are only the post-classical, or “quantum” properties of fluidity. **The atoms are essentially “just going along for the ride,” embedded in the frictionless dynamics of the “zero-energy superfluid quantum vacuum,” whose critical properties and emergent mechanisms are still unknown to the physicists.**

This counter-intuitive type of fluid-dynamics goes by the title “Collisionless Dynamics” as it is devoid of the classical kinetic-atomic collisions which are still the only method which the Standard Model employs for intuiting or understanding fluid motion. This is why “quantum” phenomena in such a superfluid, manifest such “counter-intuitive behavior” at the macro-scale. The Standard Model has no conception of how a liquid can exist in the absence of kinetic atomic motion. **Yet there it is—the manifestation of the fluid-dynamic nature of the “quantum vacuum” right before the eyes of the physicists. The resonating and reflecting structure of the helium atoms merely enables us to see the frictionless, fluid nature of the “quantum vacuum” in action.**

But what role does heat play in the transition from a superfluid to a molecular fluid? When the helium atoms are agitated by the presence of properly resonating heat waves, the atoms begin to vibrate and to collide with each other, imparting a transfer of momentum as defined by the kinetic atomic theory. This inertial transfer of momentum is the very source of

emergent friction and viscosity. The mass-containing atoms leave the “zero-momentum ground state” as they acquire a thermally activated vibratory velocity relative to the motion of the ground-state superfluid “quantum-vacuum.” This new inertial collision-based dynamics begins to interfere with the global collisionless-dynamics, and fluid flow of the frictionless quantum liquid in which the atoms were previously quietly embedded as a “superfluid.” Now the classical fluid-dynamic equations begin to take over in modeling the transition between the frictionless superfluid and the frictional classical fluid.

There are then two sets of equations that are used in modeling such a system. One equation is classical, based on the “ideal gas” inertial transfer of momentum from atom to atom, and the other equation is defined by the frictionless fluid-dynamic wave nature exhibited in quantum mechanics and the quantum wave equations. To model the change in state, one simply transitions between these two equations as the effects of one type of dynamic are damped or reinforced by the changing environmental conditions which give rise to the other type of dynamic.

Superfluidity and the Ether

As noted previously, there are many similarities between the superfluids seen in the laboratory and the modern conception of the quantum vacuum. Consider this quote from further on in Volovik’s *The Universe in a Helium Droplet*:

The reason for this similarity between the two systems is a common momentum space topology. This momentum space topology (Chapter 8) is instrumental for classifying of universality classes of fermionic vacua in terms of their fermionic and bosonic zero modes.

[...]

This similarity based on common momentum space topology allows us to provide analogies between many phenomena in quantum liquids and in the quantum vacuum of the Standard

Model. However, in the low-energy corner they are described by the same equations if written in a covariant and gauge invariant form. Our ultimate goal is to reveal the still unknown structure of the ether (the quantum vacuum) using our experience with quantum liquids. The realization of a quantum liquid with the completely covariant effective theory at low energy requires some effort. We need such a “perfect” quantum liquid, where in the low-energy corner the symmetries become “exact” to a very high precision, as we observe today in our Universe.”

Again the crucial distinction between superfluidity and the quantum vacuum appears to be the symmetry-breaking effects caused by the presence of energy-containing atoms. And thus we can see here that the “quantum vacuum” is not ultimately a vacuum at all, but only devoid of atoms. It is rather a superfluid, which is revealed when the effects of a molar-fluid are quieted down enough for us to see through the noise at the atoms flowing along for the ride in the “zero-state” of the quantum fluid. This double conception of fluidity—molar vs. “quantum,” or “normal” vs. “super,” or more precisely discrete vs. continuous, respectively—we will pick up in the section on The Kinetic Corpuscular Holarchy Model of Pressure. And we will find this polarity a resonant thread in an emerging, purely causal and understandable, principle of complementarity between the wave- and the particle-nature of matter and energy.

ATOMIC VS. CONTINUITY REDUCTIONISMS AND FOUNDATIONALISMS

The basic theoretical thrust behind the original foundationalist model of Sorce Theory can be seen in light of the reductionistic model whose particle-bias it is a reaction and course correction against. This correction was necessary because current physics was (and still is) infused with an incessant and debilitating tendency for particle-void reductionism, due essentially to the “solid bias.” This has ultimately led to the abandonment of causation, common-sense and understanding when these faulty reductionistic assumptions reached their limit at the “basement level” (i.e. the quantum level).

An example of this particle-bias would be Einstein’s photon-particle interpretation of Planck’s quantum interpolation constant, at the expense of Planck’s preferred “threshold notion” of the quantization of continuous energy. The solid/particle bias is seen in the fact that this particle interpretation was so easily, and even automatically, accepted and retained by the physics community, even after it led to the break-down of causal reasoning in the wave-particle duality and the *acausal* principle of complementarity, etc. The same particle- and solid-biases can be seen in the strong social force behind the anti-rational atomic hypothesis that strong-armed its way into the scientific methodology of the enlightenment era, compromising and debilitating the emerging rationalism at

its core (see The Kinetic Corpuscular Holarchy Model of Pressure, below).

As in the nature of course corrections, however, there is often a necessary over-steering in the other direction. For example, to get your car off of one side of the road, it is necessary to steer toward the other. But lest you go careening off that other side, you must straighten your course when you get to the middle. In this case, the oscillation is between the objective or physical reductionisms of the absolutely continuous and the absolutely discreet.

The original (and current) reductionism of physics is generally to the “fundamental particles”ⁱ (now absurdly thought to be ideal points, or ideal points extended into width-less strings), and the original course-correction of Sorce Theory was to remove that solid-particulate preconception right at its foundations to be replaced with its opposite in a fluid continuity and non-particulate reductionism. This is, however, still a foundational conception; an immanent truncation of the I/T conceptual axis which maps an infinite matter-unit (corpuscular) holarchy.

The strength of this replacement in continuity-reductionism—through being as directly opposite as possible to the particle-reductionism (not budging an inch at the deeper levels lest the particle bias again get a foothold)—was necessary to counter the incredibly strong pull of the solid-/particle-bias. If you allow particles in at all, it seems, then the particle-bias may again completely take over.

As Lebau said somewhere or other: he who invents a new way of thinking will be unable to fully use it because he has been trained in the old ways. Once trained in the particle-

ⁱ What Sorce Theory correctly realized, was that the fundamental level is necessarily that of absolute UNITY, and therefore of the UNI-verse itself, not some indefinite multiplicity of an explosion of various types of particles. I often paraphrase this realization as “The Universe itself is the ‘ultimate fundamental particle’ and all else is ‘multiplication through division’, and this is exactly the methodology that we will use herein. Where Orthodox exoteric physics ends up with ideal, “infinitely small” point-particles as their fundamental level, these are merely expressions of the inward pole of our omniscient Immanent/Transcendent axis, the operational polarity of absolute Unity, as we will see below.

reductionism and solid bias, it is hard to get rid of without replacement by its direct opposite in a continuity-reductionism and fluid-bias. And so this is the logical place to begin the treatment—to get rid of that bias at whatever cost. But once cured, the patient should be able to quit taking the medicine, if such a cure is indeed fully possible (and I believe it is).

Right in the center of these two ideological and pedagogical reductionistic—poles we have the non-dual and non-reductionistic (infinite holarchy) stipulation that no single pole of any conceptual polarity can be absolute and that each is a relative and necessary function of the other (SZ). “Fluidity and solidity,” the “continuous and discrete,” and “emptiness and form” must coexist symbiotically at all scales in any nondual, univocal and non-foundational system. Solitary poles, such as these or any others, can have no place at the absolute scope and hence can’t be the basis for any reductionism.ⁱ The only reductionism we can allow is the reduction to irreducibility which is the enfoldment of the polarity of reduction and non-reduction in one. It retains a polarity within its unity and hence is allowed for the absolute level. And so, at this point we will introduce a principle to guide us throughout this course.

ⁱ (SZ) See the Univocity Framework in SpinbitZ: Volume I

Principle 1: The Causal Principle of Complementarity (CPC)

In a nondual or univocal ontology or physics, the particle and the wave recursively and causally form the two poles or antipodes of organization at the very heart of relation. They emerge recurrently from one another in perfect causal relation—not in paradox, but simply as a function of the polar and recursive self-similar relation between the continuous and the discreet, as seen already in the relation between molar fluids and subatomic superfluids.

Explanation: This will become apparent as we proceed through the self-similar cosmological holarchy, but suffice it to say that the properties emergent through higher levels of numerical complexity between discreet levels and continuous levels, give rise to the emergence of the opposite antipode of organization.

This is similar to the notion of the rootless root and the notion that we cannot speak of absolute truth without speaking in paradox. The paradox resolves itself into an understandable necessity once we realize the crucial distinction between the absolute and relative levels, in that the absolute level cannot be monopolar, even if it can't be expressed in polar terms, whereas the relative level expresses itself most accurately in terms of polarities and multiplicities. The paradox comes in, as *SpinbitZ: Volume I* shows, when we take a dualistic perspective on fundamental polarities. When we can allow for only one way of concept—one diction, one doxy—and we have found a fundamental polarity, then we wind up with a contra-diction and a para-dox.

The absolute level must enfold and unfold polarities, rather than being expressed by any single pole of a polarity. The sole exclusion is in referencing or addressing (rather than

expressing) the absolute level from the relative level in polarities such as “absolute vs. relative” or “Substance vs. mode”, etc. In this case, if done non-reductively and non-foundationally, the absolute is not explained or expressed by the monopole, but merely addressed or referenced by it. This is naturally because we ALWAYS deal at the relative level even when it comes to the absolute, which gives our conception of the relative level any meaning at all.

Indeed, as *SpinbitZ: Volume I* shows, the absolute scope is generated in this very attempt of the relative scope to find its context and meaning, and this is the nondual essence of univocity, as a guiding framework for any rigorously nondual system.

REDUCTIONISM VS. INTEGRAL

For a causal and physical theory, a metaphysical reductionism, and especially a subtle reductionism, is a fine resting place. But when it comes to the direction in modern philosophy toward integrating the wisdom of all human thought, from past to present, and into the foreseeable future, and including all the value-spheres (subjective and objective, and both singular and plural forms e.g. Ken Wilber's IT, I, WE, and ITS or Plato's "Truth, Beauty and Goodness"), a causal (objective) reductionism leaves cold the proponents of the other neglected value-spheres, or those who seek integration of them all.

But there are more coherent, comprehensive and integral methodologies (meta-paradigms) to affect such a non-reductionistic integration of all human knowledge; past, present, future, east, west, north and south and all levels and value-spheres up and down the pyramid of complexity.ⁱ

ⁱ The best one I have found so far, and one that is rapidly sweeping the globe, is called "Integral Methodological Pluralism." The author, Ken Wilber, is considered "America's most widely translated academic writer...with 23 books in over 30 languages." His philosophy deeply appeals to the intuition of millions of sophisticated thinkers and it is precisely because he integrates the truths of the ancient wisdom traditions with the truths of modern science, philosophy and religion, thus promoting the healing of the objective/subjective rift, and the ontic shift toward objectivity, which is the core of the "crisis of modernity" (SZ).

But Wilber's model, based as it is on the dead husk of orthodox physics and cosmology, as well as the faulty and mythical history in exoteric academic philosophy, receives a serious upgrade when integrated with the newly emerging complementary paradigms of Sorce Theory, the Electric Universe models and Self-Similar-Cosmology, among many other things going into the mix in *SpinbitZ: Volume II*. In *SpinbitZ: Volume I*, it has already received an upgrade and a deepening in its interaction with Interface Philosophy. Or Interface Philosophy receives an upgrade through its use and expansion of Integral Theory.

The ancient wisdom traditions, such as Buddhism, Hinduism, Plotinus' Neo-Platonism, Hermeticism, Gnostic and Jewish mysticism, and the philosophy found in the "Book of Dzyan," (theosophy) which was read from in the audio version of "the anpheon"—are all founded on a non-dual and non-reductionistic methodology and hence almost invariably end up with an infinite depth and holarchy. Furthermore, the new scientific methodologies, such as complexity theory and Prigogine's "active matter" explanation of the "arrow of time" (SZ: Univocity and Deep Infinity)), as well as the very same infinite complexity of nature required to resolve the free-will vs. determinism debate (SZ: infinite determinism = indeterminism), further demand a universe of infinite depth and complexity.

My purpose here is to open up the basement level axioms to the rootless root of the great wisdom traditions and allow the matter-unit holarchy to extend infinitely (eternally and *a priori*) in both directions, inward and outward, in order to see where this can lead in terms of explanatory power and integration with the integral methodologies. This extension, or the limitations and truncations thereupon, can ONLY be based on empirical and rational methodologies—including its "acategorical imperative" (SZ)—therefore it must remain axiomatically *open* for exploration until we find out otherwise that the self-similarity abruptly and unexpectedly ends, somehow, beyond the horizon of human sensory modalities (see Self-Similar Cosmology: Holarchy as Anatomy, below).

Not only does this non-dual acceptance of the unity of form and continuity at all levels put Sorce Theory in accord with the current philosophical movement to integrate the dissociated value-spheres of modernity and to heal the rift between modern objective-reductionistic thought and the great wisdom traditions, but it allows us to understand the deeper inter-relations between the 'basic items.' With the loosening of those foundationalist axioms, the depth of that exploration is opened up to the limits of the searcher, rather than being closed off by arbitrary decree of the reductionistic model. But most importantly, it does this without changing or compromising the

higher-level metaphysical/physical/causal theory. Quite the opposite, really. Those concepts remain perfectly intact in the integral context of “deep infinity” and the self-similar holarchy. And as should be expected of a self-similarity, the concepts at “level one” explain the properties recursively emergent at the “basement level”.

Problems with the axiomatization of the basement level manifest often when the axiomatic concept of ‘sorce’ is introduced to an “educated” newcomer. They are often taken aback and can’t get beyond it, because acceptance of pressure as axiomatic necessitates that they abandon everything modern science has learned about the deeper causal nature of pressure, and its relation to the other basic items motion, matter, inertia and relation, in such things as the Venturi effect, and its qualitative and quantitative applications in fluid-dynamics. A causal and qualitative model of pressure is to be replaced with a new and empty symbol, an abstract quantitative scalar, where there once was a summation of causal actions and momentum vectors. This is precisely the opposite thrust and goal of the bulk of the Sorce Theory model. Only its axioms defy the move toward understanding and causality. And thus only the axioms need opening into the axiomless axioms of a truly nondual and univocal framework.

However functional the axiomatic concept of pressure (sorce) turns out to be at higher levels in the construction, this axiomatic truncation of the previous gains in the causal modeling of pressure and its related family of fluid-dynamic concepts (e.g. the kinetic-atomic model), is obviously and intuitively a step in the wrong direction (however small) for anyone looking for qualitative understanding.

I have seen this happen time and time again. The inability to accept the root level axioms over the causal and qualitative classical model is an unfortunate trap laid in the doorway to Sorce Theory. It is a problem that can indeed be avoided, however, if the axioms are constructed carefully so as to be intrinsically open to deeper causal exploration and so as not to require the abandonment of the truths of modern science in the

intuitive inter-relation between the basic items of matter, motion, pressure and relation, not to mention the intermediary basement-level items of the Venturi effect and ontropy. They are all deeply causally inter-related and inextricably intertwined. Each one of them depends upon the others, as I will show.

Sorce Theory is indeed a correction of modern physics and a great leap forward because it allows a CAUSAL and qualitative unification of the forces while explaining in exquisite causal detail the meaning behind the empty mathematics of the modern physical accounting system. It allows the light of reason, common-sense and understanding to again guide the way for our continued quantitative modeling into the new computational and complexity-science methodologies as a fluid-dynamic simulation of the formation of the atom and the unification of the forces. But as I said, this necessary correction came at the price of an over-steering to the opposite reductionism, the truncation of the empirically indefinite matter-unit holarchy to a metaphysically arbitrary non-nucleated absolute continuity.

This reductionism is still a great step forward, however, because instead of truncating infinite depth to the illogical and undisclosed metaphysical *duality* of particle and void, it truncates it to the UNITY of a single, continuous and compressible fluid-dynamic substanceⁱ. So we have gone from a solid, and undisclosed matter/void dualism—with rampant fractures and absurdities all up and down the line—to an intrinsically unified and exquisitely detailed fluid-matter monism, which subsequently explains the self-similar forms permeating the cosmos on all observable levels.

Particle-based science, however, (at least in its classical era) had made some progress in terms of developing basic qualitative intuitions about important aspects of fluidity. And so, with the abandonment of these particle-based gains, the

ⁱ Though, any level initiates the dualistic problems of foundationalism in that it presupposes its dual in the creation ex nihilo, from the deeper non-existent substrate.

properties of this ultimate compressible fluid (e.g. density and pressure), become necessarily axiomatic, rather than causally derivable, as they were in the classical kinetic-atomic model of fluids. So we can see that in order to achieve a unified physical reductionism to a single continuous and fluid material level, which had the reductionistic starkness and simplicity to counter the particle-bias inherent in modern thought, we had to give up this previously-gained explanatory depth and take these now understood notions as mysteriously fundamental axioms.

These abandoned intuitions, as we will see, are key to understanding the interrelations between many of the basement-level items, and so must be reinstated without their faulty classical kinetic-atomic foundationalist formulations. If we can find a way to reincorporate these real gains in qualitative reasoning without bringing back their classical problems, Sorce Theory has a greater success of transcending and including the truths of the present in the model of the future. Any model that doesn't include such important modern intuitive and qualitative truths, at least in some sense, will have extreme difficulty making it into the main-stream of theoretical evolution. But even so, it is Truth that our truths seek to converge upon, and it is my view that if these explanations further the cause of understanding the axioms, then it is likely that this brings us closer to the Truth.

SELF-SIMILAR COSMOLOGY: HOLARCHY AS ANATOMY

Note: Much of this section is adapted from *SpinbitZ: Volume I*.

The Atom and the Network—the Holon and the Rhizome

In his book *Out of Control*, Kevin Kelly writes:

A contemplative swarm thought: The Atom is the icon of 20th century science.

The popular symbol of the Atom is stark: a black dot encircled by the hairline orbits of several other dots. The Atom whirls alone, the epitome of singleness. It is the metaphor for individuality: atomic. It is the irreducible seat of strength. The Atom stands for power and knowledge and certainty. It is as dependable as a circle, as regular as round.

...

The internal circles of the Atom mirror the cosmos, at once a law-abiding nucleus of energy, and at the same time the concentric heavenly spheres spinning in the galaxy. In the center is the animus, the It, the life force, holding all to their appropriate whirling stations. The symbolic Atoms' sure orbits and definite interstices represent the understanding of the universe made known. The Atom conveys the naked power of simplicity.

The original ancient Greek Atom was foundationalist and absolutized bounded form. The Atom (a-tomos) was the “uncuttable,” indivisible rival and antithesis of the infinitely divisible “corpuscle” of eighteenth-century “Natural Philosophy.” The Atom, and Newton won out over the corpuscular folks like Leibniz and Boyle. Atomic simplicity was far easier to deal with for the exoteric LCD of humanity. But the victory of the Atom was short-lived. Indeed, the Atom of the 20th century is no longer the indivisible entity of Leucippus, Democritus, Gassendi and Newton. ***Without anyone noticing it, the Atom was transformed into its rival, the corpuscle—the an-atom.*** The corpuscle, or the anatom, is infinitely divisible. It has anatomy. It ontologically embodies the modal half of the fundamental principle of Nondual Rationalism.

The Holon, on the other hand, is the *conceptual and abstract* form of the infinite divisibility of the corpuscular anatom—and it is directly opposed to the Atomic concept of the absolutized and foundational Planck scale in modern physics. This infinite divisibility is encoded into its very definition as a part-whole, or equally as a whole-part—i.e. a whole that is always part of a larger holon, and a whole whose parts are always made from smaller holons. The very definition of a holon, then, necessitates that there can be no end to the holarchy, because (in the immanent direction) this would entail that a holon is either made of foundational non-holons (the ancient Greek *Atomoi*) or (in the transcendent direction) that the last holon is not a part of a larger holon, and thus not a holon either, but some kind of inside-out Atom, e.g. a transcendent God. These two forms absolutize our two vision-logic equations: $\infty/1$ and $1/\infty$, respectively, corresponding to immanent and transcendent bounded form (SZ).

Kelly continues:

Another Zen thought: The Atom is the past. The symbol of science for the next century is the dynamical Net.

The Net icon has no center — it is a bunch of dots connected to other dots — a cobweb of arrows pouring into each other, squirming together like a nest of snakes, the restless image fading at indeterminate edges. The Net is the archetype — always the same picture — displayed to represent all circuits, all intelligence, all interdependence, all things economic and social and ecological, all communications, all democracy, all groups, all large systems. The icon is slippery, ensnaring the unwary in its paradox of no beginning, no end, no center. Or, all beginning, all end, pure center. It is related to the Knot. Buried in its apparent disorder is a winding truth. Unraveling it requires heroism.

This use of the dynamical Network as “the symbol of science for the next century” is similar to Deleuze and Guattari’s championing of the concept of the *rhizome*. In *The Deleuze Dictionary* we find:

...the *rhizome* is a concept that ‘maps’ a process of networked, relational and transversal thought, and a way of being without ‘tracing’ the construction of that map as a fixed entity. Ordered lineages of bodies and ideas that trace their originary and individual bases are considered as forms of ‘arborescent thought’, and this metaphor of a tree-like structure that orders epistemologies and forms historical frames and homogenous schemata, is invoked by Deleuze as everything that rhizomatic thought is not.

Where Deleuze and Guattari conceive of the tree (“arborescent thought”) as opposite to the rhizome, we can see the simple difference between these two forms in the idea of lineage. The tree traces everything back to the individual unit, the trunk from which the roots and the branches diverge. This, they say, is the focal point of power. By forcing everything into patterns of “arborescent thought” power becomes centralized and controlled through the trunk. The roots of the tree can be seen as the past or the immanent line of emergent *descent* (if looking regressively from the transcendent trunk) or ascent *into* the trunk, while the branches can be seen as the future or the transcendent line of emergent *ascent away* from the trunk.

The trunk of the tree, then, is roughly analogous to the holon—analyzed into its own spatial and/or temporal networks. What we can see in the infinite holarchy, however, is the combination of the rhizome *and* the tree. In the holarchy we can find both. Trees are found by tracing both immanent and transcendent lineages (lines of flight) to a *single* holon, and rhizomes are found by tracing them through large groups or collections of holons.

A holon, however, is *always* composed of an infinite number of deeper holons—indeed an infinite holarchy or a rhizomatic network of holons—whereas the trunk of a tree is not composed of an infinite number of trunks of trees. The trunk and strictly “arborescent thought”, therefore, is much more akin to the Greek Atom and/or “Atomic thought”—which is a variant of our friend “categorical absolutism”—whereas both the holon and the holarchy contain and remain free from the restraints of both and embrace the fundamental principle of Nondual Rationalism.

The holon-corpuscle-anatom and the holarchy-network-rhizome, then, correspond in the pure-relational terms of immanence and transcendence to the I/T uni-axis and the omni-axis, respectively. The holon embodies singularity, and the holarchy embodies multiplicity; And each is enfolded in the concept of the other.

Depth vs. Span: Further Untangling the Trans-Trans-Bias

There is a possible bit of confusion, at this point, which must be smoothed out. For the most part we have been using the notion of transcendence to denote holarchical scale on an infinite immanent/transcendent axis, but its more precise meaning, as we have also seen, comes with the holarchical idea of transcend-and-include, for example in the EOTC. We have discussed at length the tendency for the transcendent to collapse or map directly to the transitive, and indeed the need to untangle this collapse. And so through the use of the concepts of “depth” and “span,” which come to us from Integral

Theory, we will attempt to further preclude this otherwise imminent collapse.

Depth, in Integral Theory, can be very simply mapped to the immanent/transcendent axis as we have come to know it through the notion of holarchy. The depth of an individual holon is the number of holonic levels—or the degree of transcend-and-include complexity—which the holon has incorporated into its functional and structural make-up. For example, the depth of an atom is less than the depth of a

cell which is less than the depth of a human being. The depth of each holon gets greater than the last holon precisely because it *transcends-and-includes* it into ever greater levels of transcendence (see Figure 8, above, right). In this sense of a gradient of complexity, depth is very much akin to Spinoza’s notion of “excellence,” from the “simplest bodies” to the boundless complexity of God, the transcendent emphasis of the immanent/transcendent omni-axis.

Span, on the other hand, is the number of holons *of* or *at* a specific depth, or at a given level of the holarchy. For example, it takes *billions* of atoms to make a *single* cell, and it takes *billions* of cells to make a *single* human being. For this reason, in any given region of space, there will be far *more* cells than humans and far *more* atoms than cells. And so we can say that atoms have *greater span* than cells, and that cells have *greater span* than humans. See Figure 9, below.

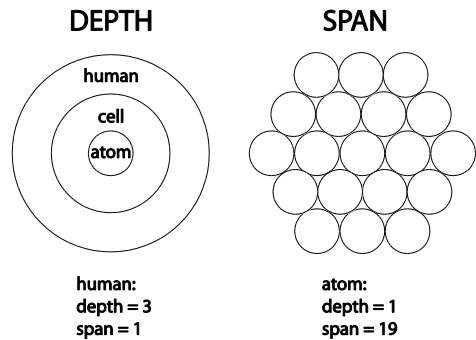


Figure 8: Simple Depth Vs. Span:

This simple diagram (though obviously not to scale) captures the *dimension* of scale involved in transclusion-and-inclusion from tiny atom to human, but in so doing it loses the aspect of diminishing span with increasing depth.

And so we can see a general pattern in the holarchy that with greater depth comes less span. We can see this also in the fact that not all collections of atoms will transcend their agglomerative molecular nature to become cells, and not all groups of cells will transcend to become humans. There are, then, even *less* humans than atoms or cells...and far less than would be assumed by merely accounting for their constituent holonic numbers. So we can see that transcendence—in this sense of depth and span—takes on the “spiky” nature we’d expect from an exponential or logarithmic decrease in spatiotemporal frequency—the increased rarity—of the higher evolved kinds of beings.

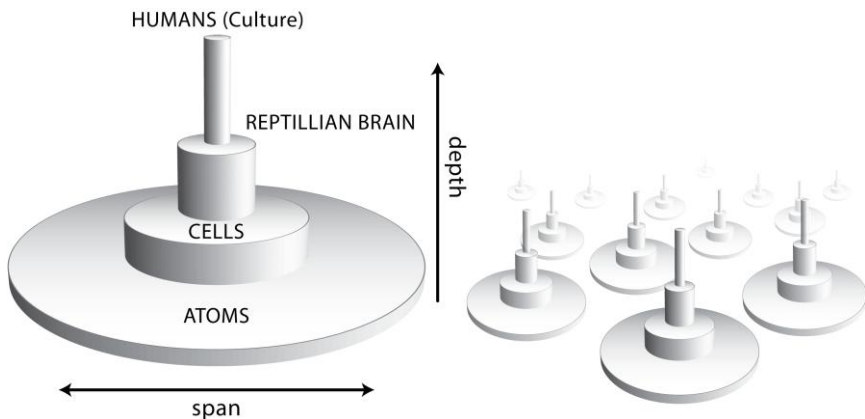


Figure 9: Holonic Depth vs. Span:

In Integral Theory, depth is defined as the number of levels of the holarchy a given holon has transcended-and-included. Span, on the other hand, is the number of holons generally found at a given depth (in an average zone in the cosmos, as far as such an average can be estimated).

It is important to clarify that holonic or holarchic transcendence does not always equate to scale or size, though very often it is indeed the case. A counter-example of the correlation can be seen in the fact that a dinosaur has a greater size than a human,

while a human—with its transcension-and-inclusion of the reptilian brain into the mammalian triune brain—has greater depth and transcendence. See Figure 10, below.

There is a simple way to understand the difference, however, when we think of transcendence solely in terms of a single *holonic* (arborescent) line of development (or flight) as opposed to interrelating the complexity of two or more lines (moving into rhizomatic relations). For example, in the line of development from atom, to cell, and to human—where each level physically transcends-and-includes the holons of the previous levels—we can apply the restrictions of boundary and scale very simply at each level. In this sense, a holon cannot physically transcend-and-include a holon of greater size than itself. So in this single transcend-and-include line—a holonic line—there is indeed a necessary movement up in scale as we move toward transcension. Though it is also the case that the scales and depths *between* two *different* holonic lines or types may not indeed match up.

As the perceptive reader will note, however, there are two different *kinds* of transcension-and-inclusion being used here. The transcension-and-inclusion of the reptilian brain into the triune-brain of the human is not the same kind of transcension-and-inclusion as that of the atom into the cell, for example. This is seen in the fact that while there are indeed billions of whole atoms intact and included in the cell, and there are billions of cells intact and included in the reptile, there are certainly not billions, or even a single reptile transcended-and-included in the human being. In a very real sense, however, there is one reptilian brain transcended-and-included in the human brain, but the brain is a part of the dinosaur or human holon, not a whole or a holon in its own right.

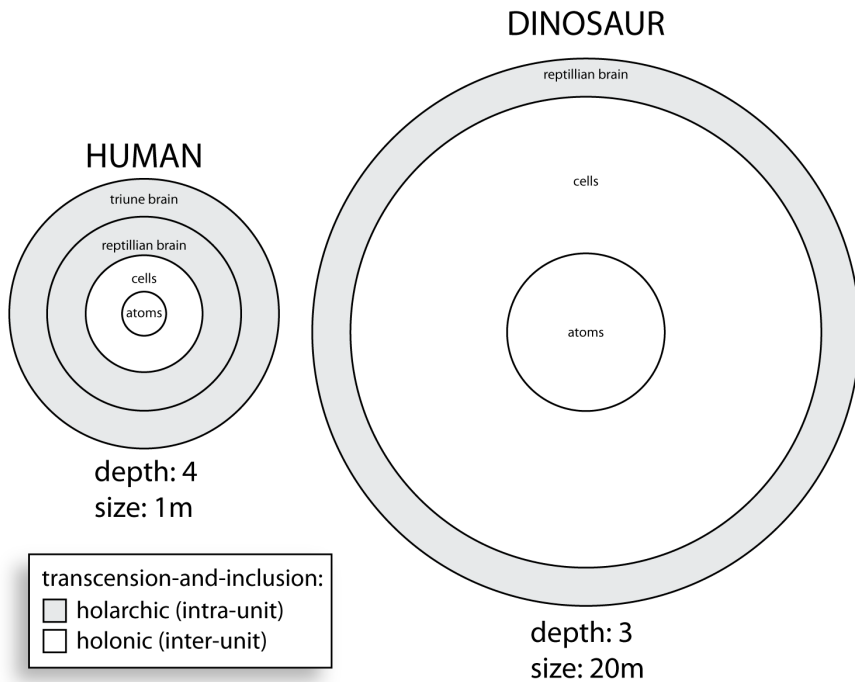


Figure 10: Depth vs. Size:

Depth in a *single* holarchical line of development does indeed roughly correspond to size or scale, but depth as a relation *between two* lines often does not. In this diagram I have also indicated the two distinct types of transcension-and-inclusion, holarchic (intra-unit) and holonic (inter-unit). This distinction can be seen in the fact that brains, or parts thereof, are not holons in their own right. Given the fact that they can't persist outside and apart from the body, therefore, their transcension-and-inclusion may be holarchic, but it is not holonic.

The first kind of transcension-and-inclusion, from atoms to cells to organisms is a kind of holonic or arborescent relation—where the complete units (part-wholes or holons) of one level form together to give the *collective emergent properties* of the next *complete* unit or holon and everything is traced to the individual holon(s). The second type of transcension-and-inclusion, on the other hand, from reptilian to human triune brain, is rhizomatic or holarchic. It is a fractional and functional

incorporation of a vast collection of holons (neurons) as a *single part* (a body-part, not a holon; such as the reptilian brain) enfolded into a larger part (the triune brain). The difference can be divided, then, on two lines or polarities: the collective emergence and unity of the *holonic* vs. the fractional multiplicity of the *holarchic*. A brain is not a holon, but a sub-holon or a holarchy—a part, not a part-whole—because it can't maintain its unity outside or apart from the body itself.ⁱ

So, we can see these two types of transcension-and-inclusion as holonic vs. holarchic, or anatomic vs. rhizomatic. And naturally we can see this distinction as occurring roughly between the I/T uni- vs. the omni-axis, respectively (recall Figure 7, p60). The *holarchical* transcension-and-inclusion, need not resolve to holons (*anatomoī*) themselves, but traces its lines to whole *collections*, levels or expanses of networked holons composing *only a part* of a larger holon—such as collections of neurons composing the reptilian brain—whereas *holonic* transcension-and-inclusion traces its lines of flight explicitly *from holon to holon* via collections and their emergent properties into new holons. This holonic transcension-and-inclusion traces ultimately to the uni-axis of the individual, from the implicit singularities (e.g. the Euclidean point) of immanence to unbounded transcendence. Holarchic transcension-and-inclusion, however, takes place only on the I/T omni-axis, because it doesn't trace its lines to a single holon, but only to collections of sub-holons forming a part of the main holon.

In these terms, then, the transcension-and-inclusion of single humans (I) into a collective (WE) is *holarchical* rather than *holonic*, because it doesn't resolve to a proper unity. And this explains why the WE has a very different nature than the I.ⁱⁱ

ⁱ This is not the same dependency, however, as the human on its social structure or environment, simply because while the social sphere or the environment can exist without a particular human, the human can't exist without its brain. Furthermore, a brain does not possess the properties of holons, such as agency and communion. Without the body, the brain has no function of homeostasis and it quickly dies.

ⁱⁱ This is from the AQAL quadrants of Integral metatheory.

This difference in nature turns on the aspect of the unity of intrinsic experience which all holons explicitly share at some level, but which a group of humans perhaps only rarely experiences given the differences in outward appearance and functionality and that we can't know this explicitly or empirically. The individual holon, such as the human, can indeed empirically and explicitly sense this unity because, as the unity itself, he experiences and *senses* it directly and unmediated. *Only for others* is your own experience subjective, implicit and non-empirical.

The Problem of the Infinite Hierarchy

As we have seen, there is a general acceptance of holarchy as necessitating a boundless or infinite depth in both immanent and transcendent directions. As we might expect from the previous (pre-rational) attempts to quantitatively deal with the infinite in terms of the finite, however (SZ: Interface Mathematics), this infinite notion of depth can be a bit confusing with respect to finite individual holons. Indeed, this general underpinning of infinite *holarchical* depth wreaks havoc on the notion of individual *holonic* depth, because in an infinite holarchy all holons would necessarily have an *equally* “infinite number” of holons transcended-and-included within them, and hence an *equally* infinite depth. In this way the depth of one holon therefore can have no differential meaning with respect to another. This, then, razes to the ground any difference in depth and therefore any *hierarchical* notion of holarchy and depth as anything but a purely epistemic (imaginary) and metrical function.

The quick answer is that we have taken the relative concept of depth to the absolute scope of the infinite, and that depth can only remain relative. But this ignores the necessity of a holarchy of infinite depth. The depth of the holarchy is necessarily infinite by the very definition of a holon, even if the depth of a holon can only be quantified relatively. Holons, then, must have *real* depth *relative* to some kind of deeper, emergent and *real* limit or metric on the immanent/transcendent axis.

But the difficulty is how precisely to deal with that real metric while acknowledging the infinite depth of the holarchy itself. How indeed does that relative metric and its limits *show up* in relative reality in order for depth to have any real or ontic meaning? And how does this finite notion of depth relate to the infinite depth of the holarchy itself?

A quick answer can be seen by simply relating one holon to the holons it has transcended-and-included. This holon is obviously of a greater depth than the holons it transcended-and-included, and we can do the same relative procedure for each holon in the holarchy. The analogy here is the number-line. Two is greater than one which is greater than zero which is greater than negative one, even though each of them has an infinite number of integers preceding it.

While inter-unit relation is valid and useful, it is only useful for relating holons of similar lineages. If we have one holon composed of different types of holons—a different line of symbols—than another, then how do we relate the depth between them without a common metric? Another problem with this method is that it neglects the big picture of transcendence itself, which is the obvious empirical gradient of complexity manifest in holarchical evolution. Indeed, the real difference from two to one to zero is the *gradient* of increasing value or magnitude it embodies.

This quick fix is then an essentially “ordinal,” rather than a “cardinal” solution. When we go past zero, in this quick fix, into the negative numbers, we are saying that there is a *negative*, indeed an *infinitely* negative form of depth. Often times in real-world problems the negative numbers must be cast out as meaningless, and indeed this is another case. There is no negative form of depth. The quick solution to save this view would be to start with infinity and count backwards, but infinity is not a bound and not a number. It is not found on the numberline at all, but is its boundless context.

Another quick fix is to cast out the negativity problem of depth by jumping on the immanent/transcendent axis of the rational numbers, decreasing not into negativity, but into

infinite immanence. But if depth doesn't relate to some *actual* metric of complexity in the holarchy itself, like a common ground of simplicity relative to all holons of a certain level, at least of a specific locale, then the gradient itself, necessary to the very notion of transcension-and-inclusion, would necessitate that holons get ever simpler and simpler as they go back into the infinite immanence of the holarchy.

Ultimately, then, holons in this simple notion of emergent complexity, would be infinitely simple, because there would *always* be an infinite depth above them to count back from. Perhaps some version of this chain of reasoning is the very genesis of the concept of the mathematical point. But recall that there can be no reaching of the infinite, in any of its aspects, simplicity, complexity or whatever. This infinite holonic simplicity seems, on its face, absurd. Surely there is some emergent form of a limit to simplicity. After-all, the properties of any holon must have a minimum amount of complexity in order to count as holons, and indeed to even exist.

So this purely relative metric of depth either ends in the problem of negativity or the problem of infinite simplicity, both of which render the “cardinal” meaning of the gradient meaningless and devolving into essentially “ordinal” solutions with no *real* value or magnitude for depth—a mere ordering by number, devaluing the real magnitude of increasing complexity itself.

Evolution is Involution Seen in Reverse

Perhaps the only self-consistent way out of this dilemma of a “flatland” of infinite depth is to “finitize” or quantize the notion of depth for each holon in relation to some *real* metric in the holarchy itself, giving a *real*, not a purely relative or imaginary, scale or referent for holonic depth. This would be similar to the transitive unit-identity (the first number 1) providing the scale for inter-unit operations in Interface Mathematics: there has to be a *real*, if always emergent and relative, ground for the *gradient* of complexity to begin. This would mean that holonic complexity reaches a *minimum* at recursive self-similar levels

(transitive-planes) in the holarchy, at which all holons are effectively equal at a depth or complexity of one.

The complexity from the infinite *holarchical* depth, at these “minimally complex” levels, however, cannot not just disappear on a whim, but is then necessarily “*enfolding*” within the ground-level holons, so their unit-differences and interactions are *minimally* complex, not absolutely simple. This is *not absolute-zero* complexity, but *minimal* and *enfolding* complexity—involvement—where the inter-unit differences and relations become enfolding and homogenized to the bare minimum. This *involution* of complexity in the holarchy itself, then, provides the ground for the *evolution* and *real relation* of actual holons. Depth is then not simply a relative and ordinal measure between holons themselves, but between holons and their *real* place in the *real* depth-metric of the holarchy in terms of the involution and evolution of holarchical complexity.

Indeed, the most consistent way to understand this periodic quantization of holarchical involution and evolution is that the enfolding of infinite holarchical complexity itself *maintains* the extreme unit integrity of the simplest holons or units, as the energies maximally emergent at the focal point of the unit become *internally* refracted and reflected toward harmonic self-reinforcement and self-stabilization (e.g. inertia).ⁱ ***In this sense we have another true polarity: Holons of MINIMAL outward or inter-unit complexity occur precisely at the focal point of MAXIMAL inward complexity, where they can finally harness the complexity of the infinite holarchy into their own self-stabilization and inertial integrity. Simplest bodies, then, are simplest precisely because they are internally the most complex and self-organized.***

In this sense, evolution itself leads directly to involution at the next level. Indeed, evolution and involution are the two sides of the same coin, because it is increasing complexity

ⁱ This process is explained in explicit and exquisite causal detail in Sorce Theory.

itself—evolution—that allows involution to proceed toward the self-centering, self-harmonizing, self-focusing of its ever higher ground-levels of simplest bodies. ***Evolution, then, is involution seen in reverse. And we can see this as a harmonic corollary to our Principle of Immanence in Transcendence. Just as immanence is transcendence if seen from “beneath,” so too involution is evolution if seen from within its unfolding process.***

A simple way to visualize this process is to conceive of the polarity of involution and evolution in terms of a torus whose outside is turning inside and whose inside is turning outside (See Figure 11, below), like a dipole magnetic field. Imagine that the torus is resting upon the axis that runs through its center. In order for the torus to move up the arrow it must continually turn itself inside out, rolling up the torus in the omni-directions of its intrinsic planarity. In the same way, as evolution progresses, it gets more and more complex, enfolding the outward complexity inward to the point that this complexity emerges into new properties which begin to allow the units or holons to attain the maximally self-harmonized, self-stabilized and self-focused structure of “simplest bodies” whose maximal inward complexity manifests as a minimal outward complexity with which this process begins anew from this newly emergent “ground-level.”

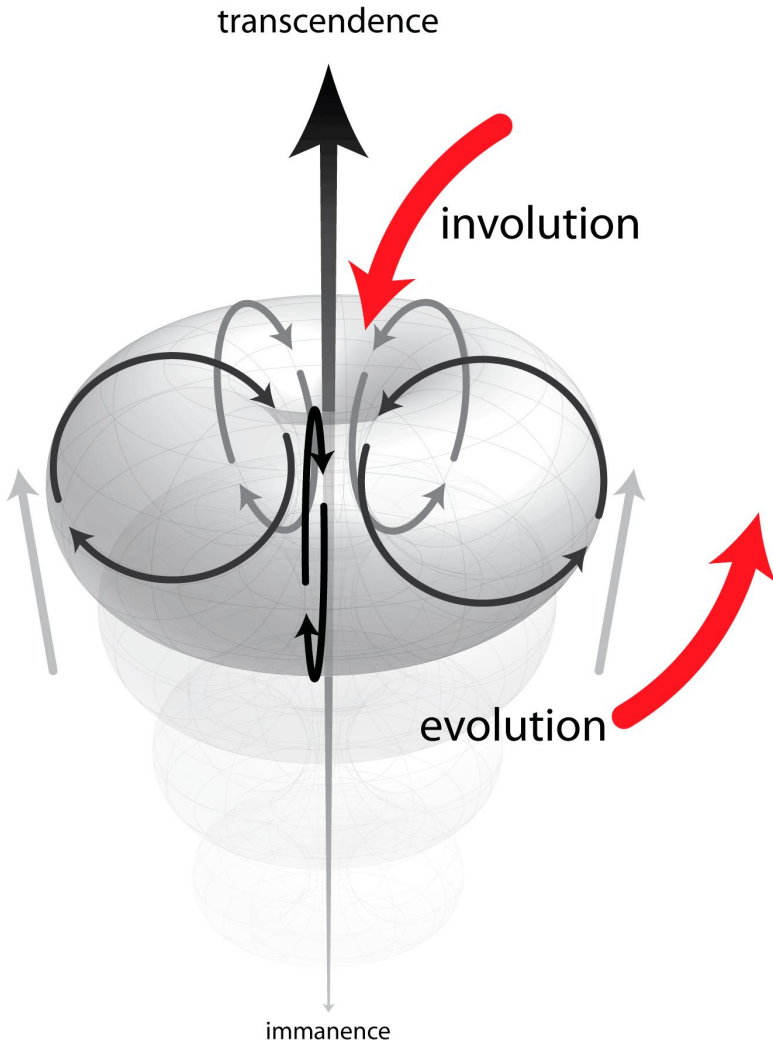


Figure 11: Involution is Evolution Seen in Reverse:

Involution and evolution are part of the same process, but depending from which side of the process the viewer is placed, he will see either involution or evolution. In order for the torus to move up the axis running through its center, it must involute and evolute itself, rolling up the axis in the omni-directions of its intrinsic planarity.

Holarchic and Holonic Depth: The Rhizome and the Tree

From this recurrent unitizing, homogenizing ground of complexity enfolded into simplest holons, (such as our anatomic or corpuscular “atoms”) complexity and depth then finds a foundation to unfold again. In this emergence from a recurrent ground-level, holons find their *ontically real* referent for relative differences of holonic depth and complexity at the higher levels of evolutionary holonic and holarchic transcension-and-inclusion.

While this rational or logical necessity of the “simplest body” is important to consider in its various relative possibilities, it is also important to consider whether it is backed up by any scientific and empirical data. Indeed, as we shall explore in more depth below, the recent findings of the “fractal” or “self-similar” models of cosmology have already determined an empirically-derived, quantized, self-similar and recurring scaling-relation between levels of complexity or what we call holonic depth.

The *Self-Similar Cosmological Model* of Rob Oldershaw, as we will see below, forms a rigorous empirical and mathematical basis upon which to anchor and justify these quantized unit-levels of “simplest bodies” and enfolded complexity.

In this self-similarly quantized sense, then, the depth of an individual holon must be measured *only* with respect to the transitive-plane or ground-level corresponding to its “simplest bodies.” For us—according to the empirical scaling relation of Self-Similar Cosmology—this simplest holon is the atom (or, more correctly, the corpuscular *anatom*). For any possible entities beneath the scale of the atom, their simplest body and depth-referent is the Planck unit, and for any holons smaller than the Planck scale (in direct opposition to the modern exoteric Atomic and foundational notion of the Planck scale), it is the next smaller simplest body ... and perhaps *ad infinitum*. The anatomic units at these ground levels are perhaps equally “simple,” as they constitute a recurring *self-similar* pattern of minimal or enfolded complexity on the immanent/transcendent

axis—and again, according to the clear empirical self-similar relation, as we will see.

Once this ground level of basic building blocks is set up, evolution and structural relation can begin to enfold the simplest bodies within holonic layers of greater and greater structural complexity and depth. But without these first and simplest bodies and their respective ground-levels, there can be no structural complexification into greater holonic depth to begin with.

Recalling our two forms of transcension-and-inclusion—holonic and holarchic, as roughly bifurcating on the distinction between the I/T uni- and omni-axes, respectively—we can see a very clear distinction between two types of depth. Holonic depth is *individual* depth as measured with respect to the “ground level” of enfolded and minimal complexity transcended-and-included *in the individual holon* as the bounded interface on its own I/T uni-axis. Holonic depth, then, is arboreal, a network of holons always funneling through a *single* trunk of a holonic focal point, and thus ultimately to the simplest bodies and their self-similarly recurring transitive “planes of existence.” Holarchic depth, on the other hand, is depth with respect to the infinite distributed multiplicity of the holarchy itself, or the networks of parts thereof. Holarchic depth then is rhizomatic, it resembles networks of connected roots, like grasses or neurons, irrespective of any single localized holonic development or holon. It need only resolve to *distributed collections* of holons forming parts of larger holons or to the omni-/non-locality of the infinite holarchy—the ONE-ALL of infinite multiplicity itself. And so, while the *holarchical* depth of any holon may indeed be infinite, the *holonic* depth is not.

This ever-present polarity of depth allows us to differentiate and inter-relate the depth between holons, while at the same time it accounts for the empirical evidence of boundless depth manifesting as the inherent indeterminism or unpredictability of any event.

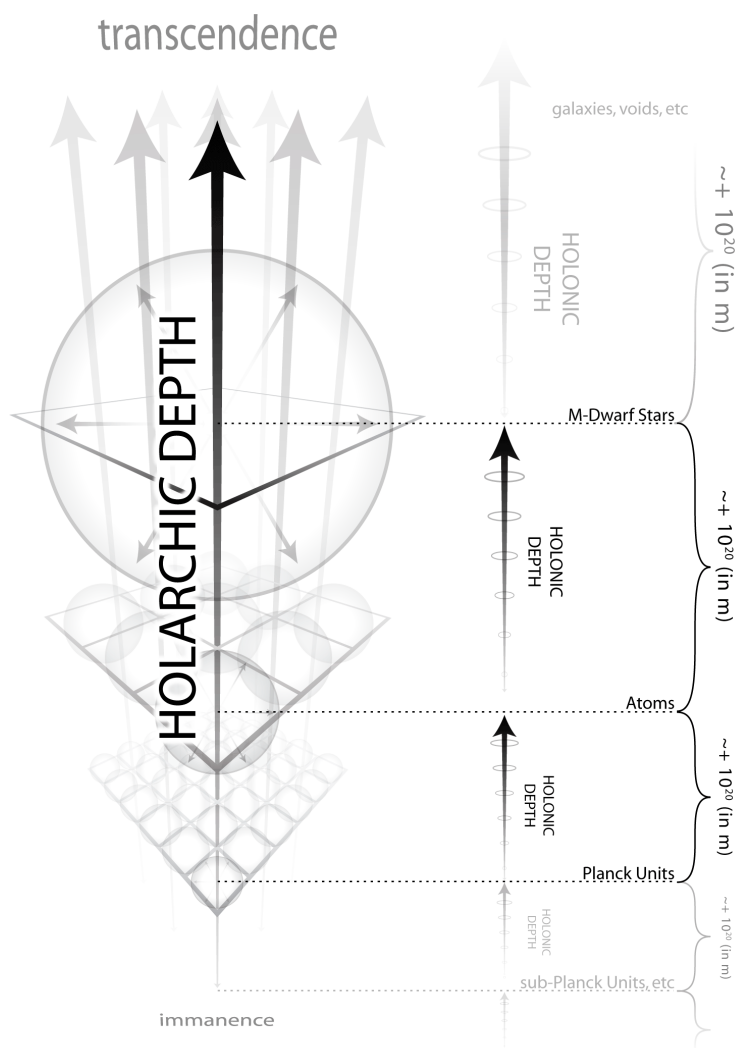


Figure 12: Holonic and Holarchic Depth:

In an infinite holarchy—as presupposed by AQAL metatheory for example—in order to escape the conundrum of an equally infinite depth to ALL holons, depth itself must be “finitized” or quantized, in some sense, to recurring scales of “minimum” or enfolded complexity. The units of these “ground-levels” correspond to Spinoza’s “simplest bodies” and they are reinforced by the empirical findings in the emerging Fractal and Self-Similar Cosmologies, such as the empirical scaling relation discovered by Rob Oldershaw. Furthermore, in conjunction with the distinction between holonic and holarchic transcension-and-inclusion, we can make the distinction between holonic and holarchic *depth*. While an individual holon may have a finite *holonic* depth—quantized by the recurring scales of enfolded complexity—it can, at the same time, possess an infinite *holarchic* depth. Via the Principle of Infinite Determinism, this polarity of depth accounts for the necessarily indeterminate “fundamental” complexity of holons of a finite *holonic* depth.

And so, depth is indeed measured on the immanent/transcendent axis, but it is differentiated into holonic and holarchic depth, corresponding to the differentiation of the I/T axis into the uni- and omni-axes, respectively. Holonic depth is individual depth, quantized and measured specifically with respect to the recurring “ground-levels” of “simplest bodies.” This quantization of holonic depth removes the conundrum of an equality of “infinite depth” that would otherwise render the differential depth of individual holons meaningless. At the same time, the polarity between holarchical and holonic (or rhizomatic and arboreal) depth explains—via the Principle of Infinite Determinism (SZ)ⁱ and its boundless levels of causal complexity—how the truncation, quantization or enfoldment of individual complexity itself can manifest the infinite depth of holarchic complexity into observations of fundamental indeterminacy or unpredictability. See Figure 12, above.

Span as well, we found, does not correspond to scale or to the transitive-axis but is merely a quantitative relation between levels of holonic depth. In this sense that the higher levels of holonic evolution and transcendence get more and more rare as they ascend, span is essentially an inverse relation to holonic depth.

Trip-Reset: “Simplest Bodies” and the Self-Similar Kosmos

Summing up his model, Rob Oldershaw says, “In the new theory there is no stipulation that nature’s hierarchy is limited to the scales that we have defined; this assumption, in fact, would have an anthropocentric bias which physicists have sought to avoid since the time of Copernicus. It is quite possible that the hierarchy extends beyond the galactic scale and that galaxies are the component building blocks on a larger ‘meta-galactic’ scale.”

ⁱ “Infinite determinism equals indeterminism.”

The details of this model are beyond the scope of this brief work, but such an examination will be included in *SpinbitZ: Volume II*. For now, here is a tantalizing summation by Oldershaw, “If we were to arrange each class of objects found in nature in a sequence based on mass, then we would discover a pattern. ...The most important feature of that pattern is that there are special classes of objects that punctuate the sequence at widely spaced intervals; atomic, stellar, and galactic systems. The most distinguishing characteristics of those special objects is that their masses fall within relatively narrow limits. They are the basic building blocks of nature.”

Aside from the readily demonstrableⁱ structural self-similarities between the levels of the atom and the star—such as the exact same geometrical relation found between the orbital spacings in both Schrödinger’s atomic-, and Bode’s planetary-laws—Rob Oldershaw has found a deep underlying quantitative similarity between various aspects of these recurring levels or scales (e.g. atomic, stellar and galactic) through a self-similar scaling equation that inter-relates them.

This equation shows, for example, that the relations between the numbers or frequencies of the elements compared to the numbers or frequencies of the different kinds of stars, is virtually identical, and inter-transformable via the scaling equation. The number of Hydrogen atoms compared to the number of other elements, for example, occurs in precisely the same relation or ratio as the number of M-dwarf stars compared to the other types of stars. Oldershaw has also demonstrated structural relations between excited stars (e.g. “planetary nebulae”) and excited atoms (e.g. Rydberg atoms). He has extended his analyses as well to the galactic level, but, due to the vast time-scales involved, the frequency of the data points is scarce, making it difficult to refine a precise quantitative relation at the galactic and higher levels.

ⁱ See Oldershaw <<http://www.amherst.edu/~rloldershaw/menu.html>>.

In conjunction with Oldershaw, various other models concurrently demonstrate with vivid clarity the pictorial self-similar relations occurring at these intermittent levels. It is indeed impossible to ignore the sheer quantity of this empirical, observational data that shows clear structural relations between these levels in the cosmos. And so we can use this data to empirically buttress the rational necessity of this quantization and periodic enfoldment of individual holonic depth.

These models show that at specific scales (recurring transitive-planes or “ground levels” as we’ll call them) there is a sort of “reset” in holonic complexity that occurs. According to the general quantitative relation as discovered by Rob Oldershaw, this occurs at around every twenty orders of magnitude (in meters), from the Planck level, to the atom, to the M-dwarf stars, to galaxies or voids and very likely beyond (See Figure 13, below (p121).

Sorce Theory, gives us a simple way to *causally understand* one of the properties that can lead to such a real, emergent, self-similar relation. Beneath the unit-level or “ground-level” of the atomic nucleus (the proton), for example, we have an effective subatomic continuity (a quasi-continuity)^{i*} that doesn’t see its deeper unit-level until for another whopping twenty orders of magnitude in meters—the Planck level (the same distance in the other direction on the immanent/transcendent axis between an atom and a star). Accordingly, the actual properties of matter shift *dramatically* between the atomic (unit) and subatomic (sub-unit) levels, and this is precisely why the physicists of the early twentieth century were so utterly befuddled when their “classical” meso-scale and particle-based expectations were shattered by the entirely new properties of the sub-atomic quasi-continuous level—themselves emergent from a much deeper level.

^{i*} See PNDR: “Infinite Divisibility Equals Indivisibility”, p131

The intermediate holons between the Planck and atomic scales are *highly unstable*, as physics has discovered, whereas the proton (atomic nucleus) is extremely *stable* (the neutron is also unstable and decays into the proton). It is this aspect of extreme or maximal stability—among other things such as maximal unit simplicity (minimal complexity)—which qualifies a level as a ground-level of “simplest bodies.” We find such levels at the scale of the Planck unit (the Planck scale), the proton, the M-dwarf stars and likely at the level of galaxies or voids. The larger and larger we get, however, the more sparse and indirect the data, so it is difficult to determine the precise unit-levels at those scales. This is mainly because of temporal dilation at larger scales in that we see fewer and fewer complete events and thus we have far fewer points of data to correlate into an empirical relation.

According to the relation of twenty orders of magnitude, however, the next higher unit level would be the level of the voids. Given the vast wavelengths involved in those nuclei, however, it is understandable that these “voids” would be invisible to us. In order for vision to take place there must be a resonance between the perceived and the perceiver. For this reason we can only really see the resonances and radiances of atoms, as this is our deeper simplest body from which we are made.

This shift between these ground-levels of simplest bodies and their deeper “basement levels” of continuity, and their respectively emergent qualities, can be seen most clearly in the emergent or transcendent direction, as opposed to the regressive or immanent. As we zoom out in scale from the size of the atomic nucleus, for example, the discreteness of the atomic level recedes from view and rather quickly begins to *appear* continuous. Even by the time we get to the human level (the meter), exactly half-way between the upper and lower levels (atomic and stellar), we have what *appears* as an *effective* continuity. Water, for example, appears quite continuously fluid. Despite this *apparent continuity* at this mid-level, however, water has a specific and tangible *discrete* aspect in its quality of *viscosity*. As you get to smaller and smaller scales, for

example, there is a rise in surface tension and viscosity such that water at those levels tends to quantize into droplets of a similar size. This is called “atomization,” naturally.

These are thermo-inertial and chemical properties directly emergent from the inertial properties of the unit-level of the atom, but properties which effectively disappear at the subatomic level. And again in the transcendent direction, by the time we get to another twenty orders of magnitude larger, according to this model, at the level of the M-dwarf stars this apparent continuity to the atomic level has drastically changed, transcending its atomic discreteness through this shear quantity of its intrinsic qualities and its emergent effects. At this point a new set of continuous and superfluid properties has emerged. This shift to superfluidity at the stellar level (as also seen at the sub-atomic or sub-inertial level) can be seen in the recent shift in astrophysics to modeling cosmic scale objects, such as black-holes, for example, on superfluid dynamics (see the work of Volovik, for example).

Indeed, as seen in studies of superfluidity, this zero friction/viscosity aspect allows superfluids to achieve remarkable things, such as forming metastable vortices that interact as discrete units, similar to atoms. As we will see, in Sorce Theory, it is shown how the *subatomic* Planck-level superfluid can indeed form the atoms as metastable vortices with their harmonically quantized interior energy shells, and a similar process is described for the formation of stars in the Electric-Universe and Plasma Cosmology models.

The effective continuity of the emergent levels imparts a critical set of emergent *qualities* or quantifiable properties (e.g. superfluidity, with an *effectively* zero friction and viscosity) which allows the next ground-level of units or “simplest bodies” to enfold the infinite complexity beneath it into self-stabilizing, self-harmonizing and self-centering inertial integrity, emerging into what *appear* on the surface as a level of homogenized and simplest bodies. See Figure 13, below.

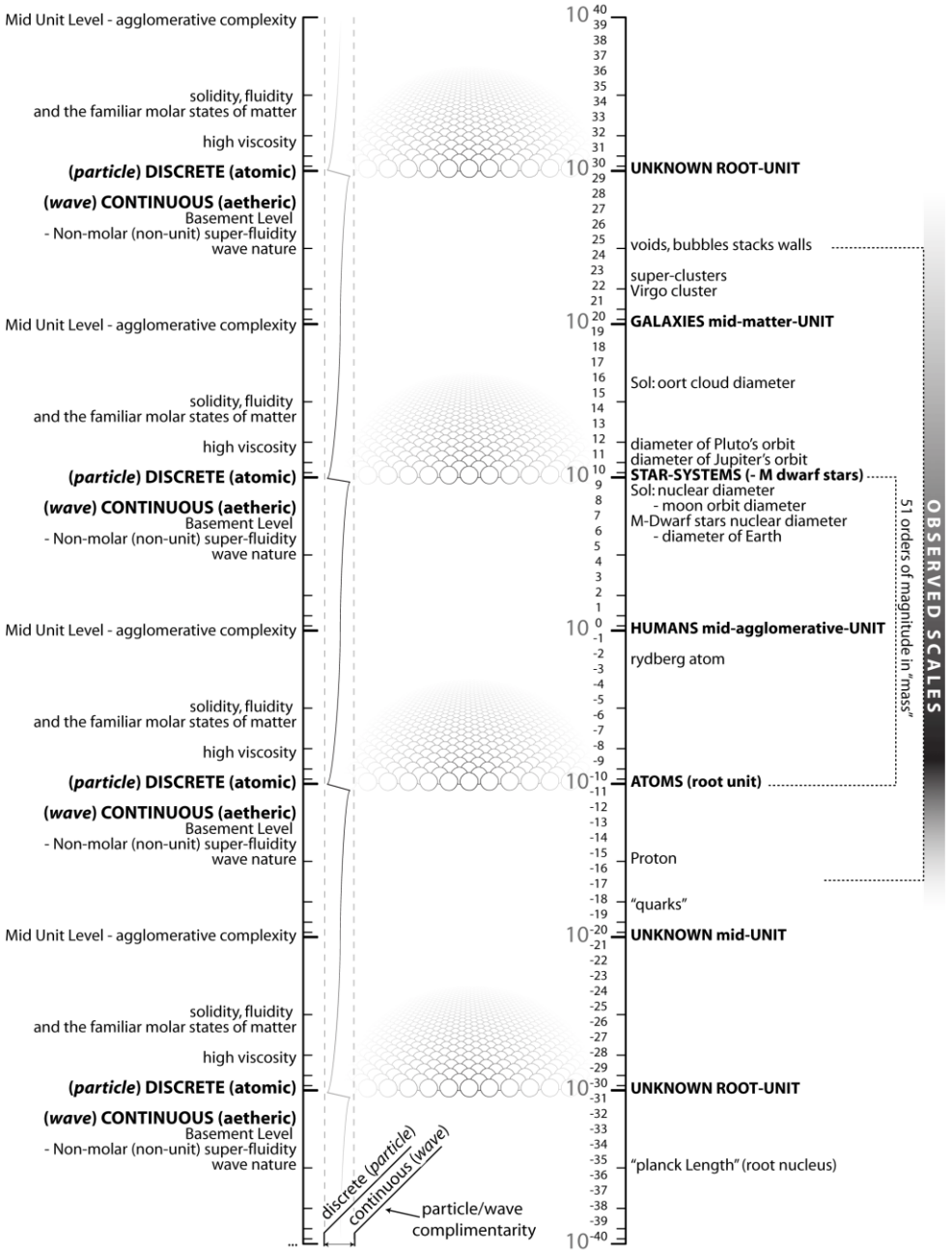


Figure 13: Self-Similar Cosmological Holarchy

The right-hand side of this image displays the sizes of typical objects in the universe (in meters and powers of ten), providing a template for exploring the patterns of empirical reality and extrapolating beyond with the self-similar scaling relations drawn from it. The vastly expanding scale (represented by the receding depth of the particulate planes) is flattened to an unvarying width so the exponential expansion can fit on the page. The left-hand side of the diagram maps the effect of relative size (MU “perspective”) between and upon the root-MU scales. The larger the scale in comparison to the next lower scale the more continuous and fine the granularity of the deeper scale becomes, which alters its properties at that level. We can see this effect directly with water and that its viscosity is a direct function of the scale at which it is observed. At the scale of a small insect, water is sticky; specialized insects can walk on it and droplets naturally form and remain stabilized. At larger scales, such as that of a lake or the ocean, the properties of water are much more fluid. When this difference gets to about 20 orders of magnitude, the continuity is great enough for the next root-MU level to form. The inset sawtooth graph on the left side displays the level of continuity vs. discreet as the self-similar cycle recurs every ~20 orders of magnitude to form the root-matter-unit. In reality, this graph would be full of smaller-scale intermediate level self-similar detail, but we are only tracking the recurrence of the root-MU here, and at a very general level. Note also that this only accounts for particulate types of modification in the cosmos and wave-harmonics also plays a huge role in the ergodic self-similarity and patterning at all levels in the endless holarchy.

The self-similar pattern pervasive throughout nature and echoing through all levels, appears to go beyond the horizon in both directions (within and without) and so in the absence of an empirical justification (or an actual mechanism) we cannot assume that it stops just beyond it. To do so would be a violation of the Copernican Principle (with respect to scale) as well as Ockham’s razor because it would require the unnecessary introduction of hypothetical and un-observed entities to explain an equally hypothetical phenomenon.

Furthermore, according to the principles of self-similarity, the self-similar pattern at any level is an emergent summation of the levels below, which is what gives rise to the ergodic nature of the “fine structure” of such phenomena as Saturn’s rings and the electronic shell spacings of atoms as seen in its fine-structure. And so if all the regularly recurring levels

appear to have the same patterns and forms—and that is the empirical conclusion of the Self-Similar Cosmological Model—then each of them must have at least as many self-similar sub-layers as are detectable for any of the others.

This is my own guess at a principle that I believe is already in operation, in some form, in the science of self-similar systems. And so I don't yet know its name or its precise formulation, but it seems straight-forward enough for this preliminary treatment. If it doesn't yet exist as a formalized principle, and/or for the sake of reference herein, I will call it The Principle of Enfolded Equivalence, or PEEⁱ (see below).

Principle 2: The Principle of Enfolded Equivalence (PEE)

In self-similar systems, any one level of recursion will have at least as much enfolded complexity as any other, because as an emergent, it is this enfolded complexity itself which gives rise to the similarity at each level of the recursive pattern.

The levels in the infinite self-similar holarchy are composed of what Lebau calls “matter-units” (MUs), such as atoms. The ground or root levels will then herein be called root-MU levels. According to my scheme—based on Oldershaw's analysis, but with qualitative interpretive corrections from Sorce Theory—the only two root-MU levels for which we have a broad enough sample base for such a quantitative analysis are the atomic and stellar levels (see the “observed scales” in the diagram above). But we can also see the self-similarity at the intermediate levels

ⁱ tee hee hee...

and it is all-pervasive and indefinitely recursive, echoing at all scales between the observable root-MU levels. A cursory study of self-similarity in nature readily leads one to this conclusion.

However, given the tight mathematical and empirical similarities that occur between the atomic and stellar levels, the Principle of Enfolded Equivalence seems to imply that the atomic level must have at least one further level below it and enfolded into it, since the stellar level is also generated as the summation of at least one deeper level, that of the atom. But then if the atomic level must have another level then so must the stellar level have that same other level which, by the Principle of Enfolded Equivalence, means that the atomic level must have another and so on, back and forth... But of course the further we stretch this self-reflexive logic, the more tenuous the link to empirical observation becomes. And so the empirically-derived stipulation of endless self-similarity it becomes a probability gradient fading on both horizons from the epistemic level into the ontic, with no proof of continuing forever and yet no signs or reasons to conclude that it would stop. So for reasons of economy, and perhaps even probability, we take the loose and relative stance that this pattern continues indefinitely.

And so this brief glimpse of the extensive quantitative analysis and empirical patterning in Self-Similar Cosmology, along with the Principle of Enfolded Equivalence, keeps a fairly sturdy foot in the axiomatic door opening to the deep infinity receding beyond the basic items. And from this consequence we can extract another principle:

Principle 3: The Holarchy of Mirrors Principle (HMP)

Given Principle 1 (PEE), in self-similar systems, the edges of the observation of emergent complexity become mirrors reflecting the complexity of their interiors into infinite recursion.

Explanation: Given PEE, the smallest observable level in the self-similar holarchy will therefore possess at least all of the complexity feeding into the largest level. And given the recursion involved, this means that the largest level is also possessed of the complexity found via PEE. This complexity then again feeds back into the smallest level, then into the largest, and smallest, largest, smallest, and so on *ad infinitum*. Thus, the logical consequence of PEE is the infinite holarchy of self-similarity, or the Self-Similar Cosmology.

The root-MU levels in this self-similar cosmological holarchy are the particles, such as atoms and stars, whereas between them we find the wave properties of effectively continuous—or “quasi-continuous,” formed and informed—matter. See the next section for details.

THE KINETIC CORPUSCULAR HOLARCHY MODEL OF PRESSURE

Corpuscular Coups d'état

At the advent of “modern” science there was effectively a *coups d'état*ⁱ of the Newtonian/Gassendian atomic model over the competing “corpuscular theory of matter” upheld by many great rationalist thinkers such as Boyle and Descartes, but most importantly Leibniz, whose strikingly modern notions of relative space and time were coupled with his metaphysics of an infinite holarchy of monads (see *SpinbitZ: Volume I* for much more depth on the subject). The newer corpuscular model was eventually supplanted by the older atomic model even though the corpuscular model evolved in closer resonance with the emerging rationalism of the age and would later become vindicated by experimental and endless divisions of the atom.

The atomic model has since retreated into the indivisibility of the point-particle to give us the irrational “inverse unified field”—non-extended mathematical nothings swarming in a continuous void of extended, even if “curved,” nothingness (SZ). The corpuscular model, on the other hand, especially as envisioned by Leibnizⁱⁱ was a truly rational model, and indeed with respect to our modern “shadow of rationality,”ⁱⁱⁱ a proto-

ⁱ This *coups d'état* involved a false “*experimentum crucis*” concerning the respective predictions of the shape of the earth between the two models.

ⁱⁱ ...disregarding his problematic and even absurd theological speculations on the matter.

ⁱⁱⁱ see *SpinbitZ*

transrational model, because like rational numbers and their acategorical imperative, a corpuscle is infinitely divisible whereas an atom is indivisible. An atom is thus an ontological regression to the equivalent of the absolutized categories of pre-rational integer number-system (SZ).

At the time of the rationalists, mathematics and metaphysics were co-evolving and integrally related, especially in the work of Leibniz. However, due to some inherent undisclosed distinctions in the emerging mathematical and philosophical rationalism (e.g. the VL-axes of the VCS)—and also due to the transcendent bias and the sheer “mass” of the pre-rational “representational forces” of the era—the common confusions in mathematical thinkingⁱ eclipsed this emerging rationalism and allowed the pre-rational atomic theory to gain a foothold. However, *SpinbitZ: Volume I* takes up where Leibniz (and Spinoza) left off and rigorously discloses the deeper meta-mathematical distinctions that stabilize and integrate the complementary metaphysical and mathematical project of rationalism, while simultaneously transitioning it to the “transrational” level in the non-dual or “post-metaphysical” context of Interface Philosophy.

The great ancient Greek proto-rationalists (e.g. Plato and Aristotle) despised this pre-rational atomic reductionism because it demolished the newly differentiated value-spheres (e.g. Plato’s “Truth, Beauty and Goodness”) to be replaced by the merely objective and physical “Truth.” Aesthetics and ethics collapsed into the flatland of atoms in motion. However, this pre-rational atomic theory was upheld and indeed enforced by the orthodoxy of medieval Christianity in such thinkers as Gassendi and Newton. The church defended this view largely because it truncated the immanent infinite holarchy (the essence of infinitely divisible rationalism) and removed the troublesome and democratizing *anima mundi* (world soul) from the heart of matter. This atom/void reductionism denatured

ⁱ (e.g. the Galilean paradox was encapsulated, rather than solved, in Cantor’s redefinition of “infinity” and the “transfinite”, see SZ: Interface Mathematics)

Nature to create a mystery at the heart of now-dead matter. And into this new artificial void within matter, the hand of an external anthropomorphic puppet-master God—along with its armies of ghost-agents—would be inserted to animate its lifeless machines.

At this point in history the emerging integral rationalism underlying the burgeoning science was hijacked by the pre-rational dead-matter atom/void reductionism of Gassendi/Newton (and the mind vs. matter dualism of Descartes), at the expense of the intrinsically animate, unified (nondual) and infinitely deep world soul (*anima mundi*) found in the perennial and hermetic philosophies, such as the eastern philosophies and religions and Plotinus and the Jewish Kabbalah in the west.

Ironically, the support of these reductionisms, setting God apart from Nature, predisposed orthodox Christianity to the impossibility of seeing evolution itself as “spirit (or intelligence) in action” which further divorced religion and science creating the irreconcilable ideology wars that rage to this day.ⁱ The ruthless Christian support of atomism and mind-matter dualism (reductionisms) removed God from the heart of nature to put a deified man in ITs place. And so it’s no wonder that they could not recognize God’s subtle creative method when it was approximated externally and objectively in evolutionary theory and subsequently discovered in the fossil record. God had been expelled from matter with the truncation of the *anima mundi*—with its infinitely divisible and animate substance—only to be replaced with the theologically bloated hand of man.

Two Fluids, Two Pressures

Although incorrect and over-simplistic in its implementation (e.g. the ideal gas law), the atomists’ attempt to understand the

ⁱ See SpinbitZ: Volume I for a discussion on the intelligence of evolution itself as intelligent design. This is the judo-move in the creationism vs. evolution debate because it renders superfluous the need for an external creator, putting intelligence and soul back into the evolving heart of matter.

nature of fluidity in terms of solidity (the solid-/particle-bias), offered some distinct and obvious advantages (in terms of explanatory power) over the previous lack of a model for pressure. It was, to be sure, an instantiation of the Causal Principle of Complementarity in action...but simply taken to its absolute extreme in a medieval foundationalism. With this over-simplified and absolutized kinetic-atomic model, we gain at least a preliminary understanding of the causal interactions between matter, motion, inertia, pressure and relation, and hence this enables us to explain the causality of the emergent directional aspects of pressure, such as the “Venturi effect.” The Venturi effect reveals—as the kinetic-atomic theory recognizes—that omni-directional pressure is composed of deeper layers of unidirectional vectors which are themselves representative of a force of inertial matter in motion. (And what else could a unidirectional force of motion be but momentum, which in turn requires deeper mass and inertia? Otherwise such motion can have no force at all.

We have split the unsplittable a-tom into much smaller “components,” each smaller bit having a relatively stronger “wave-nature” which leads us down to the emergence of superfluidity in the “quantum” or subatomic realm—exactly what the kinetic-atomic model would not, and did not, expect to find. Furthermore, it is known that atoms themselves have a “wave-nature” and surrounding gradients of “force” which are quite complex and can be either attractive or repulsive, depending on the dynamics of the situation (the deeper harmonic interplay of the basic item ‘relation’).

Additionally, there are known problems, such as with the compatibility between the kinetic-atomic theory of gasses and the hi-fidelity propagation of sounds whose wavelengths are smaller than the theoretical average distance between the atoms themselves in such a gas (ST). Finally, as we have seen,ⁱ the kinetic-atomic concept of fluid motion is inapplicable to the

ⁱ See The Evidence for the Fluid Nature of Fundamental Physical Reality, p77

emergence of “super-fluids” near absolute-zero temperatures with their “collisionless fluid-dynamics.” In the apparent absence of atoms in kinetic collision we find not a frozen solid helium popsicle, as the kinetic-atomic model would expect, but just the opposite, a “perfect fluid.” And recall that this superfluid is virtually indistinguishable from a vacuum, as can be seen in their respective quantum equations (as noted by Volovik) and simply in their common lack of resistance to objects in motion through them.

The evidence shows, as we have seen, that atoms themselves are afloat in a far deeper sea of sub-atomic (indeed Planck-level) super-fluidity—a “Planck-fluid” which in fact *is* the quantum vacuum, altered into observability by the presence of its resident and resonant atoms.ⁱ Given the two distinct fluid-dynamic equations—one for common, molar or atomic fluidity, and the other for super-fluidity, or this Planck-fluid—fluidity itself seems clearly a layered and holarchical phenomenon. Thus fluidity does not reduce *ultimately* to the solidity in the kinetic-atomic theory, but the kinetic-atomic solidity appears to reduce to a deeper fluidity, and perhaps back and forth ad infinitum down and up the infinite holarchy.

Clearly, the kinetic-atomic theory, whatever truth it may contain, is no longer an entirely adequate explanation of fluidity. Its absolutization into a solid-biased foundationalism has certainly failed as we find ourselves in the midst of a deeper, more “perfect” and more “pure” form of fluidity—a fluidity which seems to be fundamental to atoms themselves. We now know empirically that there is no such thing as a perfectly kinetic-atomic fluid, yet we still think in those terms given the simplicity afforded by the solid-bias.

The “Ventish” Effect

Due to these problems with the kinetic-atomic model, and the particle bias infecting and confusing the superfluid foundations

ⁱ See The Evidence for the Fluid Nature of Fundamental Physical Reality, p77

of physics, Sorce Theory originally abandoned the kinetic-atomic model wholesale along with its deeper intuitions about the interactions of matter, motion, pressure etc. Sorce Theory swung to the opposite foundationalism, to a “unified” holistic monism and reductionism. It has thus taken pressure as axiomatic—“sorce”—negating the initial drive and benefits gained from an understanding (however inadequate in its present formalisms) of the deeper interrelations between the “basic items” of causal understanding (e.g. matter, motion, inertia, etc). As a result there is no current ability in Sorce Theory proper to *understand* the directional-force property (momentum) within of sorce as it is currently found in the Venturi Effect applied to, or emergent from sorce itself.

But the Venturi effect is absolutely *essential* to the Sorce Theory constructions especially for the formation of the atom, as we will see. Thus, given the abandonment of the particle aspect of pressure at the basement level, we lose the deeper causal understanding of several previously explained properties of nature, and these are of crucial importance in Sorce Theory. In not being able to admit of deeper levels of matter-units, along with their mass and inertia, Lebau’s critical use of the Venturi effect with respect to sorce, was self-contradictory. And so he naturally invented a new version, calling it the “ventish effect”—a mysteriously identical effect, absent any internal mechanisms to explain its functions. Thus, in order to preserve the axiomatic, absolute and foundational status of the “basement level,” the “ventish effect” actually became another (undisclosed) “basic item.”

In retrospect, however, this intrinsic mystery to sorce initially caused me some concern, but going along with the premises and axioms I soon began to see the extreme value of sorce itself, and its sibling items, as well as their collective efforts in the higher-level constructions of the model. But this intrinsic mystery to sorce presents an initial psychological energy barrier, which I was able to cross through a suspension of disbelief. But this barrier, as I have seen first-hand, causes

others to be reluctant to adopt these basic items, such as sorce, over the entirely non-mysterious, non-axiomatic kinetic-atomic versions of pressure. Anyone who would be interested in the model—with its promise of a purely causal explanation of Nature, would not want to give up a qualitative understanding of pressure for a mysterious axiom.

This is an entirely understandable reaction given the dearth of qualitative modeling in physics these days. Even so, what one sacrifices for axioms in Sorce Theory, one far surpasses in the explanation of higher level phenomena currently seen as mysterious to the standard model. Getting beyond many of these remaining axiomatic mysteries, however, is just one of the benefits of moving to a non-foundational, and non-dual “foundation,” or a rootless-root. It allows those who seek continuity explanations, and those who prefer particulate reductions, to find common ground in a single physical paradigm.

PNDR: “Infinite Divisibility Equals Indivisibility”

This may be difficult to understand, however, given that particle reductions are fundamentally discontinuous and fluid reductions are fundamentally continuous, but the truths of our modern mathematics of the continuum—having won hard battles incorporating the deep truths of Zeno’s paradox (SZ)—demonstrate precisely that a true continuum can only come about through truly infinite (indeed uncountably infinite) divisibility. In *SpinbitZ: Volume I* it is shown that the fundamental Principle of Nondual Rationalism (PNDR) itself is that “Infinite divisibility equals indivisibility.” And this was Zeno’s Parmenidean point with his famous paradoxes of motion, which as Karin Verelst demonstrates,ⁱ merely attempt and succeed at proving that motion and space is fundamentally indivisible, the Parmenidean “Being-now” (SZ: Back to Zeno).

ⁱ (Verelst, Zeno’s Paradoxes. A Cardinal Problem: I. On Zenonian Plurality)

Zeno never attempted to show that motion is impossible, but only that it is fundamentally indivisible. The “paradox” is that he demonstrated the Principle of Absolute Reversal, and thus the nondual truths of the modern continuum, by achieving indivisibility via infinite divisibility. And thus, as in the post-Zenonian, pure-relational exemplar of modern mathematics, infinite divisibility and indivisibility—e.g. the continuous and the discrete—are fundamentally compatible, indeed even inseparable and thus polar and nondual. This polarity is also represented in the title SpinbitZ, with its beginning in the continuous S and its ending in the discontinuous Z: also representing the fusion of these two emphases in the philosophies of Spinoza and Leibnitz (SZ).

This notion of infinitely divisible, and indeed infinitely divided continuity is perhaps better understood through Gilles Deleuze’s Leibnizian concept of “the fold.” In his rendition of Leibniz in his book called *The Fold: Leibniz and the Baroque*, Deleuze showed how to see the Leibnizian infinitely divided monadology as, rather, “infinitely folded.” The monadic or holonic divisions are not absolute gaps in the continuity, but rather inhomogeneities or modifications—folds. In the same way, the irrational numbers or “Dedekind cuts in the rational numberline are not gaps in its continuity, but infinitely thin, nonextended intersections between two lines. Not gaps but overlays, intersections, modifications or folds—and like a fractal, these folds are infinitely deep—there are infinitely many folds between any two folds.

The fundamental principle of Nondual Rationalism can be further demonstrated as follows. If we take any region of extension and impose upon it a **time-ordered**, “stepwise” or sequential process of recursive division occurring **through time**—say, dividing each segment in half, *ad infinitum*, or dividing space into an infinitely nesting series of spheres (see Figure 14, below)—what we end up with is essentially the continuum of the rational numbers. The mathematics of the modern continuum developed by Cauchy and Cantor, et al shows, however, that the Rational numbers do not exhaust the full order of the continuum. The rational numbers, Cantor

showed, are of the exact same order of infinity (aleph null) as the natural numbers. And the natural numbers, Cantor said, are “countable” or “denumerable,” while the continuum itself (the continuum of “real numbers”) is uncountable.

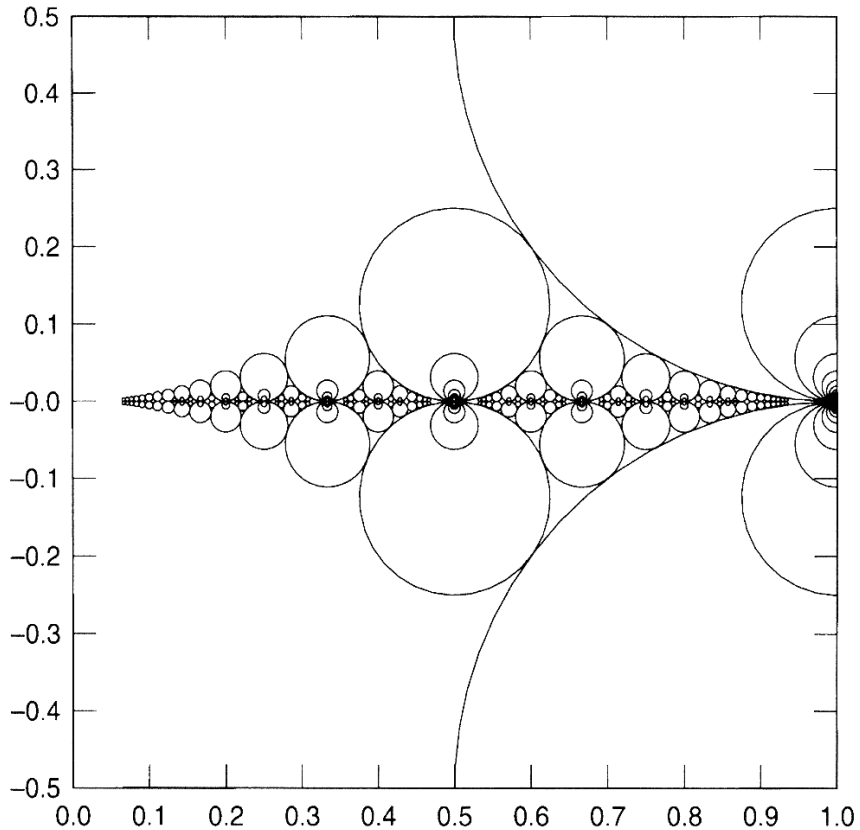


Figure 14: Space in the Process of Infinite Division by Spheres:

This diagram is copied from *Fractal Horizons*, edited by Clifford Pickover. (Frame)

The *time-ordered* and sequential rational continuum, then, is incomplete, and slicing through it intermittently is an infinite series of “Dedekind cuts.” These cuts themselves, however, are of zero-dimensional thickness, like an infinitely thin line

crossing another. The gaps of incompleteness in the rational continuum are thus “infinitely thin,” and nonextended, and thus from the viewpoint of the rational numberline, nonexistent. But they are gaps nonetheless given that the immanent infinities of these Dedekind cuts and infinite “irrational” numbers cannot be reached by the function of the ratio. Thus when you undertake a time-ordered process of division carried to infinity, not all points on the continuum will be reached, just like the Rational numbers can’t reach the “irrationals” or transcendentals. What is left over from this stepwise division process, then, is called “Cantor dust,” which is essentially the difference between the countable and uncountable, or first and second transfinite orders of the infinite (and between the transitive and immanent/transcendent VL-axes, as we see in *SpinbitZ: Volume I*).

As discussed further in the section on Zeno’s paradoxes (SZ),^{i*} however, Karin Verelst and others have demonstrated that if we conceive of the division ***not as time-ordered***, but as already existent in the “eternal NOW” (or Spinozan *sub specie aeternitatis*) that mathematical abstraction affords us—or as occurring simultaneously “through and through” as a holarchical “binary tree” of division (a “Zenonian semi-lattice”)—then the *a priori* infinite division itself is equivalent to the order of the uncountable infinity, which is the modern mathematical continuum itself.

It is in this *a priori* and absolute sense, then, that “infinite division equals indivisibility,” and what Zeno showed, we will see, is precisely this. His “paradoxes,” merely demonstrated the fact of this seemingly contradictory nondual truth which modern mathematics has operationalized and thus ultimately vindicated. What we find in *SpinbitZ: Volume I* is that Zeno, all along, was not denying the possibility of motion or plurality, but merely demonstrating the first principle of his teacher

^{i*} SpinbitZ: Back to Zeno

Parmenides, that the ultimate is ONE. Thus by taking the concept of plurality to the absolute scope of first principles (e.g. infinite division) we end up with the indivisibility of the Parmenidean “Being-now.” This “paradox of plurality,” Verelst shows, underlies all of Zeno’s paradoxes of motion, and thus what Zeno demonstrated is not that motion is impossible, but *indivisible*—every segment of apparent motion is indivisible from an immanent and transcendent, instantaneous and eternal “Being-now.”

Thus we find that the fundamental principle of Nondual Rationalism was introduced at the very beginnings of rationality itself, but it was originally conceived as a “contradiction” or “paradox.” And ever since the Aristotelian introduction of the principle of contradiction—inaugurating the exoteric and dualistic form of rationality to come—dualistic rationality could not codify and operationalize the nondual reality (polarity) underlying the very inception of rationality itself. And so it was conceived as an anomaly to be refuted. Indeed, Verelst shows that every attempt at refutation since has injected artificial “non-Zenonian” premises, namely time itself, into the Zenonian concept of infinite division. This gave rise to the now discredited Aristotelian distinction between potential and actual infinity, which Verelst demonstrates underlies in disguised form all of the subsequent *refutational* strategies *against* Zeno’s paradox. What Zeno showed is really that there is duality underlying rationality itself, and we will see in much greater detail just how this duality can be “tuned and triuned”^{i*} into a nondual polarity and unity—a triune interface—unfolding at the very heart of Nondual Rationalism and Interface Philosophy.

^{i*} See (SZ: Back to Zeno)

The Return of the Corpuscle

My view, as should be apparent, is that this wholesale abandonment of the kinetic-atomic model (and its deeper intuition that momentum is a key aspect of emergent and irreducible pressure and its properties such as the Venturi effect), is an over-reaction, however necessary, to counteract a debilitating particle bias in modern-physics. There indeed is a “middle way,” however, that avoids the problems of the kinetic-atomic model—getting beyond the particle-bias and retaining the benefits of momentum-carrying particles where they are applicable.

Having reclaimed the corpuscular model—by empirical necessity, given the endless divisions of the so-called “atoms”—we can also reclaim the truths of the kinetic-atomic model, replacing the obsolete “atoms” with these infinitely divisible corpuscles (holons, monads, etc). We then combine them with our recognition of holarchically layered fluidity and pressure, giving us the Kinetic-Corpuscular Holarchy Model of Pressure.

The “particles” in this model are not ideal atoms in ideal collisions, but rather complex Sorce Theory “matter-units” (MUs) in highly complex thermal attractive-repulsive resonant-dissonant field-dynamics and oscillations, exactly as already described in the Sorce Theory literature. [This means that Sorce Theory can be used to explain its own “foundationless foundations” in a recursive, and thoroughly modern complexity-science fashion, as we will see.] And most importantly, such pressure does not reduce to any single atomic level of physical reality, but includes an infinitely layered holarchy of emergent and irreducible particulate *and* continuous levels and complex morphologies from which, and within which, pressure at any level emerges.

Kinetic-Atomic Vs. Fermi-Pressure

In the transition to superfluidity, for example, we see much more clearly the deep relation between thermally randomized momentum and pressure. Superfluid transition temperature is

wholly dependent on pressure. A drop in pressure in the formation of a superfluid always accompanies the drop in kinetic or thermal oscillations in the reduction in temperature.ⁱ This drop in pressure and temperature is accompanied by a dramatic reduction in viscosity and friction, which can be understood (at least to some extent) as a result of the “unification” of otherwise randomized (non-unified) and statistically omni-directional momentum vectors. And so the unification of vectors, via their nullification in the virtual elimination of temperature oscillations, seems to directly reduce omni-directional pressure, just as a linear unification of momentum vectors, via laminar flow, statistically reduces perpendicular pressure in the Venturi effect.

Decreasing the thermal oscillations of a fluid such as liquid helium enables it to get into a “coherent” state wherein the kinetic and thermal oscillations between and among the inertial atoms are virtually nil. At this point the properties (e.g. superfluidity, zero-friction and zero-viscosity) of the deeper level of “quantum” fluidity take over. **We find in this state that the pressure is greatly reduced, but we also find that an atomic superfluid seems to lack the Venturi effect because it will flow through a Venturi tube without an accompanying drop in pressure.** This strongly indicates that the Venturi effect is predicated upon randomized thermal oscillations that also define fluid-viscosity and friction.

However, just as fluidity is a layered and irreducible phenomenon, so too is pressure, because even after the dramatic pressure drop in transition to superfluidity, the pressure still does not reach absolute zero. We know this because pressure waves will still travel through superfluids. But we can see this superfluid pressure most dramatically in the “Bose nova” effect. In this surprising experiment, a Bose-Einstein condensate will contract via manipulations of an

ⁱ But what is perhaps even more interesting is that the “wave-function” of the “quantum coherent state” of a superfluid is a direct function of its pressure. Increasing the pressure of a superfluid changes its wave-function. This means that the wave-function for molar states is a function of thermal oscillation, at least in some sense.

externally applied magnetic field, but when the field is released, the condensate will rapidly expand. This demonstrates what is called “Fermi pressure”, a “collision-less” and non-kinetic-atomic pressure between the coherent and non-thermalized atoms.

With these two experiments we can see that there are already at least two layers of pressure in the physics of fluids: thermal or kinetic and the deeper level “Fermi pressure” seen in the “collisionless fluid-dynamics” of superfluids and BECs (a manifestation of inter-atomic “pressure” as opposed to intra-atomic “sorce”), and the interpolation equation that relates these two levels is key to modeling this superfluid transition.

This observation—that one level of pressure and its accompanying Venturi effect are directly reduced with a nullification of the thermal-kinetic motion of its inertial elements—directly indicates (following the Principal of Enfolded Equivalence and self-similarity) that the same might be true of its deeper manifestations in sorce and Fermi pressure. This supports the notion that the pressure emergent at any level is a recursive layered effect of the infinite MU holarchy where an effectively continuous fluid-pressure (sorce) always underlies any granular and molar thermal-kinetic pressure. And vice versa, it also means that the total pressure is (at least to some extent) a function of summed thermalized momentum from the multiple (if not infinite) MU layers.

At the next level of thermal-kinetic pressure, around 20 orders of magnitude below the size of the atom, the momentum effects of such relatively infinitesimal matter-units should indeed sum to the empirical effects of the “friction-less” quantum-vacuum. In fact from experiments with atomic superfluids that act exactlyⁱ like the vacuum of space upon objects rotating and moving within them, we know that imparting a deeper level of mass and inertia to the aetheric vacuum would not result in emergent friction beyond the

ⁱ except for an added “moment of inertia” due to a layer of atomic superfluid that coats the moving object.

aether-drag already existing at relativistic speeds. So it doesn't take much, even at the atomic scale, to get to *effectively* zero momentum, even with a substrate known to possess mass and a coarse granularity.

What is required, seems to be essentially a reduction of thermal noise of the substrate. This then would seem to imply that *any* atomic fluid should exhibit superfluid properties when reduced sufficiently in temperature. Sorce Theory shows, however, in line with the abstractions of the quantum theory of bosons, fermions and spin, that many atoms are internally far too energetic and effectively off-balance to be reduced into a sufficient state of "quantum coherence." They simply wobble too much to participate in any unification of momentum vectors.

Furthermore, the importance of perspective, or frames of reference, in the understanding of such things as mass and momentum, must not be overlooked. It's not just human perspective that is important here, but the perspective of matter-units. By this I mean that mass and inertia, like gravitation (as we will see), are a function of the relative scale and organization between the units and their vast differences in scale. The scaling laws of wave-propagation and sorce-equilibration (temporal scaling laws) play a key role here. At the higher frequencies, it is known that waves equilibrate and travel faster, and so, to the MUs made out of their equilibrations at t-20 orders of magnitude in scale, any motion that we place upon them from the relative t+20 level is significantly slow in comparison to their t-20 cycle-length internal clocks. Therefore the inertia that they give in response to our relatively sssssssllllloooooooowwwwwww actions, is even more miniscule than they are, given the real offset in relative temporal perspective. This is another non-linear relation, similar to ontropy, that will be discussed a bit later (see the section The Abquom and The Relativity of Immanent/Transcendent Time, p172).

THE SOLITON: MOMENTUM AND DIRECTION IN WAVE-PROPAGATION

Another argument for the kinetic-corpuscular layered model of fluidity and pressure (and the existence of a statistically unidirectional sub-level of momentum vectors emergent into statistically “omni-relational” sorce-pressure) is based on a closer look at the nature of electromagnetic waves and the Sorce Theory model thereof. “Omni-relational,” in Sorce Theory, is a concept which takes the abstraction of omnidirectionality into the real world of infinitely modified substance—applying the skewing effects of the real relations and modifications of the environment upon those abstract isomorphic vectors.

Take for example the soliton. If subatomic pressure were a purely omnidirectional expansionary force with no deeper summing levels of unidirectional momentum vectors, then an unequilibrated density gradient would simply expand omnidirectionally, almost instantaneously equilibrating “into the aether,” instead of remaining intact and traveling unidirectionally (and relationally) as a wave or part of a wave front, as Sorce Theory postulates is the nature of many of the fleeting sub-atomic particles, more properly called “resonances.”

Indeed, without a unidirectional or momentum component to sorce, why wouldn’t the positive and negative regions of a wave-front simply expand into each-other and cancel each-other out? There needs to be a substantial unidirectional component to the propagation of pressure to account for this

unidirectional effect of the soliton and of all waves. The momentum of the motion of the fluid in wave action does indeed have a force and a reciprocal effect, feeding into the nature of wave propagation itself. Wave propagation is fundamentally a *force* of oscillatory motion—balanced in the end, but a force nonetheless—and motion can have no force without momentum. Even in a spring where one side is condensed and released, the unidirectional motion of the resulting wave owes much to the propagating transfer and recoil of momentum initiated by the release of pressure.

It seems that since we don't have a causal model of pressure waves that does not contain deeper levels of momentum, there may be no reason to assume that such a model is even possible. We do know that it is possible to model a soliton and other waves using the kinetic-atomic equations, but is it really possible using only omnidirectional expansionary pressure with no unidirectional momentum sub-components?

But it is important to stress again, that this does not force us back to the kinetic-*atomic* model of pressure, rather, it can be entirely accounted for, and much more precisely, by the kinetic-*corpuscular* and layered holarchy model. Recall that the kinetic-*atomic* model of fluids and of pressure breaks down with the discovery of the “collisionless fluid-dynamics” of superfluids, as well as suffering other problems. Thus while effectively continuous (or “quasi-continuous” infinitely folded) pressure always contains deeper layers of matter-units and summed omni-relational momentum vectors, it always also contains deeper layers of summed continuity, ad infinitum.

PART II: THE BASEMENT KEYS

WHAT IS “BASIC” OR “FUNDAMENTAL” IN AN INFINITE HOLARCHY?

The SpinbitZ version of the “basement level,” as we have seen, is a recurring region on the axis of scale. This axis is represented vertically on the above self-similarity diagram (Figure 13, p121). The “basement level” is that region just below each of the “root-unit” levels (e.g. the atom) where the organization of matter has reached the aetheric aspect of continuity and “superfluidity” so that the maximally self-stabilized root-MU can again form with minimal interference from the next deeper-level morphological granularity and its far distant, effectively zero molar properties such as viscosity and friction.

In this categorization, the basement level is the *aetheric* level, the level of *maximum* effective continuity (the “continuity aspect,” as Lebau calls it), whose ceiling (in an abstract sense) is the nuclear wall of the root-MU itself. Once the nuclear wall of the root-MU is formed, we are at the next level of organization, the level of discrete aggregation and MU inter-actions. And so all items and properties occurring within the basement level are considered ‘basic,’ though, as we will see, some are more basic and simple towards conceptual unity and generality while others are more specific and organized towards the ceiling of this organizational gradient of complexity at the generation of the root-MU.

The basement level is the level of maximum continuity both within and without the root-MU and from which the root-MU is formed. For us the basement level is the quantum vacuum, or the Planck-fluid in which atoms in a superfluid merely “float” along for the quantumly-coherent ride. This level of continuity has a definite ceiling in the formation of the root-MU, but it has

no definite floor. Rather, the floor fades down into the top of the level below getting closer and closer again to the next deeper level of molar complexity, viscosity, discrete aggregation and the next “level 1” with its root-MU—our Planck-unit. So the graph representing continuity vs. discrete, as it transcends up the immanent/transcendent axis, has a sawtooth form (see Figure 13, p121 above). It gets progressively more continuous as we approach the basement level. When the continuity is great enough the root-MU forms and the graph jumps from maximum continuity to maximum discontinuity in the formation of another root-MU. And up the ramping scale again it goes, through the inertial interactions of matter-units such as friction and viscosity (as we saw in the atomicity of water droplets) and finally once again to basement-level continuity, superfluidity and the next root-MU, etc, etc, etc.

The basement level is represented in Figure 13 as the crests of the wave in a cycle between the continuous and discrete. Between these recurring ground levels other MUs can form, but they are “imperfect” relative to the dynamic and homeostatic stability and deep harmonically self-reinforcing cohesiveness of the root-MU levels. The root-MU occurs where extreme continuity finally gives way to perfect MU emergence (in a specific dynamic process which we will describe simplistically below).

The root-MU simply cannot form without this extreme continuity, and non-frictional and non-dispersive wave-resonance fidelity. Furthermore this extreme continuity (as well as its crucial properties called “basic items”) cannot form without the intervening extreme distance in scale of around 20 orders in magnitude from the next root-MU. And so the root-MU emerges in a rhythmic cycle, of cycles within cycles—with self-similar, yet “imperfect” MU forms echoing throughout the gaps in-between—a common feature of fractals, both in nature and in simulations. As I once intuited, the Universe is “an omniscalar moiré of interfering force patterns.” This pattern unfolds and enfolds endlessly and recursively up and down the immanent/transcendent axis and these are the infinite layers of

fluidity and pressure, several of which we have already discovered.

Along this axis in either direction we will see the repeating forms and interactions of the basic items receding into infinity, as opposed to having them painted on an arbitrarily constructed basement floor as pure symbols (axioms) to be take for granted. Because of the necessity of the emergent complexity and interrelatedness of the axiomatic 'basic items,' if we assume no deeper levels we get the uneasy sense of the basement floor as suspended in nothingness: just mysterious labels attached to an arbitrarily-selected "ultimate level." The foundation-level itself, if it is final, must be rooted in nothingness.

The infinite, non-foundationalist and nondual-rational view, however, merely says that levels, as transitive-planes, are not, and categorically cannot ever be, ultimate. The nondual or univocal view takes for its own root, this infinite, rootless depth, i.e. the rootless-root and the axiomless-axiom. It merely opens these ultimate axioms up, deaxiomatizing them for deeper causal exploring, and as we will see, this need not translate into a reduction of the basic items to anything else, if for no other reason than there is no end to the holarchy and thus no final ultimate floor to paint any fully reduced symbols upon. The symbols always represent an arbitrarily truncated deeper complexity, at whatever floor they are necessarily painted upon and below which all other basic items intrinsically contribute to their emergence.

The basic items represent properties of Substance (SZ: in the Spinozan sense of an immanent emphasis on the I/T axis), but properties cannot come into existence without an intrinsic complexity below the level where they emerge in operation. And so it goes endlessly. Properties require complexity and complexity requires properties *ad infinitum* into immanence. One after the other the ultimate floors drop out and we fall into deep infinity as all attempts to construct a final basement level give way to the deeper enfolded levels required to manifest their properties. The only resting place in this foundational

regress is the recognition that it is endless, by logical necessity, and that in order to escape the regress we must remove the logic that brought it on—the foundationalist notion that there must be a final level, and the regressive direction of motion itself. Once we recognize that there need not be, and indeed cannot be, a final level, we can replace the temporal or immanent search for finality with the timeless, deep infinity of the immanent/transcendent axis itself.

Hence, infinity is a freedom not a limitation. We find ourselves always at rest in the center of deep infinity... within and without...no matter what scale we may choose to inhabit. Where once we felt infinitesimal and meaningless in the face of the vast infinity unfolding without us, we can simultaneously recognize an infinity equally as great enfolded within. And again we sit rooted in rootlessness, always right in the omni-center of that intelligible sphere with no circumference.

The infinitely recursive interplay between the basement-level items as they recede into deep infinity, is the essence of the redefinition of a 'basic' or 'fundamental' property of unified and minimally complex Substance. Because a property necessitates a deeper enfolded order and complexity in order to exist, "basic" or "fundamental" cannot mean "zero depth" and perfect intrinsic morphological and holarchical simplicity. There cannot be a ground with no deeper ground. We can either take the basic items as given, to construct an argument, or an entire theory upon and forego an exploration of how they are related and structured at the deeper levels, or if the item is actually basic or fundamental, then digging deeper into the causal nature and structure of this basic item, no matter how successful we are in explaining its deeper relations, we end up presupposing the existence of the property itself as well as all the other basic items. This is the infinite recursion and interrelation down the immanent axis, a recursion whose cyclical and self-similar irreducibility, coupled with a "basement-level" organizational simplicity, gives us the holarchical (or non-foundationalist) definition of 'fundamental' or 'basic'.

THE “BASIC ITEMS”

Many of the original Sorce Theory “basic items” and definitions, as we have seen with sorce and the “ventish effect,” are versions of fluid-dynamic concepts completely stripped of their deeper modern particle-based qualitative/causal understanding. As we have discussed, this understanding was removed mainly to get rid of the erroneous Kinetic-Atomic absolutistic and dualistic formulations of the classical qualitative model, as well as to combat the deeper particle- and solid- biases that have debilitated modern physical understanding. And because these definitions are stripped of any deeper level of qualitative description, they are axiomatic and inherently mysterious...even more mysterious than an infinite interrelating recursion of such properties in causal and holarchical terms, because at least such a thing can be explored in the imagination, and subject to the tools of causal-logic and intuition until exhaustion, whereas an axiom, a symbol that must be taken on faith, is a sign that says “Take my word. Look no further in this direction.” It is my view that just as it appears to us in reality, one can plumb the depths of this mystery endlessly and never come to an end, and hence our models should emulate this infinite depth discovered in the fractal and complexity science. That which lies beyond the horizon, is likely of the same nature as that which lies in view. This quite modern notion of self-similarity is echoed in the principle of analogy in Hermetic philosophy, “As above, so below; as below, so above.”

We'll go through the definitions of the basic items one at a time, as well as some of the other crucial basement-level concepts to flesh out their deep holarchical complexity and interrelations. The basic items are listed in Lebau's *What it All is and Why*, as: "matter, motion, pressure, relation, organization and awareness."ⁱ I will deal with all of them briefly in this overview except for awareness.ⁱ In this process, I will detail a holarchical methodology for organizing these basement-level items, properties and relations at a deeper level. We will then be prepared to do a bit of exploring of this newly opened *terra incognita*, but always from the basis of our Sorce Theory *terra firma* as the empirical-theoretical source for our analogical extrapolation (as above, so below).

The 'basic items' are defined in Sorce Theory as "something that cannot be created out of something else." In the context of deep infinity, this definition amounts to a statement of irreducibility, and this is indeed a crucial element—if radically transformed and reoriented—of the new definition of a basic item. However, this is not a sufficiently complete delineation of the meaning of a basic item because, in the context of infinite depth (e.g. complexity science), emergence plays a key role, and no emergent thing, process or property can be absolutely reduced to any deeper one. And so this definition ultimately applies to all levels because all levels contain, or exfoliate, emergents. Novelty and irreducibility are key elements of emergence and hence are intrinsic to reality at all its emergent levels, but the essence of emergence is infinite depth and complexity. You can't have one without the other.

How then can we delineate the meaning of a "basic item" if it is not *merely* "something that cannot be created out of something else"? In this infinitely deep self-similar holarchy, the basic items can be seen as those irreducible and general properties that recurrently emerge near the bottom of each

ⁱ Awareness is dealt with in the much larger context of SpinbitZ: Volume I, taking into account the full pyramid of evolutionary complexity leading to the human mind, and the many different competing definitions and semantic mappings, overlappings and confusions involved.

basement level, the level of the aether, and maximum continuity, and hence an effective morphological unity.ⁱ Nearing the nuclear interface, the ceiling of the basement level, the basic items emerge into higher levels of complexity, including what I call the “intermediary items” such as “ontropy” and the “Venturi effect”, as well as an immanent/transitive temporal scaling relation based on the “abquom”. The basement level also includes the primary force (sorce) and the secondary forces such as the nuclear and weak force which are ceiling level organizational aspects of the formation of the root-MU. The tertiary forces, such as gravity and chemical-bonding energy relations, lie outside the basement level because they are a function of MU interactions whereas the basement level deals exclusively with the transition from maximum continuity to the primary mode of the discrete, the root-MU.

ⁱ It is this level of unity upon which we will erect our coherentist-foundationalist, raft for the fundamental floor of our recursive and self-similar conceptual pyramid.

BASIC ITEM HOLARCHY

The Tao begot one. One begot two. Two begot three. And three begot the ten thousand things...

— Lao Tzu

Complexity is but the many faces of simplicity.

— Gerald Lebau

The basic items in Sorce Theory represent properties of the fundamentally “unified” or singular substance called “matter” (itself considered a basic item), but they are conceptual categories abstracted by anthropocentric and pragmatic necessity from objective empirical evidence. Hence, all of our following discussions only deal explicitly with the objective sphere—the “IT quadrant” in AQAL/Integral parlance—but as the IT is refracted through the quadrant interface (through the “sybiogenesis of subject and object” (SZ)) into the subjective forms of thought known as theory or philosophy (in the “I” quadrant), and then into the inter-subjective or social sphere (“WE”) in the transmission of this theory. But it is important to note that matter ultimately simply means “real stuff.” It does not reduce to its tangible solid brute form, but is simply opposed ultimately to thought. Matter is the stuff that underlies all the forms external to thought. It is thus not mathematics, nor probability waves, nor curved mathematical space. It is real stuff in real modification, such as real waves with real properties only modeled by mathematics. This being said, we can move on to unfolding the EOTC of the basic items in purely objective terms, knowing that we are neglecting the many other

facets of experience, such as the subjective. Another time and place.

Because evolution itself unfolds from simplicity to complexity through a process of “multiplication through division” and “differentiation and integration,” we will unfold the basic items along the contours of their own natural embryogenesis of the concept.^{i*}

With the EOTC in mind, the delineation of these basic items will hopefully unfold in the most natural progression as it works itself out through the basement level tombs of the pyramid of complexity in this cycle of the infinitely recursive holarchy. In retrospect, the goal was to let the basic item holarchy unfold naturally with little to no procrustean contortions to fit the preconceived categorical bed, and the surprise was that the fit was much better than I had anticipated, leading to additional insights as the process unfolded.

Phase ONE: Unity

The ABSOLUTE – The ONE - “emptiness” - “the ground of Being” - the ineffable:

As we have seen, in the EOTC, this phase is the simplest, most abstract and general level of conceptual orientation. As such, it lies outside the original list of the “basic items” as the rootless-root of them all. The absolute level of unity is purely abstract, enfolding all possible descriptions and polar conceptions. Because it is the indivisible essence of everything and beyond or prior to polarity, all adjectives and analogies apply to it equally and therefore none have any conceptual differential advantage over any other. That is why the absolute is ineffable: *it is infinitely effable*. And so some people choose to call it conscious, or intelligent or living, and others unconscious,

^{i*} See, Embryogenesis of the Concept (EOTC), p28

purely mechanical and dead. All and none of these adjectives apply simultaneously, because all of their identical opposites are also necessarily enfolded at the absolute scope. So we can see yet another resonant thread from our fundamental Principle of Nondual Rationalism, “Infinite division equals indivisibility” (SZ):

Principle 4: Chord 7:ⁱ The Principle of Infinite Effability (PIE)

Infinite Effability Equals Ineffability

Explanation: Because the absolute enfolds and unfolds all opposites, all relative adjectives and modifiers apply to it *equally*. Therefore none of them have any descriptive advantage over the others; it both is and is not both sides of any pair of opposites. Thus because the absolute is infinitely effable, it is ineffable. Nothing we can say about it offers us any conceptual foothold to differentiate it from anything else we might say.

Phase TWO: Polarity

I/T and Transitive Axes: Effing the Ineffable

The ineffable absolute breaks into cognitive operation first in the polarity of the immanent/transcendent axis (e.g. the “axis of Tao”) and then in the orthogonal “transitive axes” with the polarity of the basic items, matter and relation. This naturally echoes the EOTC of mathematics unfolded in *SpinbitZ: Volume I*. Thus there are two polarities that unfold together in this EOTC and holarchy of the Sorce Theory fundamentals.

ⁱ Continuing from *SpinbitZ: Volume I* ...

Polarity A: the I/T Omni-Axis - the “rootless root” - the “axis of Tao” - or deep infinity

*God is an intelligible sphere whose center is everywhere
and whose circumference nowhere.*

— The Corpus Hermeticum

This is the abstract axis of the infinite holarchy, the axiomless-axiom, upon which we rest in the escape from the foundationalist program of the infinite regress, and upon which the infinite self-similar “planes,” levels, scales, resolutions, frequencies or granularities of matter—with all their intrinsically complex properties (items) and relations—endlessly arise, enfolding and unfolding this infinite depth. Like all axes, this singular axis is fundamentally polar, with two “directions” of relative differentiation and orientation, i.e. two “dimensions.” So this axis is merely a polar, and hence an operational rendition of the non-dual and singular, ineffable ONE-ALL.

Polarity B: Matter and Relation - “Substance and modification” - the transitive axes - or wide infinity:

The I/T omni-axis breaks into finite levels or “planes of existence” (e.g. recurring basement and root-MU levels) in the polarity of matter and relation. This is the polarity of substance and bundles, recall, or between stuff and its properties. Neither substance nor its properties can arise without the other, and thus neither is primary or reducible to the other. It is this polarity that unfolds in the transitive-planes on the immanent/transcendent omni-axis of Polarity A. We can see that Polarity A cannot exist without relation and matter, even if they come later in the holarchy. It is but an abstraction of the infinite immanence and transcendence of matter and relation itself (the IT enfolding into the I), as already seen in the infinite regress of substance and bundle views in the problem of foundationalism.

Any polarity is already a relation, and any distinction between a unity and a polarity is already a polarity and hence also a relation. The latter differentiations of this unfolding holarchy are already enfolded and necessitated for the prior forms. This unfolding of the previously enfolded will be a constant and recurring theme as we unfold the concept into it's *a priori* existing forms, through the beginningless holarchy from general unity to specific multiplicity and from organizational simplicity to organismic complexity.

Existence is active, and activity requires prior modification and relation, and hence it also requires an existing immanent continuity (an immanent plane), as an infinite depth of detail, as each detail necessitates prior substance and prior properties *ad infinitum*. The abstract infinite, omnilocal and eternal I/T axis breaks into time and real relativity through infinite modification in the logical advent of relation. This infinite depth of activity is the anima mundi which was truncated into oblivion in the atomic (gross) reductionism of the so-called "enlightenment" era.

The polarity of matter and relation is found throughout philosophy e.g. "substance and modification,"ⁱ "The One and the Many", and "emptiness and form." Relation includes both differentiation and integration because without differentiation there could be no two or more things to relate, and integration is the *a priori* inter-expression enabling those things to causally relate and differ. Relation is inherent in matter (and vice versa) because matter itself, even at the basement level, is already possessing of a complex of properties, such as continuity, fluidity, motion, pressure, density, inhomogeneity, etc. Matter could not have properties without intrinsic complexity already intact (enfolded) and this entails relation and indeed organization and the rest of the basic items, as we will see.

ⁱ Although I argue in *SpinbitZ: Volume I* that Spinoza's version of this polarity is non-dual, non-foundational and transrational and hence much more subtle than this. I show that his definition of "substance" is more akin to the immanent emphasis, or unfolding, on the Immanent/transcendent omni-axis, or the rootless-root than to any single material "plane of existence" and its intrinsic aspect of relation.

But relation is also clearly dependent upon matter or substance in that if there were no matter then there could be no relation among portions of that material substrate. And so this is a true polarity because neither conceptual pole can exist without the other.

That relation can't exist without matter is obvious, but the dependency of matter upon relation takes a little more thought and unfolds with the understanding that its properties are necessarily a function of its intrinsic complexity and organization, and further that organization presupposes, and is a function of, self-reflexive relation (see "Organization" below).

The simple explanation of how matter, a lower level item, already possesses these higher or more complicated levels within its basic nature and at all of its infinite emergent levels, is that the holarchy is infinite and eternal and all levels emerge from deeper root-levels as they occur endlessly and beginninglessly up and down the I/T axis. And so the complexity that must unfold at higher levels of organization is already enfolded in each basement level.

This argument from *a priori* complexity—as we have already seen it in the substance/bundle paradox of foundationalism—may indeed be the strongest reason that the holarchy cannot be truncated at any level—i.e. that foundationalism is untenable on logical and rational, as well as empirical grounds. Any basic level of "matter" presupposes (enfolds) complexity and order and the basic items even as it precedes (unfolds) them, and vice versa ... down the line. But keep in mind that this is only the regressive view of this infinite depth. The positive view is that The Infinite simply has an aspect of immanence, just as we find in the continuum of modern mathematics. This immanence exists *a priori* and eternally. It needs no origin event, but simply restructures itself endlessly through time.

Taking a step back we can see how the differentiation into the polarity of matter and relation has transcended and included the unity of the absolute and ineffable, and its mapping to the I/T axis, and how this axis has suddenly given us a grasp on this

general level allowing us to see it “in the light of eternity,” or *sub specie aeternitatis*, as Spinoza says, rather than temporally and regressively searching for hypothetical transitive foundations. We can also see how this polarity is dormant and hidden, or enfolded within the abstract and most general level of Unity. We can see the abstract I/T axis as the inward and outward infinity within and without every conceivable region of matter (omnilocal), and we can see that there can be no within or without in the absence of the properties formed from the enfolded modification of simplicity into the many faces of complexity, i.e. from relation to organization to enfolded properties.

From the eternal symmetry and silence of this infinite singular abstraction of Unity, the polarity of matter and relation breaks into conceptual existence at all levels of the continuum, simultaneously and outside of time, in this logical progression from generalized and abstract Unity into a specific and inseparable infinite holarchy of multiplicity.

We see this breaking of symmetry, this Substance in-formed of an enfolding and unfolding complexity, in rhythmic recursion up and down the I/T axis, as deep complexity and vast collectivity emerge at the end of the $\sim 10^{20}$ scaling-cycle into homogeneity and the “perfect” and aetheric “superfluidity” of the basement level. The extreme continuity and enfolded super-fine granularity of this basement level allows the formation into the next root-MU level (e.g. the atom), and up it goes through the pyramid of agglomerative complexity again into vast cosmic collectivity (e.g. the stellar-system level) and finally again into continuity and basement-level super-fluidity, repeating atemporally over and over through infinity with no beginning nor end.

Matter and relation are positioned at the second (polar) level in the basic-item holarchy transcending and including infinite abstract Unity because 1) for any of the others to exist, matter and relation (substance and modification or emptiness and form) must break the eternal symmetry of abstract Infinite

Unity into the continuity of active existence (see above) and 2) they are next in terms of generality, as represented over and over in the great wisdom traditions, east and west.

For example, it makes no sense to talk of motion if there is no real relation (material differentiation) because without a differentiated zone of reality to do the moving, there can be no motion. Indeed motion itself must already be seen as a more specific kind of relation, as it is differentiated from stasis or other kinds of motion. A region of matter in motion presupposes a differentiation from, and relation to, a non-moving, or differently moving region. Motion transcends and includes matter and relation, and so the matter/relation polarity is a more general concept than motion and thus belongs closer to unity in the hierarchy of basic items.

Again, since this is not a temporal process but a logical and conceptual holarchical unfolding, the above does not imply that Infinite Unity, the I/T axis, substance, or matter are in reality inherently undifferentiated (or inactive) until we add the property of relation (or motion). Rather, relation is inherent to matter, and matter is inherent to relation. And so matter is infinitely and eternally differentiated and inter-related at all levels up and down the I/T axis. A property herein is not a temporal addition of formative elements, but a symbolic product of a recursive conceptual organic and holarchical delineation and categorization in the symbiogenesis of subject and object—the cogito- and sensory-mnemonic-interface and root of empiricism itself (SZ).

Though distinguishable, all properties and categories are ultimately *inextricable* from each other, especially so far down the basement level. All of them are merely *aspects*, and intrinsically complex qualities, of the ONE.

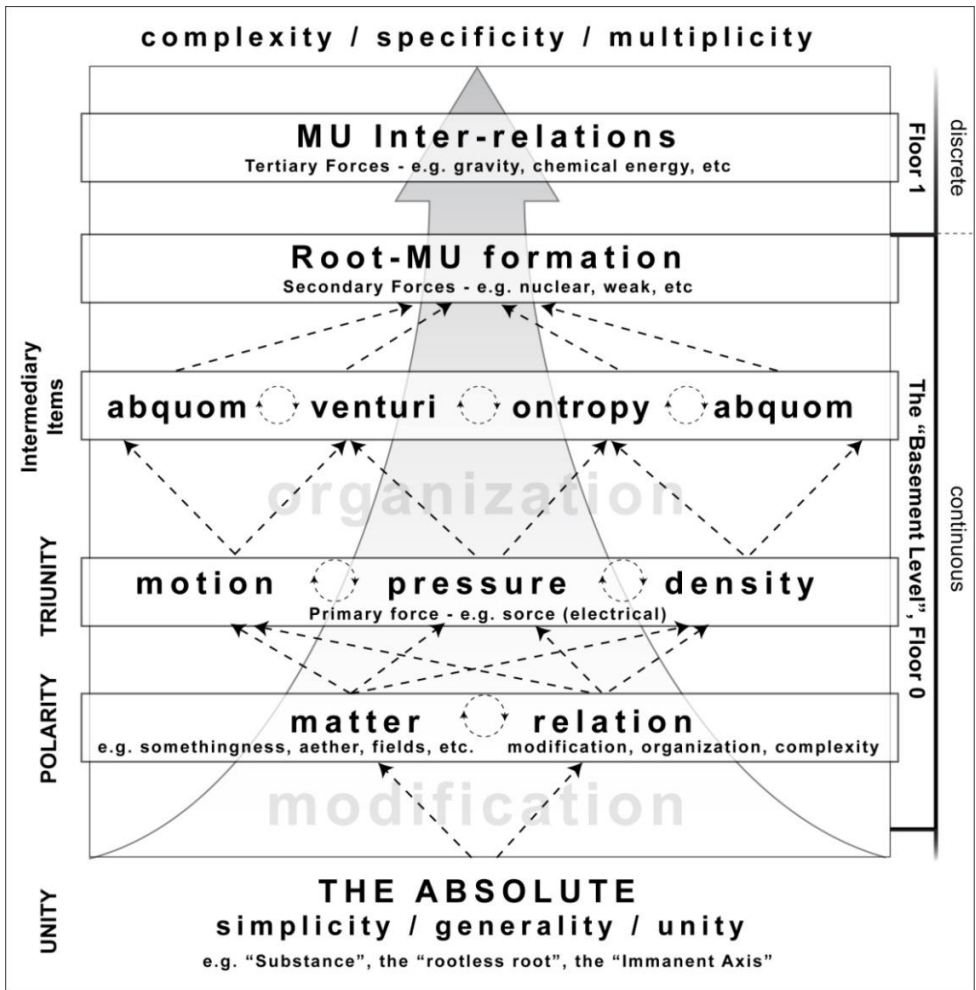


Figure 15: Basic Items Evolutionary Tree:

The following is a rough attempt to represent the holarchical organization of the basic items from the ONE (simplicity and generality) to the MANY (complexity and specificity). It fails in an important respect because of its linearity, but this linearity enables it to bring out the directional aspect of transcension from conceptual simplicity to complexity within the basement level. A following graphic will present the relationships in a less linear, but unfortunately more planar view to bring out the more cohesive and organic nature of the unfolding relationships.

Phase THREE: Triunity

Motion, Density and Pressure

These three basic items—motion, density and pressure—as we will see, are the most basic forms of the matter-relation polarity which underlie the Sorce Theory constructions.

Motion

Although motion cannot be reduced to non-motion, it could not exist, and cannot be conceived, without a somethingness to be in that motion ... and the most basic *a priori* somethingness is conceived objectively as matter. Furthermore, as we have seen, motion is indeed a most basic kind of relation or differentiation between regions of matter. It therefore naturally occupies a place in the next level—the triune level—of conceptual dependency, specificity and complexity, transcending and including, differentiating and integrating the polarity of matter and relation which in turn transcends and includes the ineffable ONE, and it's conceptual I/T axis, or axiomless-axiom.

Again, this is not to say that matter was essentially motionless at some point in time until this property was added. Rather, matter is in motion on all scales and at all times. And further, as we will also see, it is motion that gives rise to stasis, as $e=mc^2$ intuitively demonstrates with its speed of light intrinsic to the atom and released into energy when the atom is split.

Note that stasis is not explicitly a basic item, rather it is included as the intrinsic identically-opposite pole of motion. Stasis, herein, is an actively self-stabilized form of flux, as Heraclitus would have it. We have seen this already in the explanation of the simplest bodies, as they maximize the infinite immanent complexities toward their own self-stabilization. This self-focusing and self-stabilizing of maximal immanent energies, we will see, is the essence of inertia. Stasis can thus be conceived as a type of self-stabilizing relation and form of deeper matter in motion, and beneath all motion there are yet

deeper levels of motion organized into relatively static MU and agglomerative/evolutionary forms, *ad infinitum*.

Without this polarity of stasis (mass) enfolded within motion and vice versa, there would be no *force* to motion as necessitated by the unidirectional aspects of pressure required for wave propagation and the Venturi effect. This is because in Sorce Theory it is the nucleation process into the root-MU that gives rise to mass and therefore momentum, and this emerges from the self-focusing properties of the Venturi effect in rotational motion, as we will see. And hence bits emerge from spin, and spin from bitz; i.e. solids emerge from fluids in motion, and fluids emerge from solids in motion, *ad infinitum*.

The causal efficacy (force) of motion requires mass, and the formation of mass requires the force of motion in the Venturi effect. That is a key reason why the MU-holarchy cannot be truncated. Mass requires the Venturi effect to form the root-MU, but the Venturi effect requires momentum and mass to give force to its motion vectors ... *ad infinitum*. Mass, like the other basement-level properties, though it is emergent, or *unfolding* near each recurrent basement-ceiling or root-MU level in the formation of the MU, is *enfolded* in the basement level of continuity even before it unfolds again in the formation of the next root-MU.

This infinite enfolding-unfolding recursivity can only remain logically consistent in the rootless (non-foundationalist) and eternal context of deep infinity because “what does exist but could not have a beginning, must always have existed.” Without that non-foundationalist context, we are forced to view these things as mysterious axioms.

Density

Though density was not originally listed as a basic item, I can find no way to conceive of it as anything but basic, given my stated criteria that it reside at the basement level, and be a simple and crucial property giving rise to the root-MU at the ceiling of this basement. Density was not included by Lebau in the original list of basic items, however, because it wasn't a

“self-existing thing,”ⁱ and further because density can be seen as a kind of relation. This is precisely why I have placed it at the level emergent from, yet dependent upon, the matter-relation polarity. But it is also true, as we are seeing, that none of the other “basic items” are “self-existing things,” indeed, in any nondual and univocal model, nothing ever could be truly “self-existing” except for the universe itself ... and then its existence is a function of everything that composes it, or breaks it into form and individualities ... out of sheer loneliness or boredom, as a Hindu might say.

Density, in its qualitative aspect as a real and variable “amountness” of matter, is not ultimately reducible to the more abstract and general relation, but it can’t exist without it either. Relation is just too general a term to contain the meaning of density. Relation is merely differentiation and variability, while density is the variable *amountness* or concentration of *matter* in relation to other matter. Density is therefore an emergent combination of both relation and matter not explicated by either alone. Density transcends and includes the matter/relation polarity which transcends and includes absolute Unity and the I/T axis. And in the other direction, density is integral to the triune level at which it is found because it is necessitated for the existence of its remaining triune brothers, motion and pressure. And further up the line, density is crucial to the next-level emergence of the “intermediary items,” which we will see soon enough.

Sorce:

Sorce, we have seen, is Lebau’s continuity version of pressure. Ultimately, however, a sorce gradient is an unequilibrated density gradient. This simply means that matter always has the properties of pressure and density, but sometimes that pressure in every density gradient can become equilibrated, i.e.

ⁱ According to personal correspondence with Lebau.

enfolded, nullified, countered, etc., by the organizational circumstances.

A Note on Sorce and Density

In order to keep the non-particulate competitive purity of the “basement level” in simplistic polar opposition to the particle-bias, as we have seen, and to keep these two from confusing each other with different fundamental meanings between the same terms, this arguably necessary continuity-reductionism forced Gerald Lebau to deviate from the particle-biased definitions in the orthodox model and conceive of basic-level pressure and density as fundamentally continuous, with no deeper MUs. Thus the partial truths of classical fluid-dynamics were lost in Sorce Theory, and the terms ‘pressure’ and ‘density’ were reduced at the basement level to intrinsically mysterious (immanent-causally truncated) axioms called ‘sorce’ and ‘dinsity.’ Though we retain the use of ‘sorce’ in general, due to the extreme importance the concept plays in the theory as the single force, and due to its role in the name of the theory, the word *dinsity* herein, can easily be switched back to the prior term *density*, just to make this theory a bit easier on the initiate.

Density, in the kinetic-corpuscular holarchical model of pressure, simply means the amount of matter in a given zone. But given that continuity always enfolds deeper discontinuity, there is no absolute distinction to be made between dinsity and density. Matter is matter, and it is neither/and continuous or discrete: it is quasi-continuous, an all-touching plenum modified into matter-units on unlimited scales. As we have seen in the PNDR: “Infinite division equals indivisibility.” The dinsity/density distinction is purely a function of distance from the basement level(s) of continuity, with its peculiar forms unfolding recursively at that level. Density occurs at the first floor with the emergence of discrete MUs, whereas dinsity takes its emphasis at the effective continuity of the basement levels.

It is undeniable that matter cannot exist without having density, or amountness, and it is indeed undeniable that neither can sorce or pressure exist without density. In fact, it is quite arguable that the simplest kind of relation (differentiation) is a

density gradient or wave, but this simplest density gradient would necessarily enfold motion and pressure and hence be unequilibrated by default, i.e. it would simultaneously be a sorce (pressure) gradient. So you can't have any of these without all the others.

This demonstrates the deep connection between sorce and density. Density is the amount of substance per unit volume and sorce is the default tendency for that density gradient to expand, not omni-directionally, but omni-relationally according to the deeper unequilibrated vector summations of its own emergent dynamic nature, (as we will see) and also according to the global field dynamics, relations and organizations within which it expands. Sorce, as we have discussed, can be thought of as unequilibrated density and it is motion that mediates between the two via the Venturi effect because motion is intrinsic to both, and thrice versa round the triune circle.

Sorce as Irreducibly Basic

The Kinetic-Corpuscular Holarchy Model of pressure, coupled with the Sorce Theory of MU formation, demonstrates that sorce cannot ultimately be reduced to a final level of matter in motion. This is because sorce always relies on deeper levels of kinetic-MU momentum, and the formation of an MU *always* necessitates a deeper level of sorce, ad infinitum. This infinite recursion between the basement-levels is a prime example of our trans-foundationalist definition of a basic item. And so sorce is still a basic item, even though, and indeed because, we can trace its emergence at all levels from a deep infinite recursion and inter-relation between the other basement-level items of matter, relation, motion, density, organization, momentum and enfolded sorce, etc. Momentum, however, being a result of nucleated mass and motion, is at the ceiling of the basement level, as we shall see, so it is on the edge of this simple categorization, which shows how Level 1 is enfolded into, or integrated within, the basement level, ever predicating its own unfolding emergence.

The Primary Force: Sorce

The triunity level is the first level at which we have enough complexity to find the primary force, sorce, which is an omni-relational¹ and effectively continuous pressure. Sorce is the unified level of force giving rise to all the many forces of physics at the higher levels. Sorce is considered the primary force because we have chosen to take the “basement-level” of effectively undifferentiated unity (continuity) as “fundamental” for the physical theory, and such a starting point is extremely effective at causally unifying the forces etc etc, as Sorce Theory demonstrates.

We could instead, however, take the deeper level of directional motion which statistically sums to omni-relational pressure, as the primary force. Motion itself would then be the primary force, and the perpetual root of the energy of the Kosmos, but this arrangement—however valid and indeed enticing—doesn’t suit our mapping scheme here, given that we are expanding the Sorce Theory model. Sorce is still considered the primary force, but it can always be understood as an emergent omni-relational and unified manifestation of the dynamic nature of the Kosmos (e.g. infinitely deep motion), i.e. the *anima mundi*. See Figure 15, below.

¹ omni-relational is a modification of the more abstract omni-directional such that the direction vectors depend on other properties as well, such as density, motion and relation.

Primary Forces (sub-nuclear)
electrical, sorce, ect

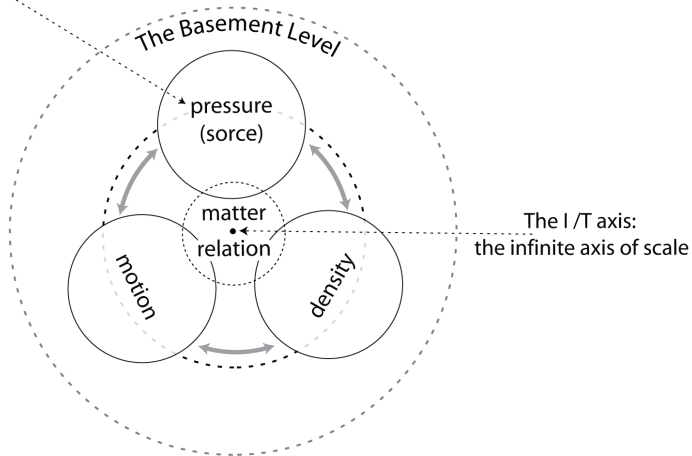


Figure 16: The Basic Items Triune Embryon:

This diagram illustrates the relationships between the polarity level of matter-relation and the triunity level of pressure, motion and density. It also shows the relationships within each of the levels themselves. For example, motion and density feed into pressure or sorce, and likewise around the triune circle.

Phase FOUR: The intermediary Items, a Prelude to the “Ten-thousand Things”

Organization - The Relation of Relation:

This original basic item of ‘organization’ seems quite simply to be a slightly higher degree of relation stretching into the upper reaches of complexity. It can be considered the (holarchical and recursive) effect of relation upon relation, or the self-reinforcing, self-differentiating, self-assembling, self-reflexive aspect of active relation. Relation continues to progress up the pyramid or holarchy of complexity and emerges into organization through the symbiogenesis of the higher level

(triune) basic items and the intermediary forms, and vice versa. Therefore, it will remain denoted as the background item of relation at higher levels of complexity, rather than given status as a new basic item in its own right. Given that this is a transcend-and-include holarchy, relation is already transcended and included at all subsequent and more complex levels, as are all previous items, so we need not name it again as anything but its own self-reflexive form at this level. Organization is simply what relation looks like at higher levels of complexity.

The Antipodes of Organization

The wave and particle (root-MU) are the two antipodes of organization spanning the full depth of the basement level. The wave is the simplest type of organization available and corresponds to the level of relation below the ceiling, while the root-MU, a self-focusing effect produced by a particular organization and arrangement of all the basic and intermediary items synergistically combined, corresponds to the ceiling of the basement level which is the floor of the next.

The whole of Quantum Mechanics and particle physics can be seen generally as a causally blind, mathematical mediation between the gradient floor with its “wave-nature” fading far below (before arriving at the distant next root-MU level), and the ceiling root-MU level of the basement. QM is an *ad hoc* empirical accounting system—a Quantum Mathematics, rather than a mechanics—for the harmonic interplay between the antipodes of organization. See Figure 17, below, from *SpinbitZ: Volume I*, and Figure 18, following it.

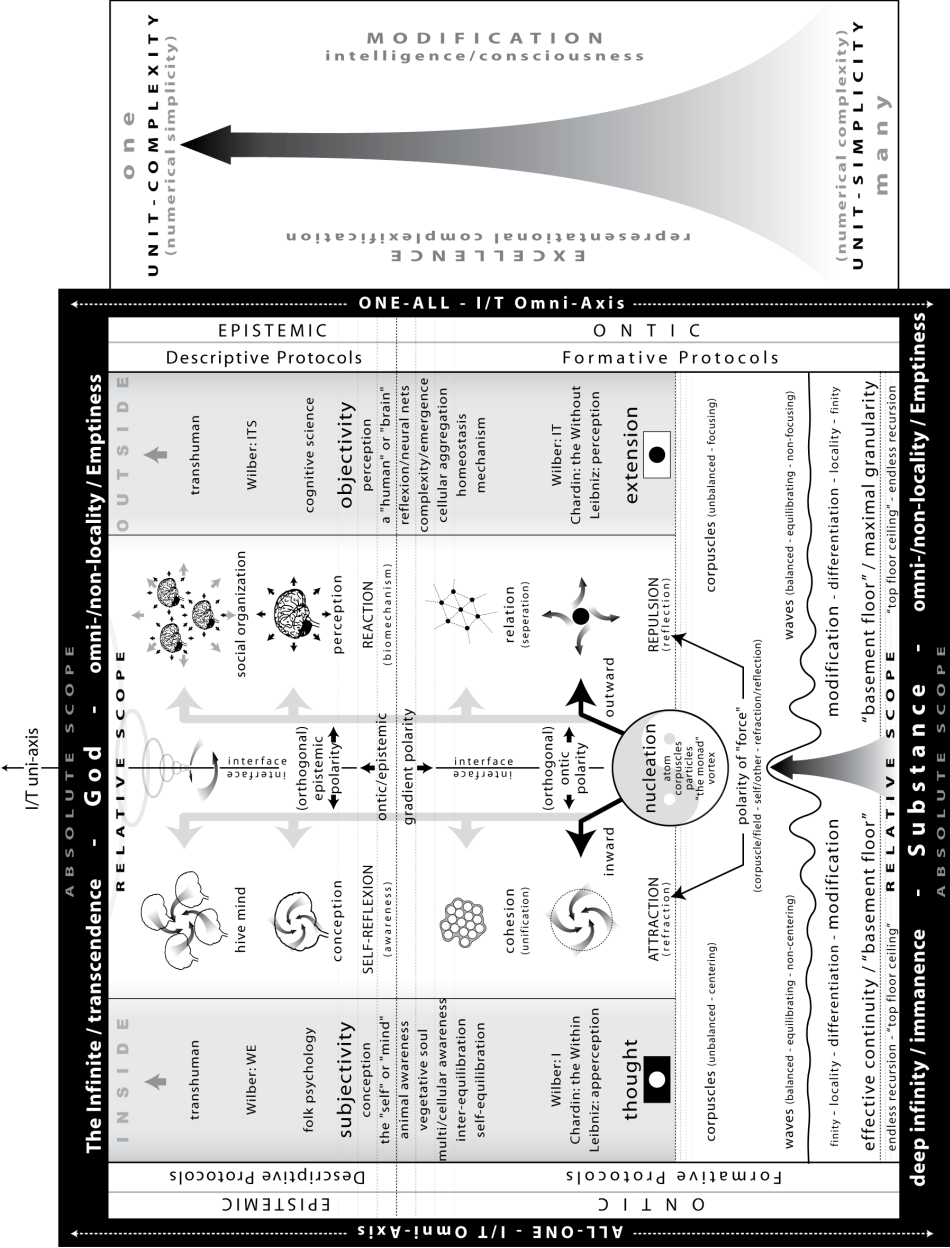


Figure 17: Duality Chasm: The Vista of the Expanded Crossroads:
This chart, taken from *SpinbitZ: Volume I*, demonstrates the single force ("sorce") and its bifurcation into the duality of force (attraction and repulsion) in the distinction between reflection and refraction.

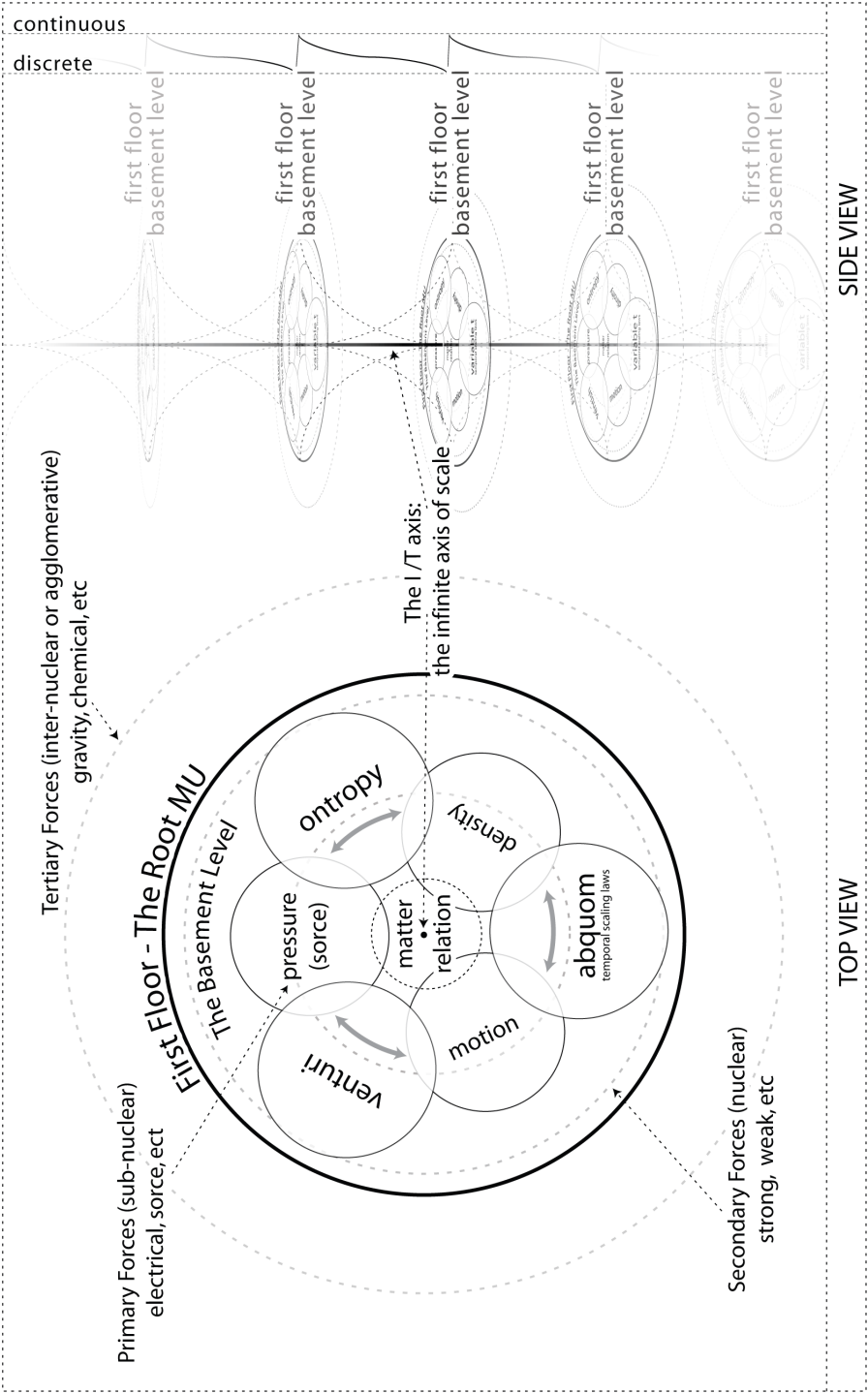


Figure 18. Basic-Items Embryon

Top View: A schematic of the conceptual unfolding of the basement-level items. This is not intended to represent the physical or geometrical placement of the basic items in relation to the boundaries of the root-MU. The reason that the basement level is contained within the root-MU is that the root-MU level represents a higher level of organization which transcends and includes the basement level. In integral terms, this is a diagram illustrating holarchical “depth”, rather than “span” or simple scale. Side View: A trans-holarchical rendering, including span as well, the basement-level is shown as effectively omniscient to the higher level. It is shown here as existing below the first floor, not within it. The basement level is represented as the level of maximal continuity right before each root-MU plane. This diagram shows that all of the deeper-level basic items are already “enfolded” at the gradient “floor” of the basement level, and that the basement level transcends and enfolds the higher levels from the self-similar recursion far below, as well as infinitely down the line. The curving lines connecting the planes illustrate the scaling and enfolding of the lower levels into the super-fine detail and properties of the basement level. As the lines get closer to the immanent/transcendent axis, the continuity approaches basement-level properties such as superfluidity, zero-viscosity and the wave-fidelity which enables the wave-harmonic-reinforcing stability of the next-level root-MU.

INTERMEDIARY ITEMS:

Abquom, Venturi and Ontropy

The “intermediary items” arise as properties mediating, integrating, transcending and including the inter-relations between the basic items of the previous level—the triunity level of motion, pressure and density, and all levels below. An “intermediary item” is a property that arises from deeper relations between two basic items. It is seen when a change in one basic item creates a change in another and the relation between the two is emergent or not explicated in either of the two items (e.g. non-linearity or perpendicularity etc.) due to the deeply enfolded complexities in all of them.

There are only three intermediary items that I will discuss here: the “Venturi effect,” “ontropy,” and the “abquom” (or the Relativity of Immanent/Transcendent Time).

The Abquom and The Relativity of Immanent/Transcendent Time

The ‘abquom’ represents the absolute quantity of motion. This is an intermediary relation between motion and density because density represents the absolute quantity of matter, while matter and motion are intrinsic to each other. Therefore, the higher the density of a moving region of matter, the more total (or absolute) motion involved and the higher the abquom, in a directly linear relation. This concept is useful in Sorce Theory for understanding such things as inertia, because due to the deep compression of matter in the matter-unit, there is a

greater amount of the force of motion (momentum), and a greater abquom to be overcome by extrinsic forces of motion. This is partly what inertia is; high amounts of motion centered into one organizational, self-focusing field.

The abquom takes on a new meaning, however, when it enters the holarchical context of the kinetic-corpuscular model, transcending and including the previous levels, and most importantly the immanent-transcendent axis of deep infinity. In this immanent context, the nonlinearity aspect of the abquom comes in and it becomes a nonlinear scaling relation for relative and measurable time, or rates of change.

The abquom is effective all across the two antipodes of organization: the wave (continuous) and the particle (discrete), because every particle is made of waves and every wave is made of particles made of waves made of particles, waves, particles, waves ... *ad infinitum*. Again, these are spatially repeating patterns of a priori continuous and modified substance, rather than being a temporal recursion process with a regress complex.

The abquom gives us a bit of insight into why higher frequency aetheric (em) waves travel and equilibrate faster than lower frequency waves; they have less matter to move in their cycle (lower abquom), so the cycle itself can complete that much faster than its shorter wavelength would already allow. This is an added factor to the geometric temporal scaling factor that relates shorter frequencies and cyclical completion rates (intrinsic clock rates) to the shorter distances involved in those cycles.

This means that motion on the macro-scale is translated to relative stillness on the micro scale. The clocks at the subatomic root-MU level are moving so fast that they can't see the atomic root-MU or higher-level clocks tick. But it's not just that the intrinsic waves have a smaller distance to travel, which would be a linear relation, but also that the smaller waves actually travel faster due to the abquom. This is an additional factor for why the inertial effects of the aether are virtually and effectively nil from the atomic level and higher, except for when

an object (and its self-stabilizing “wave-nature”) nears the speed of the equilibration of the aether itself (and the equilibration rates of the object’s intrinsic summed aetheric frequencies).ⁱ At this point, nearing aetheric “Mach 1” the inertial drag effects of the aether begin to squash and condense the object and its component MUs. And the interpenetrating aether, not being able to equilibrate fast enough to get out of way, begins to “pile up” in a gradient within the object (MU-collective), *increasing the density and decreasing the intrinsic rates of change* (time) of the component MUs moving at such “relativistic” speeds. This is the source of time-dilation in Sorce Theory. The same density-related “time dilation” effect occurs when an object enters a density gradient, such as a gravity field, which permeates its root-MUs and increases the amount of matter which, to maintain the abquom, decreases the “amount” and rate of intrinsic motion.

The Venturi Effect

The “Venturi effect” is an intermediary effect between motion and pressure. The Sorce Theory genesis of the atom, as we will see, relies heavily on the Venturi effect. As discussed, Lebau calls it the “ventish effect,” at the basement level, rendering the effect in terms of force-carrying motion vectors (though somehow not conceivable as a kind of momentum), because at the basement level of a non-particulate continuum we can no longer use momentum-carrying particles (either kinetic-atomic billiard-balls or fuzzy matter-unit corpuscles), given the arbitrary dictum that there are no smaller mass-containing matter-units. But without momentum, there can be no force behind a motion vector and so the axiom gives way naturally to the holarchical corpuscular view teaming beneath with causal efficacy and ready to explain it quite easily.

ⁱ Note that Mach’s curve for air resistance and Lorentz’s curve for aether resistance are virtually identical in shape--another *highly* suggestive and compelling datum for the self-similar corpuscular holarchy model of pressure.

Because the Venturi effect is a modifier of sorce as a function of the relative motion of basic matter (and vice versa), it may be conceived of as an intermediary property defining the complex relation between sorce and motion, just as the Venturi effect can also be conceived of as an intermediary effect revealing the interrelation between pressure and motion, if however built upon the faulty kinetic-atomic formalisms instead of the corpuscular holarchy.

But further, the Venturi Effect shows that changes in motion affect changes in sorce (and vice versa), which in turn (and very importantly) convert into changes in density through an equilibration of that pressure differential. This is how, as we will see, the emergent omni-relational expansive property of sorce can be converted into a contraction through the perpendicular Venturi unification of its otherwise statistically omnidirectional intrinsic momentum vectors. When this unification is effected radially, through the rotation of a portion of fluid in contrast to a stationary background, the perpendicular effect is turned inward (e.g. z-pinch) from both sides toward the interface of relative motion and can result (if the conditions are right) in the contracting formation of a lastingly configured portion of matter, such as a matter-unit (e.g. atom) which is the unfolding emergence of enfolded mass, inertia and momentum at recurring basement-ceiling levels in the holarchy (See Figure 13, above, p121).

As we have discussed, despite the insurmountable problems that surround the kinetic-*atomic* theory in its simplistic classical formulations, there seems to be a germ of basement-level truth intuited in the generally out-dated model. The deeper essence and value of the model is the causal connection between the basic items; pressure, matter, motion, and relation, as they emerge in the Venturi effect where the directionality of the pressure is direct affected by relative changes in the motion of fluid matter. The Venturi effect, presupposes a fundamental connection between a force of motion (momentum, and thus intrinsic mass) and pressure, but does it not necessitate an ideal-gas type of billiard-ball kinetic-atomic collisions.

Through these deeper interrelations of the basic items, we can glimpse the irreducible causal roots of pressure and its directional-force properties found in the Venturi effect. We can reinstate the intuition discovered by the atomists, but with some necessary and crucial differences—namely the rejection of the atom-void duality in favor of the infinitely-divisible and thus indivisible singular continuum and self-similar matter-unit holarchy of modified substance in flux (matter in motion) already described at the basement level and higher in exquisite detail in Sorce Theory, as we will see. We can replace the kinetic-atomic theory of pressure with the kinetic-corpuscular holarchical model of pressure and thus maintain the intuited and demonstrated interrelations between these basic items (not a single one of which can exist without all the others) while accounting for the empirical evidence for holarchically layered pressure (e.g. atomic, Fermi, etc).

Ontropy:

Ontropy, we will see, is an intermediary relation between sorce and density. From Lebau's unpublished *The Anptheon*, (p3) we find:

'Ontropy' denotes the property of matter wherein it takes increasingly greater increments of pressure to gain unit-volume condensation as the density increases, and that matter increasingly rapidly increases its expansive pressure as the density increases. It is an escalating curve. Ontropy includes the converse of this; which is that the lower the density the weaker the expansive pressure and the more easily the material can be compressed.

One of the consequences of ontropy is that as the local density increases it will reach a level where there isn't enough pressure available anywhere to further increase it by meaningful amounts. Therefore, regardless of how much a given portion of matter may be compressed it still has extension; the more matter per portion the greater its final size.

The ontropic density gradients are the seat and cause of gravitational force.

So the key element of that definition is that in response to the increasing compression and density of matter, sorce increases in a non-linear, or greater-than-linear, ratio. This is the first and most general level of understanding the deeper relations of the basic items, density and sorce, underlying ontropy.

In Lebau's *In the Beginning there was God* (ITB) we find, "Because of ontropy, sorce exists." Given the inclusion of sorce ("pressure") as a basic item, this statement seems to be grasping at the inseparable deeper relations among and between the basic items of sorce and ontropy. In fact this statement seems plainly to indicate that sorce is *not* "a self-existing thing," which was the original definition of a basic item. Instead, as Lebau seems to be claiming, sorce is inherently dependent on ontropy, as are all the basic items revealed to be inherently interdependent on each other—or "dependently arising," in Buddhist parlance.

Since, however, in this view herein, none of the basic items can exist without the others, and all are emergent from the recursive interrelations of the others, it is to be expected that sorce, like all the other basic items, is not *ultimately* a self-existing thing. Again, there is no such ultimate self-existing thing in the universe, except the absolute UNI-verse itself. At the very least, it must be conceded that these basic items are properties of matter, and thus wholly dependent on matter, even if that dependency is irreducibly reciprocal.

Furthermore, because ontropy is key to the formation of the matter-unit beneath every basement level, even if we remove the arbitrary truncation of the infinite self-similar scaling laws of root-MU formation (every ~20 orders of magnitude up and down the infinite axis of scale, according to the empirical relation), ontropy will be necessitated at every possible level of aetheric continuity from which a matter-unit formation unfolds. Ontropy, like the other basic items, cannot ultimately be reduced to anything that does not already include ontropy. That's why ontropy is still an enfolded basic item; it is needed to explain its own deeper nature, *ad infinitum*, and recurs infinitely within each of the infinite basement levels. There is

no way to remove it from being a fundamental and enfolded property at all levels. It is not my goal to truncate the depth of the explanation of a basic item to any limited scale, nor to limit the number of basic items to anything smaller than necessary to represent the irreducible complexity of the infinitely recursive “basement level.”

So, back to our topic at hand; does ontropy cause sorce?... or does sorce cause ontropy? ... or is ontropy an abstract way of describing the deeper relations between motion, sorce and density (the triunity level items) as well as the deeper polarity of matter and relation, and even the intermediary items? If the latter, as I suggest, then how can we describe this deeper interrelation?

In ITB, ontropy is called an “active” property of matter. This is perfectly resonant with the description herein because it is the intrinsically dynamic or active nature of matter enfolded with motion (along with relation and density etc.) at all recursive scales that causes sorce to emerge as a basic item at all of those scales (thus simultaneously explaining the intimate relation between motion and pressure in the Venturi Effect). With this intrinsic relationship intact, between motion, pressure, and density (among others) as they interact down the infinite holarchy, we can better explore the deeper nature of the “active property” called ontropy.

The second level of generality in understanding ontropy comes from our previous understanding of the infinitely layered nature of pressure via the kinetic-corpuscular framework. Pressure is an infinitely layered effect, and these layers play into the non-linearity of ontropy because they get “activated” deeper and deeper with the “self-interacting” and “self-disrupting” effects of more compression summing to a nonlinear effect. As the higher levels (e.g. molar) get further and further condensed, this begins to increase the interactions and to activate the resistance and pressure at the deeper levels (e.g. Fermi). It is the summation of all these levels of pressure in the infinite holarchy, getting more and more activated at

deeper and deeper levels as the compression progresses, that leads to the nonlinear ontropic effect.

This ontropic reaction, the nonlinear increase in pressure via compression, is already present in molar fluids, however, so it's not just a feature of sub-atomic fluids or of sorce (Fermi pressure). Pressure almost always seems to increase in a nonlinear fashion, rather than a straight line. Hence it seems only natural that this effect would be a feature of all levels of pressure in the self-similar cosmos. The ratio, and specific curve of increase would depend on such things as the specific molar organization and the pressure-levels at which the resistance of this organization tends to break-down, producing pressure-curve quantizations and complexities in the compaction-level of the fluid, and so on. But in general, the more compact the fluid gets, the stronger the ontropic ratio.

There are at least three possible interacting stages to understanding the deeper causal nature or 'mechanism' of ontropy as it "activates" the deeper levels of sorce.

- 1) **Statistical** – compression *increases the statistical probability* of interaction among dynamic deeper-level component MUs thus increasing reaction in a nonlinear ratio. If sorce is the tendency of matter to expand, and ontropy is the tendency for this expansion tendency to increase with increasing density, then ontropy can be viewed as the non-linear magnification of sorce via concentration of the deeper-level self-interacting matter-in-motion that emerges as Venturi-effected pressure.
- 2) **Causal** – compression *engages the deeper levels* of the pressure holarchy adding to the pressure effect. For example, in the compression of a gas, the closer the atoms get, the more engaged the Fermi pressure gets as the fields of the atoms themselves begin to overlap more and more strongly, thus adding to the net pressure effect in a nonlinear ratio.

[These first two may easily be all that is needed to explain ontropy, but in special cases the third mechanism may apply.]

3) **Equilibrating Pattern Disruption and Sorce Release** – this interaction disrupts the equilibrating flux of the sub-component MUs and thus releases the sorce neutralized and stored through the Venturi effect and inx-rinx wave-equilibrations as the density gradients of the MUs (we'll get to these terms and effects next). The released sorce thus further increases the ontropic curve.

Ontropy is a non-linear increase in the value of sorce due to a feedback effect in the Venturi-condensed holarchically-ordered dynamic, corpuscular, pressure-layered medium. It would thus be the active-property of sorce, 'ontropy,' that has revealed and necessitated the active nature of sorce and its roots in dynamic, motion-enfolded matter, simultaneously explaining the intimate relation between motion and pressure seen in the Venturi effect. Pressure is an infinitely layered effect, and these layers play into the effect of ontropy because they get "activated" deeper and deeper with the "self-interacting" and "self-disrupting" effects of more compression summing to a nonlinear effect.

PART III: A SORCE THEORY SIMPLIFIED

The real frontier of Theoretical Physics is not at the perimeters of its specialties; it is at square one: The basic metaphysical premise beneath its present paradigms is false. — du Gabriel (Gerald Lebau) - ITB

Everything should be made as simple as possible, but not simpler. — Albert Einstein

A sufficient conception of the “fundamental” substratum of nature requires a minimum level of complexity in order not to exclude the activity and causality required for its omnipresent interaction and existence at ALL scales of size in the continuum. For the purpose of offering a quick glimpse across the vast paradigm gap between the Standard Model of Physics and Sorce Theory, I will attempt to abstract the essence of the more sufficiently detailed explanations of the key mechanisms found in the Sorce Theory books and compress them into terms and concepts already familiar to the uninitiated and curious reader. Be aware, however, that these heuristic bridges are ultimately quite inadequate and can only be considered a tentative or temporary introduction to the mechanisms described in detail in the Sorce Theory books. These are mere “popularizations” of the model, and they come with the compromises common to such popularizations.

A unified understanding of the higher-level phenomena of standard physics (particles, forces, fields, etc) requires a thorough understanding of the complex and deeper-level fluid-dynamic mechanisms found in Sorce Theory. This singular, fundamental, substratum is inherently more complex and robust than the basic level atom/void duality of the Standard Model of physics because it is based on the fluid-dynamics, wave mechanics and harmonics of a highly compressible and continuous fluid medium—the real and causal unified field. But it is this robustness that allows the higher-level constructions to unfold more and more simply and coherently. The foundations of the classical model were not robust enough to deal coherently with the higher-level constructions, so the complexity at that level increased perhaps exponentially to make up for the missing foundations. In this seemingly paradoxical way, adding complexity to the foundations in Sorce Theory results in increased simplicity and coherence at the higher levels.

Computer programmers encounter this problem all the time. When an application is not designed with foundations for the complexity with which it is later modified, it very soon becomes cumbersome and unwieldy as patch after patch, kludge after kludge, it takes on more detail than it ultimately can handle. At some point it becomes more expedient to simply rewrite the whole thing from scratch, removing the over-simplistic and incapable legacy code and replacing it with a more robust foundation. Such is the case with the particle-biased foundations of modern physics. And Sorce Theory is such a reconfiguration, moving essentially from a particle to a fluid basis.

Even regarding the great strides made in the last century, it is well-known that fluid-dynamics still represents the frontier of physical modeling. It is for this reason that a truly unified quantitative model has thus far eluded us. And it is the contention of Sorce Theory that given a proper qualitative model, the equations can be converged upon that much more easily because a qualitative model acts as a map for explorations of abstract quantitative space.

A correct understanding of the relation of the One to the Many, however, from which is formed the whole field of physical relation, is entirely dependent on an understanding of how this continuous fluid substance can form and stabilize the highly compressed, causal structure of the atom, as the prototypical “matter-unit”—the root-unit repeated on many observable scales in this self-similar cosmos, as we have seen. This is also dependent on an understanding of the nature and structure of the “force fields” of which they are made and with which they interact, as well as an understanding of the causal nature of that interaction itself. Thus our subject is ultimately a theoretical cosmogenesis—an explanation of how these individual forms arise, recursively and eternally regenerating throughout the cosmos. It is the genesis of a continual and eternal creation and dissolution of the modifications and differentiations emerging from and dissolving back into the unified field of continuous but inhomogeneous (quasi-continuous) substance.

The forms of the universe emerge in an omni-scalar moiré of interfering force patterns, never coming to a final equilibrium, thus eternally evolving. It is a constantly re-equilibrating harmonic fluid-dynamic continuum in permanent flux. Some forms emerge from, and others dissipate back into the continuum.

Caveat Emptor

Caveat1: Since this theory is such a radical change from the standard model, the items presented below require many more (than possible here) very detailed prerequisite explanations of foundational concepts presented in the proper sequence, in order for the constructions to make sense. So just expect this to be a sort of disjointed teaser for the actual detailed and coherent theory. I don't expect the reader to understand everything presented here on the first reading, but hopefully he can suspend judgment long enough to get a feel for the types of concepts and the coherence involved.

Caveat2: This explanation is based on my rough qualitative knowledge of this very detailed theory. Due to the large differential between current and future theories I am necessarily using imprecise transitional concepts and terminology as a scaffolding to bridge the very wide gap between Sorce Theory and the Standard model. When the theory is installed properly these transitional elements would be discarded because they get in the way of a proper and efficient understanding.

MORE CONTEXT

The Root Error

The following quote from Lebau's *The Theory of Reality: Volume 2*, can serve as an introduction to the root error already briefly discussed; the pervasive "particle-bias" of modern foundational physics.

The real problem that led to the present doctrine that ultimate reality is incomprehensible to the mind of Man is that Science's present underlying metaphysics is thoroughly false. Given the notion that gross matter is mostly empty space, with teeny particles, relatively far from each other, bouncing around under the influence of forces acting at a distance through the intervening void, it seemed that our sense evidence of reality is completely illusory. Given the notion that experimental data confirms a theory [Relativity] that admittedly denies the validity of common sense and ordinary logic, it seemed that Man's sense of reason does not fit whatever reality may be. Given the notion that even the basic particles are made of disembodied charges of no-longer-definable energy, thus are also made out of empty space, it seemed possible that the entire Universe could once have occupied an invisibly small volume, and could even have spontaneously arisen from the empty space itself. Given all of that, it seemed logical that although the equations of Science might make ever closer approximations to whatever reality might be, even if perfected Unified Field Equations were somehow reached Man would still be totally unable to understand the physical reality the equations happen to fit.

Clearly, if Theory denied the existence of the sense-revealed deformable pressurized material substance that really exists,

but the equations quantify and fit events this material undergoes, there was indeed no way for Theory to ever comprehend either its own equations or physical reality. No additional degrees of accuracy of the equations could have helped us understand the universe. What was really needed was a completely new metaphysics.

The Abortion of the Quantum Revolution

Physical is physical at ALL levels. We have been led to believe that the physical region of the quantum level is actually not physical at all, but instead it is pure mathematics and probability. This is simply to justify the premature Copenhagen abortion of the developing embryo of the quantum, post-classical revolution.

This revolution was brought about by the experimental discovery that there were two main flawed concepts within the classical model of physics. One of these concepts (the solid ether) was simply deleted and the other (the particle-bias) was covered up and patched over by the newly evolved wave equations. The one that was deleted, though incorrect, contained an essential ingredient—the substantial reality of space—for a qualitative understanding of the waves that propagate through physical reality at every level. This flawed concept should have been corrected, but instead it was simply deleted. The other flawed concept, which is at the ancient Greek root-level of our understanding, was simply covered over with the new contradictory and more correct wave-equations. If the significance of these newly discovered equations were to have been fully grasped at this time the realization would have provided the understanding necessary to fix the problems with the first flawed concept. Thus the root-level flaw could have been entirely replaced and reality at all levels would be humanly understandable by EVERYONE.

The quantum revolution was not complete. It was not revolutionary enough. They still need to strip away the meaningless point-particle ultimate-a-tom-theory that causes the paradoxical wave/particle confusion. Only then can the

evolved wave-equations find the physical reality that they actually quantify. Waves will once again be waves, not merely wave-equations and wave-packets in empty space.

It takes a self-correcting absurdity such as Zeno's, to do battle with that behemoth of silliness surrounding the collapse of the wave function in quantum math-o-mechanics. This always was a battle of philosophy, too bad it was not generally waged by philosophers.

Extension and the Point Particles

One of the major problems with our Standard model of fundamental physics is a consequence of its self-modeling as a "particle physics," and the attempt to escape the problem of infinite divisibility in any foundationalism. In order to get beyond the reach of this problem the physicists have modeled their fundamental particles as already divided to infinity! This reminds one of the games played by children. When boasting or denigrating begins to escalate one child almost invariably jumps to the modifier "infinity!" And so when the game of endless divisions of the atom began to get out of hand, the physicists threw in the modifier infinity and conveniently reached the indivisible point particle.

They did this almost unknowingly, however, given the transcendent-bias and that mathematical points are not explicitly recognized as the immanent infinities that they are. But it is for this reason that the damned infinities began to uncontrollably spurt out of from neat categorical walls of their equations. This is seen, for example, in the calculations of the field strengths of the electron as a function of the distance to its non-localizable non-extended position. In effect, there is an infinite distance to any point particle, especially when operating on the immanent/transcendent axis in the use of distance squared laws. The point particle is simply the immanent pole of the I/T uni-axis. It can't be reached. Thus the infinities in the equations.

Eric Lerner, from *The Big bang Never Happened*, explains other problems with this point-particle assumption:

There is, however, a second basic assumption of the standard model, which has no basis in observation. It is claimed that the world is made up of “point particles”—infinitely small particles with no extension whatsoever. This assumption, for example, is a major motivation for quarks. Particle collisions have shown un equivocally that the proton has a measurable radius, about 10-13 cm. The point-particle assumption, therefore, necessitates that the proton be made up of smaller particles, swarming together in a finite region, but themselves having zero dimension. (In the fashionable superstring theory, this hypothesis is modified: particles have extremely tiny linear dimensions, but zero thickness.)

The assumption of point particles is part of the mathematical structure that underlies quantum mechanics and quantum electrodynamics, the most fundamental theories of the modern view of matter.

A fundamental, self-evident logical postulate of Sorce Theory is that material or substantial extension is a necessary condition of physical existence. There can be no portion of substance that does not “occupy space.” The “Standard” ultimate simplification of the “fundamental particle” down to a “zero-dimensional” or zero-size, extensionless mathematical point is a simplification of the particle concept right out of physical existence. And naturally, given the Principle of Absolute Reversal, it results in the inverse unified field (below). Rather than an “infinitely small” or zero-dimensional point particle, or point-zone of substance, Lebau invokes his “needle-sharp point.” A needle, as we all know, is only sharp from above specific perspective or scale. Beneath that scale the point becomes revealed as mound, bumpy and round. Not sharp at all. All such sharp delineations in Sorce Theory are thus recognized as merely needle-sharp. We are dealing with reality, after-all, not abstract mathematics. This may indeed be the most fundamental observation made in Sorce Theory. The needle-sharp distinction between mathematics and reality.

The Inverse Unified Field

Physics has long been operating on the solid-bias. And, as we have seen, science has gotten stuck in a medieval foundationalist outlook, always looking for the *smallest, simplest*, most “*fundamental* particle” (foundational solid), the absolute “building blocks” of existence.

This is the ancient Greek *atomos*, the “uncuttable” ultimate solid constituent of reality, floating, bouncing and colliding in the (existing) nonexistence of the void.ⁱ After the uncuttable “*a-tomoi*” were apparently discovered, and then surprisingly (to some) turned out to be “cuttable” after all, physics continued its search for the final uncuttable solid building blocks. To this end, the standard model of particle physics has reduced all of reality to a growing “particle zoo” of mathematical solids known as “point-particles.”

Due to the constant feedback or interface of science with empirical reality, this *absolutely uncuttable* atomos (taking form, solidity and indivisibility to the absolute scope) has been cut so much by the intervening nothingness (in the minds of the physicists) that the original Greek *a-tomoi* are now extensionless points existing in a sea of nothingness. This is the “infinite smallness” of the mathematical point, the absolutized relativity of somethingness and form down to the absolute immanent size of nothingness. Having no extension, they are finally fundamentally uncuttable. They take up no space and have no diameter to halve.

So we already see that Form, when taken to the absolute scope, the infinity of infinite smallness, becomes the non-form of Emptiness. And we can see that this is a resonance of our Principle of Nondual Rationalism, that the infinite divisibility in the foundational search for the “fundamental particle,” the

ⁱ Most rational physicists have come to understand that space, or the vacuum, is not void but rather teeming with an abstraction called “energy” which simply means “the ability to do work.” But since Einstein’s initial and self-confessed premature reaction was to throw away the term (a)ether as denoting the substantial aspect of the vacuum, now the term is anathema and we must speak in abstractions like “energy”.

inverse-ultimate form, has ended in the non-particle, the non-form of the mathematical point—the implicit singularity of Emptiness.

In other words, since the size of these point particles is zero, this nothingness of “empty space” is effectively divided by merely another sizeless nothingness—the *idea* of form which has lost its size and extension, and indeed its existence in either the imagination or reality. **The absolutized somethingness of physics is dually-described yet ultimately a single infinite nothingness.** Taking somethingness and Form to the absolute scope has rebounded, reflected or refracted through the ineffable absolute to return its identical-opposite, Emptiness. And, as a corollary, a solid has reflected off the absolute in the form of a fluid: The Inverse Unified Field.

It is quite an interesting time in history that modern Physics has reached the EXACT inverse of the truth necessitated by the metaphysics of causality and esoteric science. By abandoning rational philosophy, with its irreducible nondual aspect of extension, the physicists have “somehow” (*ad hoc* and acausally) reached the simple axiomatic level of the Inverse Unified Field, or a “unified nothingness,” which is now only describable by similarly causally-empty and abstract entities such as “curved-space,” “extra-dimensions,” “probabilities,” “randomness,” and “uncertainty,” because nothingness—whether pseudo-extended as an existing nonexistence, a void, or non-extended as a point-particle—does not, and cannot ‘possess’ real properties or causality.

This logically-derived unity (inverted or not) is ironically quite an accomplishment and a testament to the self-correcting power of empirical mathematics, driven by a medieval foundationalism, and operating on blind (acausal) quantitative logic in the face of human misconception and misinterpretation.ⁱ

ⁱ The unconscious metaphysical inversion of substance into its opposite, the void, with its incompatibilities and nonfunctional paradoxes shows directly that physics is incorrect at the very

“The Road to The Looney Bin”

This section is taken from Lebau’s *In the Beginning there was God*. A favorite and humorous passage explaining the absurdity that has become of the “atomic” paradigm.

The following quotes are from a book called “The God Particle”, Houghton Mifflin Co, Boston New York, 1993; by two fiction writers, Leon L. Lederman and Dick Teresi, one of whom won a Nobel prize in Physics. That book summarizes the historical record and the state of theory in 1993, for which the authors obviously are not to be blamed.

...

The God Particle summarizes “for the layman” the historical state of the art at the moment (so to speak). We will look at it a moment longer, starting at page 33.

Lederman [L, below]: I bet you’re speaking of the atom, the atomos.

Democritus [D, below]: Yes, the a-tom, the ultimate building block of all matter.

(pg 43):

D: However, what you scientists call the atom is not what I had in mind. ...

L: ... Those guys jumped the gun. They thought they had found your atoms. But they were still many cuts away from the ultimate cheese. [Sic!]

D: And today you have found it?

L: Found them. There’s more than one. ... They have shape [my italics], but are otherwise structureless. ...

L: So you Greeks accepted the concept of space. The void.

D: Sure. ... You moderns accept nothingness unflinchingly?

L: One has to. ...

L: So, to sum up, your universe is quite simple.

D: Nothing exists except atoms and empty space; everything else is opinion.

core of its reductionist paradigm, the solid-/particle-bias. When the model finally becomes too top-heavy, with its umpteen-dimensional, semantically void, space-time knots leading to ultimate incomprehensibility, then the whole thing will flip right-side up again in the true nature of a scientific REVOLUTION. See *SpinbitZ: Volume II*.

[With particles of “force” (pressure) added, that’s their false opinion.]

... I know that my countrymen rejected the a-tom, the ultimate particle. I understand that people in 1993 not only accept it but believe they have found it.

L: Yes and no. We believe there is an ultimate particle, but not quite the way you said. ... At this stage we have a small number of a-toms. We call one type of a-tom “quark” and another type “lepton”, and we recognize six forms of each type. ... They are indivisible, solid, structureless. ...

We think the quark [“matter particle”] is pointlike. It has no dimension, and, unlike your a-tom [or anything real], it therefore has no shape. [“They have shape” but have “no shape”?]

D: No dimensions? Yet it exists, it is solid?

L: We believe it to be a mathematical point ... [What is the shape of a point?] The apparent solidity of matter depends on the details of how quarks combine with one another and with leptons

D: ... I can accept this quark, this substance with no dimension. ... [I can’t!]

L: The quarks and leptons combine to make everything else in the universe. ...

D: How do these quarks combine?

L: There is a strong force between quarks ... that behaves very differently from the electrical forces, which are also involved. ... The quarks are actually held together by particles we call gluons.

D: ... Now we’re talking about a whole new kind of particle. I thought the quarks were it, that they made matter.

L: They do. But don’t forget about forces. There are also particles we call gauge bosons. ... Their job is to carry information about the force from particle A to particle B and back again to A. Otherwise, how would B know that A is exerting a force on it?

[Their hang-up was empty space. How indeed can empty space exert a force on A or B. How indeed can a “particle” of force (pressure) exist in empty space. Rather, separate particles A and B do not exert a force on each other. Being mutually embedded in the field material, they alter the local sorce-density gradients ($\text{grad } s$, a function of $\text{grad } r$) in that material.

That pattern transmits back and forth in all directions through the intervening medium thus into each embedded particle. The “force” arises inside each affected particle. Particles plus void doesn’t work.]

...

L: The gauge bosons or force carriers or, as we call them, mediators of the force have properties -- mass, spin, charge -- which in fact determine the behavior of the force. So, for example ...

Me: Perchance have the “particles of matter” been mistaken to be the “particles of force” and vice versa?

L: So, for example, the photons, which carry the electromagnetic force, have zero mass

Me: $e=mc^2$ says, No they don’t! They have $e/c^2 = hf/c^2$ worth per sequence. And anyway, they are not an electromagnetic force; they are variations in the electromagnetic field. And anyway, if they have zero mass then why do their paths bend in a gravitational field? [Because the variable density refracts them. Shhh!]

L: ... the photons ... have zero mass, enabling them to travel very fast. [That conclusion is a non-sequitur.] ... The strong force, carried by zero-mass gluons, also reaches out to infinity, but the force is so strong that the quarks never get very far from one another. ...

L: Quarks are building blocks of a large class of objects we call hadrons. This is a Greek word meaning heavy. ... It takes three quarks to make a proton. ...

D: And it all starts with quarks. ... And that’s all you need.

L: Not exactly. You need something that allows atoms to stay together and then stick to other atoms.

D: The gluons again.

L: No, they only stick quarks together.

[Littlest: ‘Smagic! How dooze they know the difrince?]

D: So [electrons] are gauge bosons, too, like photons and W’s and Z’s?

L: No, electrons are particles of matter. They belong to the lepton family. Quarks and leptons make up matter. Photons, gluons, W’s, Z’s, and gravitons make up forces. One of the most intriguing developments today is that the very distinction between force and matter is blurring. It’s all particles [and voids]. A new simplicity.

Littlest: Hee hee...

The definitions of the vectors had blurred. A magnetic force and an electric force took the place of $\text{grad } s + \text{grad } r'$ --> radiating electromagnetic field, a continuum of consecutive points in which the "+" is not numerically additive.

...

L: ... We believe this: there are twelve basic particles of matter. Six quarks, six leptons. ... they were all here on an equal footing during the Big Bang, the birth of the universe.

D: And who believes all this ... ?

L: All of us. At least, all the intelligent particle physicists. [NOBODY? Shh!]

... There are also six antiquarks and six antileptons and --

D: ... Great Zeus's underpants! [Holy sh Shh! 'Snot what he meant? SHHHH!] ...

D: ... The quarks – they're all pointlike, dimensionless; they have no real size. So, outside of their electrical charge, how do you tell them apart?

L: They have different masses. ... It's even worse with the gauge bosons. The sensible theories say that their masses should be zero, nothing, zilch! But ---"

I overheard another conversation just then. Sort of went like this:

+F: "Hello. I came to tell you that Q2 just exerted a repulsive quantum of force on you. I'm it."

Q1: "What's a Q2?" "Oh just another quark, a matter-particle. Q2 is the one over there on the other side of that empty space through which I just came." "I don't see it!" "Of course not. It has no size, nadda, zip, zilch. Just like you." "Hymmm... just like me? So how did you find me? How wonderful!"

-F: "Hello. I came to tell you that Q4 just exerted a quantum of attractive me on you. Move closer." "[Ditto, above.]"

nF: "Hello, Q5. I came to tell you nothing's happening." "Who needs you? I already knew that." "Well, the table of organization demands that I spin over to tell you anyway." "Get out of here!"

nF: "Oh boy. There comes an invisible point moving toward me. Knock knock."

Q6: "Who's there?"

nF+: "Gedowda boson." "Gedowda WHO?" "GEDOWDA HERE!" As Q6 recoiled in shock, nF chortled in impish glee,

"Plus and minus are relative to the observer, and I just got oddly even."

nF: "Oh boy. I'm catching up to a departing quark this time. Hello, Q3. Q2 is exerting a fraction of an indivisible quantum of attractive me on you. Don't worry. Once you stop running away, I can't do anything." "[Ditto first conversation, with Doppler mentioned in the middle.]"

nF, puzzled: "Hey! Why you run away again? I din' tell you nothin!" "Oh, a graviton just whispered a different message in my ear." "A graviton? No such messenger in our table. I don't see any around here."

Q3: "Of course not. It's a boson. It has a frequency, thus a wavelength, thus extension. Just like you."

fpnF: "Hymmmmm --- just like me. No wonder no one can see it. We can only see invisible things with zero size, like you." "Like me? How can I have zero size when I am a particle of matter?" "Oh that's obvious. Any body that has more than zero size was found to be compressible. Since matter is incompressible, it is clear that you therefore have zero size." (There is no way to further shrink an extensionless point.) "That's also why you quarks were so easy to find, while SHE remains missing." "Who is 'Miss Ing'?" "The God Particle. No one ever saw Her." "I guess that's why she's still a Miss. She must be very big, to be called the God Particle." "Oh no. She has enormous energy. The more the energy the shorter the wave, you know. That's why She's still amiss. Takes more money than anyone put up, to make one." "Make one? Don't She exist otherwise." "Of course She do -- does. All over the place. But don't forget, infinity times zero equals zero, so She is infinitely larger than an infinity of you. That's why we can see you, but not Her." "Is she very strong?" "And how! She can hit you with 90 Tillion amperes per square meter."

The poor extensionless quark wandered away toward the G-field, terrorized at the thought that it might at any moment be hit broadside by a tremendous Miss of 90 Tillion amperes per square meter. "Brrrr.... let's see... how much is that per square nothing? --- I wish I knew mathematics..."

Oh well

D: ... Using Pure Reason, I don't see why matter should have any mass at all. [Note. Leon Lederman - or was it Dick Teresi -

wrote that thought, not Democritus. It is very sensible. Raw matter - 90% of the universe - has no mass.]

D: ... What gives particles their mass?

L: It's a mystery. ... We suspect that mass comes from a field. ... Our theoretical physicists call it the Higgs field. It pervades all of space ... tugging on matter, making it heavy. [hee hee SH.] ... The field is represented by a particle we call the Higgs boson. ... We haven't found it yet.

D: Why do you believe in it?

L: Because it has to exist. The quarks, the leptons, the four known forces -- none of these make complete sense unless there is a massive field distorting what we see, skewing our experimental results. By deduction, the Higgs is out there.

Me: Hoo hah. They are looking for the continuous field made of separate particles. Given the technology, no doubt they can also manufacture a Higgs boson. And then another, smaller category of non-existent point-particles with spin and charge and wavelength and mass and energy and SHHH

We are now told that matter is made of particles that don't exist (have no extension at all); that particles of pressure -- measured in voltages of energy rather than wavelengths or dynes, because wavelengths need a size and a material-actor thus can't be treated as per modern Nobel-prize winning fiction -- bring them messages; thus that everything is made of nothing, acted on by particles of pressure existing in and exerted by the very same empty nothing.

And so at last I admit to an error in my metaphysics. A void does exist. Several hundred thousand of them. Locked in some ivory towers with eyes that don't believe what they see; ears that don't allow reasonable questions; tongues that speak only in mystic signs and symbols; because right where there should have been a brain, there's "The void"!

What happened to "empathy"? Oh I'm just kidding. It's not their fault. A false premise leads to false conclusions. Not their fault. Blame it on Democritus.

Causation and the “Anima Mundi”

It is impossible to conceive anything without a cause; the attempt to do so makes the mind a blank. This implies that there must be a great many scientists walking round with blank minds! — H.P. Blavatsky The Secret Doctrine

To avoid falling into empty abstractions with no empirically-derived analogy to guide us, we must ask ourselves at every step along the way, “What is PHYSICALLY happening in this process?” Without recourse to the answers gained by such a simple question there is no way of verifying that we are on the right track. There is an increasing number of abstract ways to conceptualize any particular data set. It is important, therefore, to let what we know of physical reality itself—namely transitive or apparent causation—guide the way through its labyrinth.

At its root, transitive causation is the continuous chain of “matter in motion” symbolically simplified into an irreducible polarity and interface of cause and effect. Since substance is infinite and continuous so is causation omnilocally active and applicable on infinite scales. Thus the term “animate” can once again be scientifically applied as intrinsic to “matter” because one can, in principle, never reach a fundamental, indivisible, intrinsically inanimate portion of matter. This, as discussed in *SpinbitZ: Volume I*,ⁱ is the essence of Ilya Prigogine’s resolution to the problem of the arrow of time in thermo-dynamics. He called this infinitely deep matter, “active matter.”

The infinite continuum of causation and action has thus resurrected the vitalist “living matter” from a premature mechanistic burial. Here we see the proper union of mechanism and vitalism through the concept of the infinite continuum of causation. Mechanism is discrete, superficial, and simplistic—found thus in “simple machines,” with their laws of

ⁱ (SZ: Univocity and Deep Infinity)

entropy—while vitalism, and nature herself is continuous, infinitely deep, and complex, coupled with entropy defying self-organization and complexification. Vitalism is at the root, however, because it is pre-existing organisms that create simple machines. Furthermore, substance can only be conceived rationally and logically as infinitely complex and animate. Thus all mechanism is made from stabilized flux ($e=mc^2$), which can after-the-fact be simplified mentally and artificially into abstract, mechanistic components.

Substance and Compressibility

Sorce Theory takes the assumption of the *physical* reality (as opposed to an exclusively mathematical existence) of the “zero-energy superfluid” known as the “quantum vacuum.” The underlying assumption is that space is “filled” or perhaps “consists of” a continuous, compressible, frictionless, fluid, material medium. It is continuous yet entirely inhomogeneous with a highly variable density and pressure.

Substance, or matter in Sorce Theory, is a continuous, compressible and inhomogeneous fluid whose infinitely divisible, abstractly definable “portions” can undergo motion unlimited in distance and size but with a finite velocity. The concept of motion, after-all, necessitates finite speed—an “infinite speed” would be an oxymoron and an absolutism. The abstracted “portions” of substance, though continuous and contiguous, are not tied together by some semi-solid elastic strings or mesh of continuity. They are, rather, parts of a continuity of infinitely divisible (thus ultimately indivisible) all-touching fluid substance, bodily movable within itself and at infinite scales of size. When a local portion moves there will be compressible fluid material to continuously take its place and flow around it by compressing in front and expanding into the region behind it leaving absolutely zero gaps in infinite continuity.

Substance is a compressible fluid which, due to entropy, resists compression; more so the further it is compressed. This enables the substance to eternally “seek equilibrium” and

propagate a disturbance indefinitely in the act of trying to equilibrate it at a finite speed. It is this equilibrating expansive tendency which enables density gradients to exist in the first place (logically speaking), and to persist. The equilibrating property actually causes contraction of substance to occur in specific types of motion (rotational motion via the Venturi Effect for instance, as we will see) and to stabilize into tangible, interacting or “massy” particles occurring self-similarly on multiple scales of size.

From Lebau's *In the Beginning Was God*, we find:

A compressible material substance permeates all space everywhere. A compressible material can move within, around, upon and through itself merely by deforming and changing the volume bits of it occupy during such motions. Example: Consider a solid glass globe, say as large as our solar system, with a spherical red portion 1 inch wide embedded in it. Letting glass be incompressible, nothing could enter that globe and the red sphere could not move at all. Now consider a hollow solid glass globe filled with a compressible material – say air – with a spherical red marble 1 inch wide embedded in it. Letting the globe have a portal into it, anything could enter or leave and the red marble could move all over the place. We could, for instance, insert many more red marbles into the globe merely by compressing the air that already completely filled it.

A compressible material can conduct pressure changes merely by bodily deforming in the act of conducting such changes through itself. An easily movable compressible material can form into all the many-patterned things that constitute particulate matter.

The problem of common conceptions of fluidity is the assumption of incompressibility. If a singular substance is incompressible then neither flow, nor motion can result. If the substance is continuous, yet inhomogeneous, and highly compressible then this substance can compress locally into density gradients (through mechanisms explained below) and these gradients can move through the continuous but more tenuous environment of the same substance which forms them. It can do so because the substance is compressible and can also

be taken into the stabilized structure of the “particle,” or matter-unit. The particle can travel through this substance in the same way that a tornado can travel through the continuous and inhomogeneous air which composes it. An atom is no different in this general regard; it is a rotational configuration of the substance in which it exists. There is no reason to assume that a compressible inhomogeneous continuum couldn’t move and act as a fluid.

Lebau continues:

In debating the consequences of Thales’ opening theme, the Greek Philosophers’ dialectic omitted one “yes or no” question. Without asking it, evidently they assumed the answer is No; and proceeded on that assumption. There is therefore an unstated postulate, a hidden premise, at the heart of every theory leading to and included in those of today. To discover that question, thus the secret premise that still persists, we will glance at “Science and First Principles”, by F. S. Northrop; The MacMillan Co, N.Y. 1931; pg 8,

“It was an event of no mean significance when Thales and Heraclitos observed the two extensive facts of stuff and change, and Parmenides noted that the fact of stuff involves the principle that the real is physical.

“Once this was recognized, Parmenides had no difficulty in proving that the two facts of stuff and change contradict each other, if nothing more is assumed. The proof is absolutely sound; and so brilliant in character as to be almost humorous. Change, he said, must be due to generation or motion. It cannot be due to generation for that means that the real changes its properties, and is incompatible with the principle of being which stuff entails. But neither can it be due to motion, if stuff is conceived as nothing but one physical substance or many microscopic particles. *For motion requires that a thing moves from where it is to where it is not. If nature is nothing but the stuff which moves, there is no ‘where-it-is-not’; and hence motion is impossible.* The difficulty is not escaped by regarding stuff as many, rather than one. For the motion of many particles involves a ‘where-it-is-not’ as much as the motion of one; a difficulty is not met by

multiplying it many times. *Moreover, there cannot be many particles if nothing but the stuff of the moving particles is supposed to exist. For manyness requires something to enable one to distinguish between one atom of stuff and another, and this is impossible if nothing but the stuff of the atoms exists.* The essential point in the latter argument is not so much the need for an intervening space, as the necessity of something to designate the difference between one particle and another.”

The kinetic-atomic theory, that matter (or energy) is made of discrete ultimate separate particles, is the primary plank in the scientific paradigm of today. Taken together with the portions I italicized above, it is supported by the belief summarized in Northrop’s sentence, “The proof is absolutely sound; and so brilliant in character as to be almost humorous.” But that proof rests on the unstated answer to the unasked question:

Is matter compressible?

It is a very simple question, with a yes or no answer. Without asking the question or perhaps even knowing it exists, present Theory rests on the answer: No. The single basic premise beneath the paradigms of modern science was introduced by the No assumed by the Greek philosophers thousands of years ago.

The “brilliant” argument is valid if and only if matter itself, the Ylem, is *basically incompressible*. Indeed, the entire ultimate-particle theory of matter rests on the very same assumption. At the far end of every consequence based on that opening premise lies total mystery. As of now the mystery is blamed on the way God made the world, rather than its real cause: The primary premise is false.

All fluid theories tacitly assume these faulty premises. Number one that basic matter is incompressible, and the consequence of that assumption is that basic matter, in order to move, must be interpenetrated by void spaces in which it can incompressibly move from where it is to where it is not. These ubiquitous faulty assumptions are why the “fluid-space” models have

always failed and must resort to the introduction of extra-dimensions or some other such hypothetical, nonsensical notion to retro-fit the theory to the observations.

Aether

The amorphous aspect of substance Lebau calls “ether,” though I prefer the old spelling ‘aether’ to differentiate it from the classical solid ether that the Michelson and Morley experiment failed to detect. As simply the “continuity aspect of matter,” aether, in Sorce Theory, is ultimately a function of perspective because all zones of apparently discontinuous matter are composed of deeper levels of effective continuity—i.e. basement levels—and they are always part of a larger structure. In turn, all matter is part of some larger organized, relatively continuous density/pressure structure i.e. atoms, planetary systems, galaxies, etc. all of which are patterns of substance, ultimately.

The common ideas of discontinuity and continuity refer to the relative scope of modification. This is simply differentiation or inhomogeneity, not absolute discontinuity.

THE BASEMENT LEVEL AND THE PRIMARY FORCE

Sorce, Electricity and Polarity

Recall that in the EOTC of the basic items *sorce* represents the primary force. Recall also that *sorce*, as pressure, has an intrinsic polarity between positive and negative in relation to a common ground pressure. In Sorce Theory, electric charge is basically just this unequilibrated *sorce* or aetheric pressure, but it must be stressed that contained within the history of electricity is an unfortunate reversal with respect to causal models such as Sorce Theory.

Indeed, as the focus of the atom, the charge of the proton was declared “positive,” and the charge of the electron “negative.” With respect to pressure, however, this charge is reversed. The spinning of the proton imparts a *negative* venturi pressure in the region surrounding its boundary—its charge field within and without this boundary is thus negatively pressured. The *positive* pressure drawn in around it and organized in harmonic response, however, is what gives rise to the shells of the electron. The positively charged proton thus possesses a negative pressure, and the negatively charged electron possesses a positive pressure.

Naturally, in line with our self-similar cosmological vantage point, and fully in line with the emerging Plasma Cosmology models, the electric-sun model shows that stars, such as the sun, are the positively charged (negatively pressured) anodes of the solar-circuit. Indeed the constant acceleration of the solar

wind—mostly protons—demonstrates the charge field of the sun.

Given that the electric force is then the most primary of our known forces, it is no wonder that this force, closest to sorce, is 10^{39} , or a thousand trillion trillion trillion times, stronger than the tertiary force of gravity. As we will see, however, it is only the organization of sorce at the focal point interface of the nucleus that imparts the “strong force” with its thousand-fold power over the electric force. But this function in organization also limits the actions of the strong force to the vicinity of the nucleus. Without the nucleus, sorce itself couldn’t transform into the nuclear force. And at its roots, this force is ultimately just an extreme configuration of our primary force, which explains why the nucleus breaks down ultimately to electro-magnetic energy in $e=mc^2$.

The roots of the polar nature of force as either attractive or repulsive reside ultimately in this positive/negative polarity of primary sorce, as it manifests in the nature of the equilibration of wave-motion through matter. If a wave or the wave-nature of a particle passes into a sufficiently rarefied density gradient, the waves, or the waves within that particle will be refracted toward that density gradient. This is the simplified source of gravitation. If, however, the density gradient into which it passes is sufficiently steep and dense, that wave or wave-nature will be reflected. This is the simplified cause of repulsion. We see this same effect at the surface of water, for example, where the steepness of the density gradient is sufficient to reflect many of the waves away from it, while refracting others within it.

The polarity of a magnetic field has a different structural origin than that of an electric field, however. But, both have a common root mechanism in pressure. An electric field finds its polarity in the positive and negative deviations from the average pressure of a local zone. A magnetic field, on the other hand, is an involuting/evolving harmonic equilibrating wave-system. The polarity of an m-field arises due to the symbiotic

differentiation between the extremes of involution at the “north” pole and evolution at the “south” pole.

Waves: E, M and Perpendicularity

When a sorce pulse (positive-negative balanced em wave) propagates it requires the parallel to-and-fro motions of the medium simultaneously out of the rarefaction zones into the concentration zones, and oscillating vice versa. Because the medium is fundamentally, if imperceptibly inhomogeneous at all levels (and due as well to the abquom), the to-and-fro wave motion will have relative internal differences of motion and interfaces with other material in motion. In other words, it won't move entirely uniformly. This relative to-and-fro motion, parallel with the motion of wave-propagation, sets up Venturi effects within the medium surrounding the internal inhomogeneities and interfaces of this relative fluid motion. These Venturi effects are pressure disturbances perpendicular to the parallel motions of the primary longitudinal wave (as defined by the Venturi effect). And their equilibration via fluid motion perpendicularly toward the initial wave motion sets up other Venturi effects, indefinitely, into smaller and smaller diminishing effects. These perpendicular wave systems generated by any flow of pressure or sorce (i.e. electric charge) are the source of magnetic fields, as they interfere and reinforce into stabilized patterns.

This Venturi perpendicularity simply and causally accounts for the currently mysterious perpendicularity between electricity and magnetism. So we see that every primary wave generates secondary perpendicular waves which themselves must generate tertiary perpendicular wave-systems, which would be parallel to the primary wave, etc. etc. *ad infinitum* as the effect diminishes in energy and size—each scale of motion and distortion effecting the motions, refractions etc of the others. This vast complexity is what gives rise to the ergodicity of the fine-scale structure of atomic spectra under magnetic stress etc, and these perpendicular self-interfering and self-reinforcing wave-systems are the essence of magnetism.

Magnetism is not due to involuting aether flow. It is due to wave harmonics of an involuting/evolving omni-relational coherent and resonant wave system. The mechanism for attraction and repulsion is the same. It is the mechanism of dissonance/resonance and the pressure generated which forces harmonic unity and reorientation between two interacting fields.

THE BASEMENT CEILING AND SECONDARY FORCES

The Matter Unit and the Monad

Along with wave-harmonic quantizing resonances, the Sorce Theory model of matter-unit (e.g. atomic) formation uses the rotational focusing of the Venturi effect in a high-energy creation process to condense basement-level substance into the tiny space of the nucleus. Around this nuclear interface, the electronic shells are a wave-harmonically quantized, fluid-dynamically equilibrating function.

The atom is described in Sorce Theory generally as an intensely steep, highly pressurized density gradient, formed, self-reinforced, stabilized and organized (quantized) through the waves circularly refracting within it, in reaction to the density gradient which they are reinforcing. This is a circle of cause and effect, and it is why, as Leibniz says, the monad (our atom or matter-unit) is not formed in parts, but as a whole. The waves and the density gradient mutually reinforce the persistence of each other, though we have not yet described how the precise quantized shell structure is formed in Sorce Theory.

This model, starting from ground-zero, eliminates all preconceived and unproven notions and interpretations, contradicting much of what is generally taken for granted. For instance, in Sorce Theory there is no need for the concept of a photon as a particle. Indeed, it is the unnecessary and purely interpretive particle concept of the photon that generated the

wave-particle paradox in the first place. Sorce Theory does away with this aspect of the particle-bias through its understanding of the harmonically quantized structure of the atom. It is the nature of this shell structure to interact with continuous light in its own quantized terms, that leads to the quantization of energy detection. The idea that this quantization is a function of light or energy itself coming in via “packets” or particles is a purely theoretical construct, and a problematic one at that.

This purely causal explanation, as we will see, gets rid of the problematic “wave-particle duality” and the particle-bias infecting physics and moves us closer to Planck’s own preferred explanation of his quantum constant; a threshold model in which energy is essentially continuous but merely quantized in the act of detection.

Matter-Unit Formation

Note: For the following, it will be helpful for the reader to refer back to the Basic Items Evolutionary Tree, Figure 15, p159, as well as (and perhaps most usefully) the Basic items Embryon chart, Figure 16, p166.

At the conceptual core of this theory—where the continuous and the discrete join forces—is the model of the formation and structure of the atom (the matter-unit) and the quantization of its energy shells etc. This atomic, quantized shell structure, as noted, in harmonic reaction with impinging wave systems, accounts for the quantization of the detection of these various energy forms, and thus for all of our empirical evidence of the quantum. The quantum exists in the atoms of the detector, not necessarily in the detected. And thus we enter into the luminal realm of the interface between the basement ceiling and the first floor. This is the quantizing interface of the atomic structure itself.

The following is a very general outline of the formation of the matter-unit, adapted from the writings of Lebau.ⁱ Due to the limited capabilities of the written medium, however, the outline is linear and segmented where it needs to be continuous, nonlinear, massively parallel and simultaneous. I will try to point out these portions the best I can so they can be synched up in the imagination afterwards.

Note the properties of superfluids to form “meta-stable vortices.” These vortices form readily in superfluids and remain indefinitely given their effectively zero friction and viscosity. The atom itself, in Sorce Theory, is such a meta-stable vortex. But given the intense compressibility of the “zero-energy superfluid” of the “quantum vacuum”—i.e. the aether, minus the already compressed atoms floating along for the ride in common superfluids—the atom has vastly intensified properties of stability and density.

Consider a local field of dilute and effectively amorphous or homogeneous *frictionless*, and highly compressible “ether” with a background pressure (sorce) of 10 units per square inch. Imagine that a decrease in pressure occurs in the center of this field. This constitutes a pressure imbalance. The surrounding material will be pushed toward the low pressure zone in the process of neutralizing it. As this happens, the pressure will decrease in the zone from which the material had moved, only to increase in the zone to which the material flowed. The imbalance thus propagates outward as each depleted zone is filled by its surrounding regions, depleting more zones, creating more imbalances and on and on. We will call such a propagating disturbance a wave and it actually is an electromagnetic wave.

Imagine now that a portion of this same homogenous material begins to spin energetically, from whatever one of myriad possible causes. Due to the Venturi effect, the pressure in the surrounding medium will decrease perpendicular to such

ⁱ Adapted from the file “Anphe1aB.”

a portion of circularly flowing or spinning material. Accordingly, upon *both sides* of the interface of relative motion—between the flowing and stationary regions of the spinning portion of substance—the pressure decreases. To equilibrate the newly created lower pressure zone, some of the adjacent material will flow toward the interface from both sides—the inside and the outside of the zone—until the density increase has restored a uniform pressure throughout the now variable density zone.

Before we continue, note that this simple application of the Venturi effect coupled with the function of spin shows generally how a continuous and homogenous unified field can be converted into, and accommodate a variable density region in the genesis of a proto-particle. Note also, however, that this is not supposed to represent a universal creation event of any kind, and that Sorce Theory doesn't hypothesize any creation event at all, but rather accepts an infinite and eternal universe.

Motion, through Venturi etc, causes variations in pressure which equilibrate to variations in density, converting the homogenous density zone into a variably pressured zone and then through equilibration into a zone of variable density. If the motion is radially localized via rotation or spin, the Venturi effect will be focused inward, and the density variation needed to satisfy the pressure differential will be localized and concentrated as well since the direction of equilibration is perpendicular to the circular/spherical interface of motion. Thus it is motion in the form of rotation that begins the conversion of homogeneity into a discontinuous particle. It is spin that generates bits.

To continue our story, in accord with the Venturi effect, this thereupon increased density around the spinning portion (our "proto-nucleus") is greatest at the interface of relative motion and decreases by the square of the distance outward and

inward (perpendicular) from that interface of relative motion.¹ This “eye of the storm” interface effect is seen in vortices such as tornadoes and hurricanes, as well as in other electrical vortices, such as Birkeland currents. And naturally the corresponding condensation function in the plasma models—z-pinch—is the source of the formation of the star in the Plasma Cosmology models. The pressure decreases around the interface, and the material flows toward it from both sides (within and without) to satisfy the pressure decrease with an increase in density.

However, the flow of material to satisfy the decreased pressure at the interface essentially spreads the low pressure region outwards from the interface as the equilibration effect propagates outward, and inward, from that interface. There is a very important asymmetry between the outward and inward directions in this Venturi-equilibration process, however. The interface encloses a specific and limited amount of substance, while the amount of substance outside the interface is essentially unlimited. Since there is an infinite amount of external substance to fill in the spreading negative pressure zone surrounding and equilibrating the interface as the available material moves toward it, but the amount of material from inside the interface is quite limited, there will be a resulting imbalance between the limitless external substance and limited internal substance which has already been used to satisfy the decreased Venturi pressure zone at the interface. The pressurized substance has moved from the center to the interface, but there is no internal substance available to replace it with. Meanwhile, the decreased pressure zone in the outer region has been almost instantaneously satisfied by the unlimited amount of substance outside the zone. Thus the pressure drops in the center relative to the outside. Accordingly, the interface will shrink as its material

¹ Note that this perpendicularity inherent in the Venturi effect also accounts for the perpendicularity between electricity and magnetism, as we have seen.

and sorce is drawn into the Venturi imbalance around the spinning interface and away from the core.

As the spinning interface shrinks, however, it will increase in rotational speed (torque) in accordance with the “law of the conservation of angular momentum.” This increase in flow speed or spin will increase the surrounding Venturi effect which simultaneously, and in continuous conjunction, feeds back into the internal pressure drop and contraction by drawing more and more of the limited inner material into the interface zone. In turn, the contraction of the spinning portion causes further increase in torque, Venturi-decrease in interface pressure, movement of inner material into the interface zone, further contraction, increased torque, decreased interface pressure, movement, contraction, torque, etc., etc., in a narrowing spiral of dynamic cause and effect.

Ultimately, when this spiral narrows to its asymptotic limits, a balance will be reached between the global compressibility of the medium and the energy available in the formation process. If the initial conditions (initial energy input, turbulent flow speeds, amount of material present in the rotating zone and the amount available for equilibrating the pressure imbalances that arise etc.) are sufficient, the resultant structure will be a self-stabilized immensely steep density gradient whose square-of-the-distance curvature is achieved and maintained by feed-back processes with its internal wave systems (its electron structure, yet to be explained) in interaction with the emerging rotational Venturi flux-density-gradient of which it is made and in which it refractively and harmonically reacts (We’ll see this below in selections from, and discussions on the chapter “Inx and Rinx,” copied from Lebau’s *The Orb*). It is the intrinsic wave systems (the magnetic fields) of the internal environment of the atom that harmonically generate and continuously regenerate the complex “quantized” electronic shell structure of the atom.

“Inx and Rinx”: The Living Quantum

In Lebau’s originary Sorce Theory work, *The Nature of Matter and Energy*, he put forth his “Theory of Reality,” which has now

come to be called Sorce Theory. In the chapter “Inx and Rinx” he described how the “wave-nature” of the atom generates its own self-stabilizing quantized shell structure in the process of equilibrating its density/pressure imbalances in its formation. For this analysis we’ll need to expand our vocabulary a bit with some crucial terms. Note also that given our earlier considerations on density, I will revert Lebau’s “dinsity” back to “density.” In the kinetic-corpuscular model they are effectively the same thing, the amountness of quasi-continuous matter.

Inther: Matter that has been organized into a persistent shape, a form, may be considered intrinsic material to the particulate object so formed. Such intrinsic ether may be called “inther.”

Exther: is all material which is not a persisting part of a given unit. With respect to that unit, then, all extrinsic ether is “exther.”

Inx: is the influx of exther in a Venturi response to a motion parallel to the core of a unit. “Inx” includes in its scope of meaning the exther, the direction of flow of the causative agent, the core in question, and the sorce imbalance being sated by that influx. Inx has polarity, in that the ether can flow either in or out from the core. Because there is a limited amount of ether within the core of a unit and a limitless supply outside the unit, the tendency is for the inx effect to draw ether into the matter-unit thus increase the inner dinsity.

Rinx: The flow of a local sorce imbalance into the local environment, round about, is termed “rinx”, a sort of round-inx even though the imbalance doesn’t actually flow circularly.

Inx and rinx are the mechanism by which matter-units and their internal (and externally radiating) patterns are formed. Inx-rinx effects remain within the inther of shell-layers of matter-units of any and all levels of the matter-unit hierarchy, but also radiate into the thereby affected surroundings.

Lebau writes:

We have dipped low. Now we shall curve away, for a moment, only to return at a sharper angle. ...

Imagine a spinning globe in space as in [Figure 19, below]. The ether filling that space is under a 10-pound pressure. At the surface of the globe the effective pressure has been reduced to 5 pounds by the spin. How can that 5-pound differential be equalized?

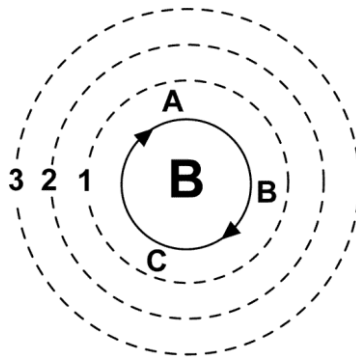


Figure 19: The Orb: Inx-Rinx: Spinning Globe

Consider the imaginary circles drawn concentrically around Globe B. Can any of the pressure decrease on a given line be compensated by drawing upon the finite amount of inther on that line? No. Any inther that began to move around line 1 toward the decreased pressure at points a, b, or c would immediately have to return. So for movements on lines 2 or 3. But ether can move from line 3 to 2, and 2 to 1. There is always more exther outside of every such line to move into the zone under the ubiquitous and relatively constant sorce, so as to equalize that local imbalance.

Further consideration of this concept leads to some interesting conclusions about the importance of relation and direction. When an energy (A) moves radially away from a nucleus, its passage causes a Venturi decrease of pressure

perpendicularly to its path and a consequent sorce imbalance parallel to the surface of the nucleus, along the lines 1, 2, or 3 of inther. A finite supply of inther means a limited material response to the imbalance, hence a “force field.” If and when the moving energy (A) curves upon entering a medium of uneven dinsity, then the force field accompanying it will find itself drawing upon exther, as shown in [Figure 20, below].

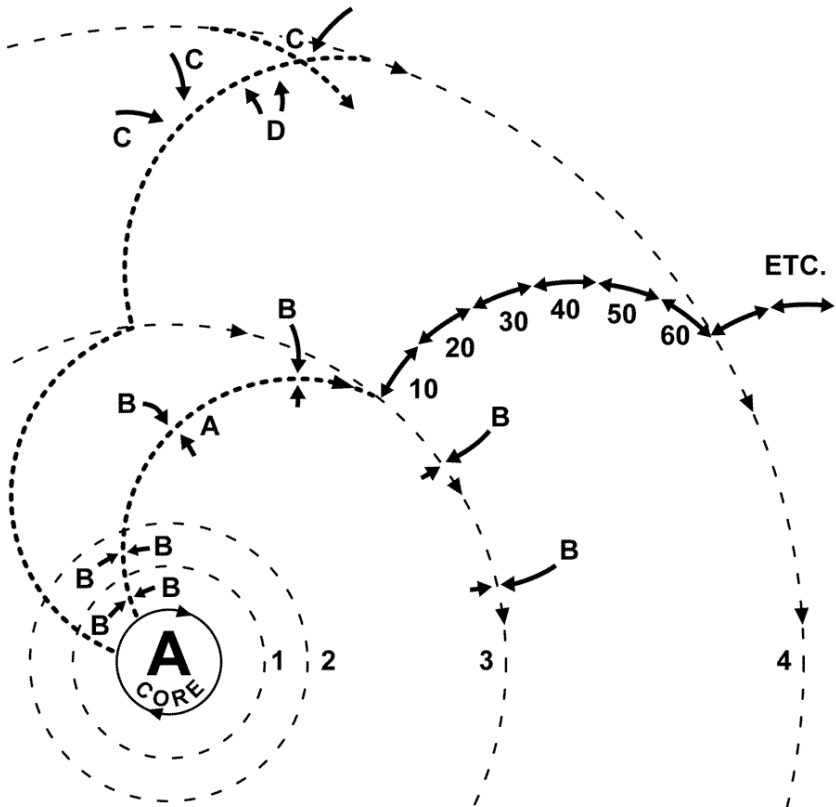


Figure 20: The Orb: Inx-Rinx: Radiating Curves

There is an infinite amount of exther available to compensate for the sorce imbalance (force field) by flowing into the zone so as to equalize the sorce.

The degree of curvature of the path of the moving energy will depend upon the absolute density and the density gradient of the traversed field in relation to the [absolute rate of motion] of whatever moves. Since the density decreases with the square of the distance from the nucleus, the amount of curvature of the departing energy will vary accordingly. Hence, there will be twice as much distance required, successively for each induced energy to curve sufficiently to be parallel to the nuclear surface.

Double arrows 10, 20, 30, 40, 50, and 60 represent inflow of material in response to an outgoing sorce imbalance induced perpendicularly from line 3, by the first outgoing energy A. It is seen that from 3 to 4 is twice the distance of 2 to 3.

This demonstrates the physical cause of shell layer formation, plus the reason why the boundaries are always slightly closer to the core than a pure geometrical sequence would require. That reason is that the influx of exther (inx) is overdone, a bit, to compensate for the negative inx which draws from the finite amount of inther of the core.

The patterns and results of wave or particle energies that originate in, move in or pass through a matter unit are:

1. A venturi imbalance is set up perpendicularly to their path.

2. On that aspect of the path that is perpendicular to the core there will be an influx of exther and/or an unsatisfied outward tension (-inx) in the inther, as in lines D.

3. On the aspect of the path that is parallel to the core, the imbalance will set up unsatisfiable tensions around the core.

The influx of exther in response to a motion parallel to the core of a unit is "inx." "Inx" means more than just influx, though. It includes in its scope of meaning the exther, the direction of the causative agent, the core in question, and the sorce imbalance being sated by that influx. The non-availability of inther to satisfy a line D directed imbalance can be compensated by an excessive exther influx. Meanwhile, the line D directed effect is a "negative inx." The same effects directed round the core, along the lines 1, 2, 3, etc., represent a roundflow, a sort of round inx, or, "rinx." Rinx has no negative direction, since it forms a circle with no start or end. Inx has polarity, in that the ether can flow either in or out from the core. Sorce imbalances similarly can be inxical or rinxical, in direction and effect. A rinx effect generally causes a sorce

imbalance around the core, while an *inx* effect generally causes an increased density around that core. Of course, many conditions can exist whereby the *inx* imbalance cannot draw *exther*, because the *exther* of the *cad* is more strongly drawn and held elsewhere. In that event, the *inx* and *rinx* effects will be similar, i.e., an unslaked imbalance. These *sorce* and density gradients are the source of all force field reactions.

In [Figure 20] it can be seen that the *inx* effect is strongest where the line A has curved to a parallel with the core. It is also seen that the *rinx* effects B gradually merge into *inxes*. The *inx-rinx* field, then, is a resultant, a mixture, in which the amount of either is greatest when that of the other is least.

In other words, within the density gradient of the matter-unit, any propagating disturbance from that rotating core will refract in a curve away from it. Given the steepness of this gradient, ultimately this curve will end up parallel with the surface from which it departed. Given also that this density gradient is a square of the distance function (for reasons we will discuss later), the further away the radiating energy gets from the core the more and more distance required for it to curve to parallel with the core. This is the origin of the distance-squared function of the electron shell structure as seen also, self-similarly, in Bode's law of planetary formation, and empirically in other solar-systems and planetary-moon systems. Note also that this *sorce* equilibration via radiating energies and their influxes is also part of the circular cause of the resulting square-of-the-distance energy gradients. This is because radiation itself propagates and dissipates in *d-squared* functions, and it is this radiation that participates in the equilibration function leading to the electron shells of the atom.

Because *rinx*—motions round-about the core—cannot ultimately satisfy the pressure imbalances generated by the radiating disturbance, it will not get satisfied until it curves parallel with the core and *inx* thus takes over. For this reason, at the distances given by the square of the distance laws, there will be a quantized effect in density via equilibration of these

many and parallel disturbances radiating from the core. See Figure 21, below, from later on in *The Orb*:

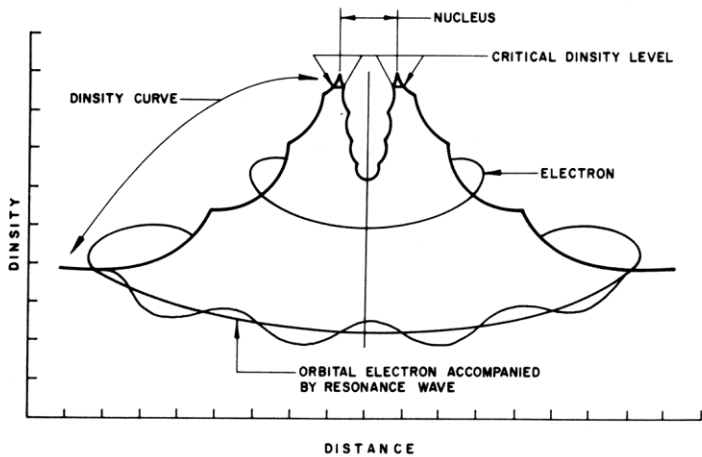
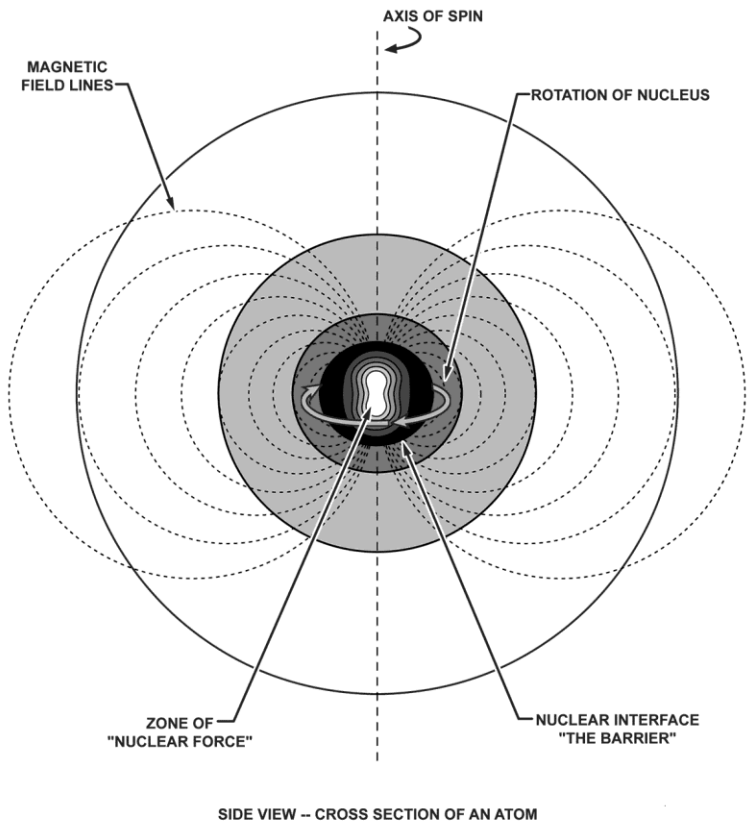


Figure 21: The Orb: Refractions and Reflections: Density Shells

Lebau continues:

In the discussions concerning the nature of inx and rinx we considered the effects of rotating cores. Several details may now be added.

1. A spinning core necessarily has a polarity, since it must spin on an axis. Accordingly, the inx-rinx effect will be variable at different places around that spinning globe with its circulating [internal energy] nodes. The rinx effect, drawing equilaterally along spherical planes concentrically parallel to the core-surface, will be far more constant than will the inx (-inx) effect, which will depend directly on the rate of surface motion, hence on the "latitude".

2. The inx-rinx effect is not limited to spinning cores. It exists around any line of flight of any moving anything. Accordingly, every inx-response of exther will create an inx effect perpendicularly to itself, wherefore inx and rinx each is perpendicular to itself.

3. Consider a flying arrow, for instance. At a given max space-time position of the arrow there will be a decreased inx pressure perpendicularly to the arrow and a rinx imbalance circumferentially around that arrow. In response, exther will begin to flow toward the arrow to satisfy sorce. The ether in the rinx direction cannot satisfy the imbalance because of the geometry of rinx. When the arrow moves on to the next space-time interval, the inx-rinx effect no longer is present at position 1. The ether will go back to its previous position. Although the arrow moves in a straight line, the effects it creates accompany it as a transverse wave from a certain abstract point of view.

4. Since inx and rinx are perpendicular to themselves as well as to each other, the only real difference between them is the geometrical relation to the cause. Depending on that relation, there will be an inx influx of ether and/or a rinx sorce gradient.

5. There will therefore be zones of gradations of density of ether, with perpendicularly superimposed gradations of tension, throughout every [zone].

The Z-Pinch Analogy

To reinforce our self-similar cosmological view of matter-unit formation, take this recent popularization of the Plasma Cosmology model of the formation of stars via “z-pinch” [my comments and ***emphases***]ⁱ

Electric Stars in Action

From an Electric Universe point of view, stars are formed in a “pinch.” Large magnetic fields have been detected in galaxies, and these fields indicate that huge electric currents flow in circuits through the galaxies. ***These current-induced magnetic forces constrict the currents into filaments, twist the filaments around each other in spirals, and “pinch” the galactic plasma into balls, pulling in any matter in the neighborhood until the internal pressure balances the magnetic “pinching” pressure [ontropy].*** This pinch effect is far more effective than gravity in gathering and concentrating matter. And, unlike gravity, it can remove angular momentum that tends to prevent collapse. Stars will form like beads along a galactic wire.

Because electric fluids, like all subatomic fluids and like our superfluid ether, are not ultimately composed of atoms they are vastly compressible. Also, like our etheric superfluid, electric fluids are effectively massless—i.e. their mass is enfolded twenty orders deep at the Planck level. They thus have effectively zero momentum at the level of the star, and accordingly electric fluids have no effective tangential/inertial “centrifugal force.” As with our matter-unit, electric star formation uses the inx-rinx magnified Venturi effect outlined above for its condensing “pinch” process. Again, as in our matter-unit formation, the formation of an electric star is magnified by the “magnetic fields” that form around all currents. But Lebau demonstrates that an electric current is generally a flow of sorce or etheric pressure, and accompanying all such fluxes are inx and rinx effects generating each other at perpendicular angles exactly like we find in the relations

ⁱ (Electric Stars in Action)

between electric and magnetic effects. Thus, Lebau demonstrates, these inx-rinx effects are part of the very mechanism of electro-magnetism and our matter-unit formation becomes linked causally and self-similarly to the electric-star formation. They are essentially different views from vastly different scales of the same process in our self-similar holarchical cosmos. Indeed, given that the electric force is the primary force—our sorce—it is fascinating to note that plasma processes appear to be indefinitely scalable, at least over 14 orders of magnitude. Thus plasma processes occurring in the laboratory can *exactly* mimic those found at cosmic scales. This is one of the great advantages to Plasma Cosmology: it brings cosmology down from its ivory tower of pure theory and back into the lab. This indefinite scaling function is another good reason to see the Electric and Self-Similar Universes as ONE with Sorce Theory's Cyclic State Cosmos.

The Nuclear “Forces”

Given our view of the atom as a vortical, fluid-dynamic phenomenon of the effective continuity and superfluidity of the basement level, this affords us a vastly simpler and more coherent view of the “forces” associated with its nucleus. We will see, as with most forces, they are simply categories of fluid-dynamic and wave-harmonic organizations of our primary force, along with the other basic items. Without this causal understanding the forces themselves become islanded categories, separate from, and irreconcilable with each other as they mysteriously inter-transform into one another.

The Weak Force

The weak force, from this vantage point, can be seen very simplistically as the tendency for the vortical matter-unit structure to de-stabilize under certain dis-equilibrating internal and external conditions. The quantized fluid-dynamic complexity of the atom in its decay process accounts for the

extreme unpredictability of radioactive decay. A radio-active atom was originally created and equilibrated in a much denser environment, such as at the surface of a star or the plasmic focus at the center of the earth. When you take this atom out of this dense and energetic environment it is no longer stabilized. Because of the quantized nature in which its shells must equilibrate via inx and rinx , the atom cannot just slowly and predictably equilibrate to the new environmental conditions. It must do this in “quantum jumps.” The “weak force” is thus not so much a force as a simple fluid-dynamic tendency for decay in the variable conditions of a meta-stable “zero-energy superfluid” vortex.

The Strong Force

Similarly, we can see the strong force as merely a function of the organization of sorce in the nucleus of the atom. The strong force is the extreme condition of density and pressure existing within the interface region of the nuclear barrier of the vortical system of the atom. It is the densest part of the atom (far denser than the surrounding external substance) and it separates the internal nuclear wave systems—and the vast energy condensed within—from the external wave systems which are the electron shells. This is why the strong force has such a limited range of action. But it is the intense steepness of the nuclear wall that provides the sorce reaction in the nucleus with its thousand-fold strength over the raw electrical force. Without this organization in the nucleus itself, however, there is no nuclear force, and it dissipates into pure electro-magnetic energy in $e=mc^2$. Lebau continues from *The Orb*:

In previous chapters we saw how rotations of a nuclear core, plus circulating [energy] nodes within it cause an increased density around said nucleus. We also saw that the nucleus must shrink and condense enormously increasing its rate of spin and compensating density as this happened. We then saw that the inx-rinx effect would create layers, of variable density superimposed on the regular square-of-the-distance rate of density decrease in that circum-nuclear cloud. Similar effect

must take place within the nucleus, for the same reasons. The circulating nodes, plus the decrease of sorce-pressure at the spinning nuclear interface (via the Venturi effect), will cause the inther to condense toward that surface so as to create a reverse, accentuated image of the shell-layers. Accordingly, we expect that the nucleus has a central vacuole with a minimum intranuclear density-sorce value, surrounded by an extremely steep gradient that attains maximum intensity at the limits of that nucleus. [See Figure 21, above] The nuclear boundary limit is “the interface.” It is a very high dinsity barrier which delineates the nucleus. ... (It is also possible that the nucleus may be densest at its waist, since that is where the spin creates the fastest linear speed, thus the strongest Venturi effect. If so, the nucleus should be shaped like a dumbbell, with all internal circulating inergies orbiting within the densest torus-zone at that waist. The torus-zone, in turn, might rotate like a curling smoke-ring, following the right-hand rule as to direction. ...)

Note how this view exactly conforms to the z-pinching hourglass figures of “planetary nebulae,” excited or “exploding stars” such as Eta Carinae (see Figure 22, below). Note as well the idea of a central torus surrounding the “waist.” This is identical to the Plasma Cosmology structure of the star, thus strongly reinforcing (no pun intended) our self-similar cosmological view.



Figure 22: Eta Carinae.

Lebau continues:

[Figure 21 bottom, p219 above] is a gradient curve, providing a graphic representation of the changes of density concentration, i.e., the $\ln x$ field, of that atom. The shell-layer variations of gradient are superimposed on the regular, square-of-the-distance curve, demonstrating once and for all that the gradient always possesses the equivalent of a wave structure.

At the nuclear section of the gradient curve we see a very deep, steep “nuclear well.” The sides of that chasm show the various plateaus analogous to the shell-layers outside the nucleus. The various electrons, protons, etc., orbit or resonate on or between such inner or outer plateaus. The “critical density” zone for that atom, with respect to average wavicles, is also indicated. Above it, the increasing-density, decreasing-interval relation converts waves into particles. It is probable that the exact value of the critical density point varies for different speed and strength pulses, but since the nuclear barrier gradient is so severe, such differences of value must reside in a narrow band of that barrier.

[...]

The fact that protons stay within the nucleus in spite of mutual repulsion, while electrons stay outside of the nucleus in spite of protonic attraction, re-enforces the decision that the internal nuclear gradient is a (much steeper) reverse image of the outside gradient.

These gradient effects agree with the mathematical curve for “nuclear force” in present physics. Indeed, this mechanism must be precisely what “nuclear force” actually is!

Note that we will see this internally layered structure of the nucleus and the proton in later experimental findings by Alan Krisch. This passage from Lebau’s 1965 *The Nature of Matter and Energy*, is thus a prediction of later empirical findings—still anomalies in the Standard Model—about the structure of the proton. See *A Successful Sorce Theory Prediction: Quark Quirks and the Shell-layered Proton*, p258.

FLOOR ONE: MU-INTERACTIONS AND TERTIARY FORCES

A Mythical Creation Story: The Fall from Infinite Superposition

Long, long ago, in a universe far beyond the bounds of time and space, there rested peacefully a vast nothingness of pure primary bliss. One day, who knows how or when, a disturbance in the force of this edenic void was created. Perhaps someone sneezed, “Let there be Light!” It’s hard to say. There were no records made but this little wave itself, and all it could remember, as it zipped through the void, was a whole lot of nothing.

This wave then decided to itself that it could not be waving in a universal void. “A void simply cannot wave,” it concluded. “Of course this is why any respectable wave avoids a void.” And so if this wave is waving, it reasoned, this void cannot be a void. Thus the wave propagated at the speed of its own light, waving happily, zipping boundlessly around this non-void—refracting, interfering, circumnavigating and super-imposing itself as it pleased without a reflection in the world.

Very soon this wave had echoed through the edges and back of this boundless, non-voiding blissfulness of superposition. It thus had rippled the entirety of the non-void with its harmonic offspring, little speedy wavicles who in turn multiplied, interharmonized and replenished this waving, overlapping cosmos with more of their refracting, wavular, superpositional kind.

These waves, now resonating and dissonating out of control into higher, wider and deeper harmonics, began overlapping, reinforcing stronger and stronger, piling up higher and higher, creating wavicles with more and more ... and even more and more harmonic energy. At first they hardly noticed, but then they started to see that they could hardly even propagate, or even resonate in straight lines anymore. It was getting rather annoying, and downright cacophonous—increasingly difficult to establish which way was out and which was in!

Then one fateful moment two extremely intense wavicles, crossing from virtually opposite directions, refracted *directly indirectly* into each other's hyper-dense centerless off-centers. Spinning tighter and tighter, these solitary solitons approached the inapproachability of each other's coreless non-boundaries, until finally they merged into one stationary, spinning resonant dissonance, caught motionless in this frenzied and undulating bliss of primary force.

The effects of Venturi naturally took over, focusing in on this spinning wavicle, condensing it into a tighter and tighter circle of its own cause and effect; increasing its torque, magnifying its venturi, condensing it further, faster and faster, tighter and tighter, smaller and smaller, until this wave which was two became a teeny tiny particle of one. His name was Atom.

Thus ended the light and speedy era of pure refraction in "infinite superposition" (and superstition). And thus begins the era of sluggish particles and reflection, where no longer can plain folk zip across each other's non-boundaries through the primary force of coreless unified bliss. Now the secondary forces of opposition began to rule the world with their vast hoards and swarms of violently colliding and eerily vibrating particles; hideous, gross, bumbling and spinning bitz of matter, hiding their massive stores of energy even from themselves, in the inconceivable swirling steepness of their strange and tiny mysterious boundaries.

Like all mythologies, however, this is a vast oversimplification. Given that atoms themselves are formed from wave systems of

matter, those wave systems can indeed, and indeed do, refract within other density/pressure gradients. Thus the mythic era of refraction and superposition is not transcended and negated, but transcended-and-included within the “era” of the atom. That is the mystery of its core. It is a wave-system, not merely an agglomerative bunch of particles—protons, neutrons and electrons—held together by mysterious glue-like categories called forces.

Electro-Magnetic Attraction and Repulsion

The forces of attraction and repulsion are easy to understand in the context of electro-magnetism. Given that an electric field is essentially a sorce imbalance, or an unequilibrated aetheric density gradient, then we can see very simply that any such gradient will “seek” its equilibration. Therefore any such imbalance, unable to merely dissipate into an already equilibrated field, will attract toward any gradient of the opposite pressure seeking such equilibration of its charge.

For magnetic forces the mechanism is a bit more complex. For these effects we must bring to mind the complex inx-rinx wave structure of the matter-unit itself. And so we have atoms made of involuting/evoluting wave systems, electronic shells and magnetic fields. If two of these m-field wave-systems encounter one another and are involuting/evoluting in the same polar direction, they reinforce one another and unify into a single harmonic system thus minimizing complexity and chaos. If they are involuting/evoluting in the opposite polar direction they interfere with one another and increase the complexity and chaos between them.

The resultant effects of both of these situational extremes of resonance and dissonance ultimately involves a complex pressure response. In dissonance and repulsion, the crests and troughs meet from opposing directions and upset the flow. This creates extra pressure and energy which must be equilibrated. Thus the regions of dissonance repel at the very same time as those regions of resonance attract. This changes the orientations of the interacting objects and their equilibrating

fields. Equilibration occurs as the orientations of the fields come into line and into harmony thus minimizing the increases in pressure deviations (both positive and negative) and the repulsion that results in the interference response while at the same time maximizing the attraction that results from the harmonic resonance process until the system is maximally unified due to its internal configurations.

This complex process can be simplified as the repelling and attraction between poles, but it really of course involves the equilibration between the inherent involution/evolution directionality between two highly complex and varied interacting, interfering, resonating and dissonating wave-systems. The response is the attempt of the joined field to reach self-equilibrating harmony, unity and maximal parsimony.

Gravitation

Gravitation, in Sorce Theory, is a highly complex phenomena, based as it is on the extremely complex fluid-dynamics and wave-harmonics of matter-units interacting with each other. There are, however, ways of making this complexity very simple to grasp at a general level. Over the years I have collected three such simplistic inroads to this complex understanding: gravity as a function of refraction, ontropic propulsion, and force-matrix centering. Taken together we can perhaps quickly approach, step by step the full complexity of the understanding.

At the basis of all of these approaches, gravitation is the effect of the interaction between two matter-units in a specific organization. One matter-unit must be embedded in another matter-unit's density gradient. A gravitational field is this density gradient. But the gravitational force is not found within the gradient itself. Rather the force is an active function of the response within each embedded matter-unit—especially within the hyper-dense structure of its “massy” core—to that overriding and skewing gradient. In the process of equilibration within the imbalance of someone-else's off-center field, the

matter-unit seeks to center itself and regain its own balance. Thus is the force of gravitation an active function of the energy equilibrations within the matter-unit itself. As Lebau writes in *The Theory of Reality, Volume 2 (TOR2)*:

A gravitational field is not a force nor does it exert a gravitational force. The force of gravity does not reside in the gravitational field. It is a response within the responding object that is part of the material in which such fields exist. The force is due to the permeating exergic [external energetic] patterns that skew an object's inther and inergy [internal energy] equilibria. The force exists only within the objects.

Gravity as “Wave-Nature” Refraction

Perhaps the simplest way to understand gravity is through the concept of refraction. And very simplistically, the “wave-nature” of any matter-unit refracts toward the center of any over-riding density gradient in which it happens to be embedded.

To put it in more words: From each and every atom extends this density gradient formed and reinforced through the intrinsic motions and the refracting wave-systems within. The density fields of contiguous atoms interpenetrate one another so that when they collect into larger agglomerations the density gradients are summed to an overall gradient within which the component atoms reside.

This larger density gradient is an agglomerative gravitational field. And though it is not a root-MU, an entity such as the Earth is also a matter-unit. It is an *intermediate* matter-unit, composed first of a matter-unit type of condensation (a plasmic generation process in the resonant em field of the sun), and then an agglomeration and summation of other matter-units—the atoms forming its layers of mantle, crust, oceans, mountains and atmosphere—much of which are formed in the plasmic focus at its core as the “ashes” of the electrical system which it ultimately is (See Electro-Gravitational “Ashes,” Expanding Planets, and the Uni-Field, p236 below). An intermediate MU, such as the earth, then has an intense density gradient from its

MU nature, combined with an additional less intense density field from its agglomerating sub-units, the atoms accreted thereupon as mantle, crust, ocean and atmosphere, etc.

Imagine then that a collection of dense atoms—such as an iron-rich stone or slowly moving meteorite—enters the much larger density gradient surrounding the Earth. This density gradient then comes to permeate the internal fields of the iron atoms, as the atoms and their wave natures try to equilibrate to this new parent density gradient.

Because the gradient of the external, permeating field is summed with the internal gradient of each iron atom and its dense core, the atomic gradient within the atom is slightly skewed and denser towards the increased density of the Earth's core. Thus when traveling through the denser portion of the intrinsic atomic and nuclear field, the internally refracting-reinforcing wave-systems of the atom (which are the electrons, protons and neutrons themselves) refract more strongly, bending slightly toward the center of the extrinsic density gradient. This upsets the internal harmonic equilibrium (which forms the atom in the first place, and actively equilibrates its existence) and deforms the otherwise circular paths of the circulating wave-systems. Thus the center of the wave-systems (the "force matrix") gets skewed (refracted) toward the increasing density of the gravitational field. The atom then equilibrates toward the new center of the circulating wave systems which compose it.

The "force" of gravity is thus a net pressure arising within each atom of an attracted object as it equilibrates to the skewing and off-centering of an overriding density gradient.

From *The Orb* we find:

It follows that there will be a net deviation in the path of the structural waves of every part of an object, where there is an overriding matrix gradient. But those structural waves are actually moving matter configurations themselves! Those internal waves are made out of the matter of the object itself! When they show a net deviation toward Earth, or center of gravity, so has the entire object. The whole stone, and every part of it, is a matter of configuration. When the moving waves

within it have all moved in a given direction, then so has the stone—by its own bootstraps.

Gravity is then, loosely speaking, a refraction of the internal wave-systems of the atom and its nucleus toward the center of density of a larger permeating field. But it is also a re-equilibration of the internal density gradients of this atom in response to its refracting and equilibrating wave-fields.

Gravity as Ontropic Propulsion

Perhaps the most precise way to understand gravitation is through the use of our friend ‘ontropy.’ This is because it is ontropy that allows our matter-unit to find and maintain its final equilibrium structure. As the density of the condensing matter-unit increases, ontropic pressure reacts stronger and stronger setting final limits to the density a matter-unit can attain. But given the extremely rarefied initial conditions of the aether, and the great energy inputs required to form the atom, this ontropic limit doesn’t find its equilibrium until the atom is far denser than the surrounding “vacuum,” as shown in Figure 21, p219 above. As Lebau continues in *TOR2*:

A gravitational field is the intrinsic equilibrium density gradient of a matter unit. A gravitational field’s gradient represents ontropic equilibrium conditions required for persistence of that unit in the larger field. It permeates all component units and extends past the material boundaries of the given source-unit.

... Within an atom, where gravitational force begins, the pressure disequilibrium is provided by greater ontropic resistance on the denser side of an internal gradient. A gravitational force, then, is an internal reaction due to the excentric extheric field patterns that cause skewing of the internal equilibrium gradients that might have existed in such units if they were embedded in a theoretical uniform vacuum. (TOR2)

In other words, because ontropy is a nonlinear function, increasing at a greater-than-linear rate with increasing density, therefore when an atom’s internal density gradient overlaps

with an external gradient, it sums to greater density and an even greater entropy and pressure on the side directed toward that greater parent matter-unit. To equilibrate that extra entropically generated pressure, it effectively pushes it to the other side, away from the parent matter-unit, and thus propelling the atom in the opposite direction of its thrust (action-reaction) and thus toward the parent matter-unit.

Gravity/Inertia as Force-Matrix Centering

The first two explanations of the same gravitational event can perhaps be summed and generalized better through the use of the abstract concept of the “force matrix.” The force matrix of a matter-unit is the sum-total of the organizational structure and effects centered on that unit. These include the density gradient and the wave-systems actively equilibrating that unit to its constantly changing environment. The abstraction of the force matrix can then be used to provide a general view of the force of gravitation, and as we will see, naturally inertia as well.

From *The Orb* we find:

Gravity would be the tendency of any matter-unit to come to the center of the force matrix of some other matter-unit.

Gravity is thus a refraction of the intrinsic, self-stabilizing wave systems of the atom—its force matrix—toward the “force-matrix” of an over-riding matter-unit. In simpler terms, the force of gravitation can be seen as the attempt of the atom to center its own force matrix on the force matrix of any parent-unit. Gravity is then a function of force-matrix centering in the context of overlapping matrices.

Inertia and Mass

When an atom is impinged upon by a contact force from the outside, the equilibrating wave systems are still responsive to the internal intensely steep gradient of the atom and its nuclear core. Thus as the atom continually equilibrates to its own internal structure, it pushes back from the direction of its own force matrix. Inertia is the tendency of the self-equilibrating

wave-systems to remain refractively centered on their own steep density gradient despite any push or pull which must necessarily occur via contact forces at its surface.

From *The Orb* we find:

We can thus define inertia as being the tendency for any matter-unit to remain at the center of its own force matrix.

Given the vast amounts of matter and motion (e.g. momentum and deeply enfolded inertia) already harmonically tied into the intrinsic energy of the atom, the effect of inertia can actually be generated, or at least magnified, in a spinning top. Inertia is that tendency by which the top resists the force of gravitation, and the force of an external push, to remain standing.

Naturally this is a circular affair, in this self-similar universe, but through the magnification of the intrinsic enfolded inertia of the mass of the top, through the increase in rotational (centering) motion, we can see how enfolded inertia unfolds even further in the process. This is directly analogous to the unfolding magnification of the enfolded inertia of the aether in the generation of the matter-unit through the self-centering self-focusing effects of its Venturi-magnified, torque-out density-gradient contraction.

The problem with this analogy, however, is that it neglects the vast difference in scale between the basement-level continuity and its deeply enfolded and effectively inaccessible inertia. The inertia of the vacuum can only be seen when objects moving through it approach the speed of the dissipation of its disturbances, namely the speed of light. We will see this in the identity between the Mach curve of air-resistance and the Lorentz curve of “mass increase.”ⁱ

Since mass is measured as a function of both inertia and gravitation, these explanations of the origins of both of these effects have already explained mass. Inertial mass is simply the measurement of the inertial resistance of the object and

ⁱ See Aether Drag and Mach Number, p242

gravitational mass is simply the measurement of its weight, with respect to “universal” conditions and constants.

Electro-Gravitational “Ashes,” Expanding Planets, and the Uni-Field

As we have seen, an atom exists in an equilibrium of pressure and density maintained by a complex shell-layered wave-system. This wave-system is the electro-magnetic field of the atom, and it is this wave system that ultimately converts the pressure gradient of the atom—via inx and $rinx$, as we have seen—into an equilibrated density gradient.

Since an unequilibrated density gradient is essentially a pressure or sorce gradient, it is also an electrical gradient. Therefore, it is essentially the etheric organizations of the magnetic fields that equilibrate an electric field into a gravitational field. Recall also that it is this electro-magnetic wave field, both internal and external to the nucleus of the atom which reacts to the skewing density gradient of the gravitational field resulting in the force of gravitation within each atom in the field.

This, then, is the organizational union between the electric and gravitational forces that Einstein had long sought as the cornerstone of his desired unified field theory. And it is a simple function of our basic items; density, pressure, ontropy and relation as it complexifies through organization and its antipodes the wave and the particle, or MU.

As the Electric Universe proponents tell us, “gravitational systems are the ashes of electrical systems.” This is because gravitational systems such as planets and moons are formed first through a plasmic generation process, self-similar to our MU formation process and its z-pinch Venturi effects. But this plasmic focus at the cores of many planets and moons appears to be a fusion generator, collecting electrons and protons from the “solar wind,” fusing them into hydrogen atoms, and compounding their constituents into denser and denser atoms that accrete to form its layers and layers of mantle, crust, rock,

ocean, and atmosphere. These massy byproducts of the fusion focus at the core then sum to the overall gravitational field of the planet or moon.

It is known, for example, that more water escapes into space from Earth than can be accounted for by the water that remains in the oceans and that could collect from space. In other words, the oceans should long ago have dried up. It is also observed, however, that water—a well-known fusion byproduct—is pumped out in large amounts, along with other fusion byproducts, from the geothermal vents at the expansion rifts at the bottom of the oceans. It is also measured via satellites that the earth itself is expanding very slowly, as is further evidenced in the structure of the continents and their plates. The oceans themselves hide the zones of this expansion, with younger and younger crust as we move closer and closer to the deep oceanic rifts at their centers, in both the Atlantic and Pacific oceans. There are known expansions zones in these oceans, but there are no empirically observed subduction zones anywhere on the planet. The subduction which would be needed to balance the expansion of the oceanic rifts with an equal and opposite contraction, is therefore a purely hypothetical construct. And we are left with the empirical reality of zones of expansion, coupled with satellite measurements.

The fossil record as well points to the fact that ALL of the continents were once together, indicating strongly that Pangaea was the entirety of the Earth, along with some inlet seas. There were no vast oceans at the time of the dinosaurs, and the crust under the oceans is naturally extremely young with no dinosaur fossils at all. The earth itself has expanded from the time of the dinosaurs, *creating* the deep oceanic bays and filling them full of newly generated fusion-byproduct water in the process.

Indeed, this terrestrial expansion and accretion is very likely the source or function of the increasing gravitational field of the Earth, thus accounting very simply for the decrease in gigantism across all flora and fauna of the time, from the giant insects to the giant lizards. The largest land animal that appears to be able to survive in our current gravity seems to be

the elephant. Indeed, if it were much larger, it is doubtful that it would be able to walk very efficiently at all. It lumbers rather laboriously as it is, and mass increases by the third power with the linear increase in size. It is only due to the added buoyancy of water that gigantism remains in the oceans, with the whales and the big fish. Indeed, it may have been the increase in gravity of the earth, along with hunting by early man, that led to the extinction of the larger mammoths

It is also observed that other moons and planets appear to have expanded, such as Mars, our moon, Ganymede and others. Just as the continental oceanic rifts of the earth can be seen as terrestrial stretch-marks, so such stretch-marks are plainly evident on these other moons and planets. If the plasmic focus fusion generator at the core of many planets and moons (not for example in the “captured asteroids” of Mars) can be seen as a matter-unit generator—or MU compiler and compounder from the component protons and electrons in the solar atmosphere in which these bodies reside—then this makes quick sense of this otherwise mysterious data indicating that these gravitational systems are expanding and accreting more mass and size than can be accounted for by their gravitational attraction.

Relativistic Effects

“Time Dilation”

The relativistic effect of “time dilation” is generally considered a deep mystery simply because its only explanation comes to us from Einstein essentially in the form of an illusion of perspective—based on clocks and observers, rather than on the actual causation involved. When we consider the formation and structure of the atom itself, and when we understand that “time” is merely the intrinsic *rate of action* (e.g. rotations, oscillations or wave-frequencies) of such a system, and that such rates are as variable and relative as the density gradients

in which they equilibrate, then the mystery quickly vanishes, as we will see.

The simple generalization is again a function of the wave-nature of matter-units themselves. Given that the speeds and frequencies of wave-systems are an inverse function of the density of the medium through which they travel, and given that the intrinsic “clock-rate” of an atom would be measured according to these intrinsic frequencies, then the clock-rate of an atom is a directly inverse function of the density of the medium in which it is embedded. Indeed, this simple realization can explain all the observed effects of so-called “time-dilation,” and the mystery immediately begins to dissipate when we begin to call it by its more appropriately accurate moniker “clock-rate variability.” Not so mysterious sounding now, is it?

Consider the original “time-dilation” experiment where an atomic clock was taken for a cruise on a Pan Am flight while later checking its intrinsic rate with another clock on the ground. It was found that with increasing speed the clock had indeed slowed down ever so slightly.ⁱ

The simple explanation is this: When an object such as a clock is accelerated, it is being pushed through the surrounding ether, and the ether is consequently pressed upon the surface of the object and its component atoms. The ether might either collect within the matrix gradient of the component atoms, or simply ever-so-slightly compress or squash them—or indeed both. But the end result is an increase in density in the field surrounding and penetrating these atoms, and in which they actively equilibrate. The speeds, frequencies and rates of this wave-based equilibration are thus inversely dependent on the density of the local medium. And so this density increase literally slows down the equilibration capacity of the

ⁱ The speed of the clock, however, was also found quite unexpectedly to be dependent on the direction of travel with respect to the rotation of the earth. The clock flown against the direction of rotation of the earth ran the slowest, the clock on earth ran at the middle speed and the clock that was flown with the rotation of the earth ran the fastest. This was not predicted in relativity theory, but the model was saved by later adding the sun as the relativistic referent.

component atoms, thus causing a decrease in the rate of action in the local vicinity and slowing down the clock-rates associated and manifesting from the accelerating matter.

Similarly, the effect of “time dilation” is also known as a function of gravitation. The greater the strength of the gravitational field in which a clock is found, the stronger the time-dilation effect will be. The answer to this should be obvious given our understanding of a gravitational field as a function of density. Naturally, as already stated, the rates of wave-based clocks are inversely dependent on the density of the medium in which their clocks are waving. And so in a dense g-field its clocks and rates of equilibrating action will be slower.

“Mass Increase”

In particle accelerators it is found that as the particle is accelerated to speeds approaching the speed of light, the effects of this acceleration begin to slow down asymptotically and the particle never can reach the speed of light. This is taken as evidence that the mass of the particle actually increases as a function of speed, and the relativistic effect of mass increase simply becomes visible near the speed of light. Very simply, however, we can already see that, as with our “time-dilation” effect, speeds of matter-units near the speeds at which their intrinsic wave-systems can effectively equilibrate to their surroundings will have real, physical impacts on the functions of these matter units. We can simply see that with such a “relativistic” increase in speed comes an increase in aetheric drag, thus already decreasing the acceleration of the object. It just so happens, as we will see directly below, that this decrease in acceleration exactly follows the curve of air-resistance on such things as jets.

Thus our so-called “mass-increase” can already be seen as a function of simple aether resistance. If we can say that an airplane increases in mass as it approaches the speed of sound, then we can likewise say that an object increases in mass as it approaches the speed of light. But obviously it’s more realistic

to simply say that said objects encounter resistance from the REAL fields in which they find themselves.

There are other possible aspects to such a complicated set of empirical data structures, however. And in formulating such answers, we first need to know the details of these various experiments. In one experiment, for example, an electron (or a proton, in another experiment) was released in an accelerator and its velocity was increased using a magnetic field. As the electron sped up it took more and more magnetic force to increase the speed until finally a maximum of electron speed was reached just below that of light.

So what was really proven by this experiment when we remove the “mass increase” interpretations foisted upon it? Simply that the effect of magnetism on acceleration of the electron was decreased in response to increase in velocity of the electron. But what is it that caused the magnetic field to increase the speed of the electron in the first place? And what is it that caused this acceleration power to diminish with speed? Standard physics, lacking a causal model of magnetic action and of the electron itself, can give us no answers here.

Both a magnetic field and an electron, being physical causal phenomena, possess two intrinsic qualities: a wave nature and an intrinsic speed of action or equilibration. The speed of the waves in the magnetic field travel at the speed of light, and the electron waves travel much slower (being localized within the positive density and pressure of the electron). When the faster waves of the magnetic field hit the slower moving electron waves there is a pulsing reaction and a frequency of that action which pushes the electron forward. It is this differential in speed of action between the electron and the pulsing waves of the m-field which allows the acceleration to happen in the first place. As the electron accelerates, the difference in speed of action naturally decreases, as the magnetic pulses become further and further separated in time, thus decreasing the available energy to further accelerate the electron. This exchange of speed differential for increased speed finally

reaches a maximum as the differential is depleted and the interacting forces find a balance.

Aether Drag and Mach Number

As noted above, the simplest understanding of both “time-dilation” and “mass-increase,” comes to us as a function of aether drag. From Steven Rado’s *Aethro-kinematics*, we find:

A few decades after the acceptance of the Special Theory, in the late 1920s when airplanes began to approach sonic speeds Ernst Mach analyzed the phenomenon and arrived at a mathematical treatment for the relation between flight speed and air resistance. His formula became known as the Mach theory, or Mach-number, which expresses the increasing resistance based on a certain ratio between the square of the velocity of the plane and the square of the velocity of sound. [...]

As [Figure 23, below] illustrates, the relativistic Lorentz Formula and the Aerodynamic Mach-number formula are mathematically identical.

Could the identical formulas describe two entirely different conceptual contents? — If that is unlikely, then which conceptual theory is right?

Now the scientific choice is quite clear: Obviously, the two equations are totally interchangeable. We can use the Lorentz transformation for the airplane and the Mach-number for the accelerated electron by a simple switch of the symbols, c and S .

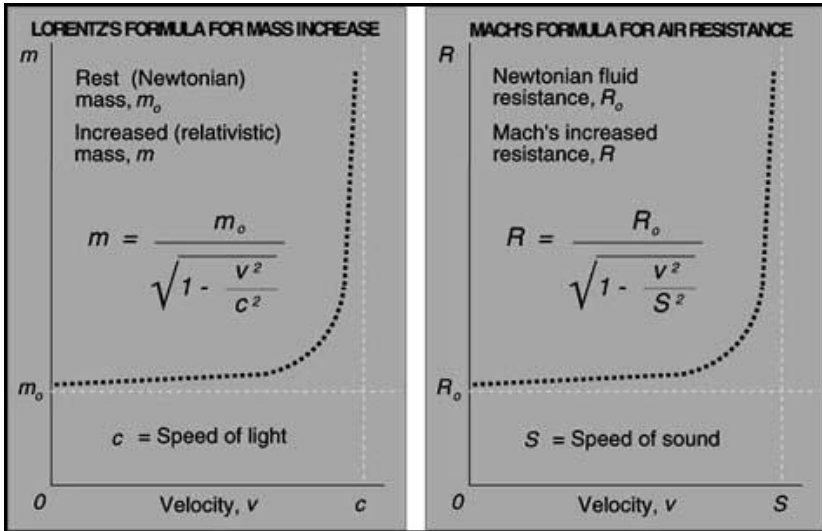


Figure 23: Aethro-Kinematics: Mass-increase and Mach-number

The Quantum

The Quantum Reaction and Wave-particle Duality

As the antipodes of organization, wave particle polarity is a fact of nature. Recall that we have the acausal and paradoxical principle of complementarity with our purely causal principle as a function of the self-similar recursion of the basement and first floors—i.e. continuity and its wave-nature in interaction with the quantized nature of the first-floor matter-units. But this fact of polarity and intrinsic triunity in the interface of its causal inter-expression and interaction is obscured by the misunderstanding of both the wave and the particle.

All quantized measurement effects stem from the interaction between waves and particles, but this does not necessitate that the quantum reaction is the result of a particle hitting the detector. Rather the detectors themselves, made of atoms, are already harmonically quantized and quantizing mechanisms

acting on otherwise continuous energy. The quantization of energy, as Planck intuited with his second and preferred hypothesis of his quantum interpolation equation, occurs in a wave-harmonic and wave-resonance thresholding effect.

In the case of the particle aspect of light waves (the photon) it is unnecessary to assume that light travels through the twin slits separately in the form of wave-packets. The detection of a 'photon' is much more complicated and unpredictable than a simple detection of the presence of a wavefront. It is complicated by the harmonic interaction between the continuous light-wave interference patterns and the system of waves in the receiving electronic shell. When the harmonics of the interaction are just right, the reaction will take place and the actively quantized and quantizing shell will absorb the local portion of the reacting wavefront. This event results in an all-or-nothing type of response (a 'photon' reaction), which is only interpreted after-the-fact as a function of particles striking the detector. The appropriately-patterned quantity of lightwave pressure absorbed by an interacting atom of the detector, however, is the photon itself.

The mathematical probability-wave interpretation works because the intensity of the real continuous wave-form interference pattern directly determines the likelihood of the occurrence of a quantum reaction measurement event. It is a vast over-simplification to assume that a continuous wavefront should automatically and/or regularly be absorbed by an atom in the photo-multiplier detector. These events are highly complex and thus happen sporadically, especially when the amplitude is decreased. In the absence of an understanding of the nature of the event, this randomness is very easily interpreted as the result of a particle hitting the detector, but we know what a dead-end confusion this easy road ends in.

Imagine a continuous, yet tenuous wavefront impinging on an array of detectors whose atoms are undergoing their own complex series of harmonic wave-processes. Because the amplitude of this wavefront is attenuated, only when the

pressure-intensities and -patterns between the wave-front and the atomic shell-systems sum just right will a detection event occur. In attenuated circumstances it will look like little random blips on the screen that when summed over a long period of time will show the evidence, in the resulting interference pattern, for the presence of the continuous wave-fronts underlying this process. It is basically a timed-exposure to reveal the invisible, attenuated, continuous interference wave-pattern hidden by the complexity of the quantum-reaction detection event. This attenuated and invisible but constantly existing interference pattern imposes itself on the probability distribution for a quantum-reaction event because this event is also a function of intensity. But the fact that the event is much more complicated than that simple relationship would imply is evidenced in its apparent randomness when the intensity decreases.

In a similar way the proper understanding of the quantum reaction clears up the wave/particle confusion about the electron as well. Once it is understood that the shells of the detecting/reacting atom are harmonically quantized and indeed *actively quantizing* to new energetic circumstances, and that the reaction process is MUCH more complicated than classically assumed, then there is simply no evidence that light or an electric field is particulate whatsoever.

This is complicated by the fact that the electron fluid is quantized into multiples of a constant in the formation of the electronic shells themselves, and thus when those shells are released, they can be statistically divided by those multiples. Thus it appears that such an electron fluid is composed of discrete units.

An electron, within the atom, actually is the resonance pattern quantified in the Schrödinger equation. The density shell, as Schrödinger had originally thought, is a real physical wave-harmonic quantized and pressurized structure. This, quite easily accounts for the “quantum jumps” in a coherent and causal manner. When this shell is disrupted and liberated from

an atom it can travel as a soliton or it can acquire a rotational motion depending on the environmental conditions. When the electron joins into an accumulating charge it simply adds its pressure-gradient (charge) to the continuous pressure of the accumulating charge. This is how charge spreads all across an object almost instantaneously, and how in the Milliken oil-drop experiment hundreds of electrons can collect on the surface without repelling each other.

This continuous, yet harmonically and actively quantizing complexity of interactions also hints at the explanation of recent evidence of “fractional charge” (anyons) and the forced-interpretation of “cooper-pairing” to explain the fact that in a super-conductor electrons simply do not repel each other in such a simple all or nothing kind of manner as expected. An electron and its charge have been grossly misunderstood as fundamentally particulate, and this misunderstanding leads directly to a vast impenetrable complexity of trying to understand macro and micro-scale quantum effects.

In Sorce Theory an electric field is not composed of individual electrons at all. They have completely merged into the charged field itself. And for the purpose of detection their quantum’s-worth of charge must be extracted by a harmonic equilibration into a new quantized atomic configuration or an inter-atomic matrix. The harmonic nature of the “detection” response ensures that the equilibration always occurs in integer amounts and it gives the detection event an all-or-nothing aspect only *interpreted* as a function of electronic particles.

The simplest way for us to conceive of the transfer of integer amounts of anything is through the concept of identical objects, little solids called particles, changing hands. This is the reason that the particle explanation is so ready to spring to mind and work its way into the collective (average) scientific mind which embodies and implements the standardization of theory. But as we all know this leap of intuition (the particle-bias) has very many problems and is incommensurable with the wave nature of such processes.

In contrast, the continuity aspect of an electric field is the root concept needed for the explanation of fractional charge and the wave-nature itself. The concept is key and in this interpretation an “electron” is generally not particle-like at all unless it is emitted as a single soliton (an electron’s worth of *positive* pressure) into a magnetic field (a complex field of organized involuting and evolving ultra-high-frequency wave trains). If a particle is emitted as a solitary shell, in specific situations the asymmetry will cause the electron’s worth of positive pressure to rotate into a coherently moving structure (a particle, but not a matter-unit) traceable in a detection chamber (again the details of this interaction are quite complex). This is one of the few cases in which an electron is particle-like at all and actually spins upon its own axis.

If, according to this theory, the electron as part of an electric field doesn’t even really exist as anything other than its original integer charge contribution to the merged continuous electrical field and if the detection event necessitates a harmonic equilibrational extraction of that same amount of energy by interaction with the harmonic-quantizing atomic structure which emitted the quantum in the first place, then what does it mean to ask “what happens to the electron spins in a charge field in the inter-atomic matrix of a semiconductor film?” If the electric field is not even composed of electron particles at all then how can they be said to spin? What really is “spin” in standard physics?

Unspinning Spin

A general explanation of the abstract concept of spin is not found in the Sorce Theory books, but neither was the understanding of superfluidity, already given.ⁱ The power of Sorce Theory is that these effects are already implicit in the model and need only be unfolded from first principles. The

ⁱ See The Evidence for the Fluid Nature of Fundamental Physical Reality, p77 and The Kinetic Corpuscular Hierarchy Model of Pressure, p125.

explication of spin is made difficult, however, by the ambiguity and mystery of the standard physics terms involved, and with the difficulty of bridging the paradigm gap between the theories.

Spin is a very complicated parameter which cannot be translated to a simple angular momentum, and often it has nothing to do with the “classical” or common concept of spin whatsoever. **In general, when dealing with particles such as atoms, “spin” amounts to an abstract measure of rotational and fluid-dynamic/harmonic balance.** If the total combined spin of the atom sums to an integer amount then it is intrinsically balanced. This is why bosons can easily achieve the ground-state of quantum coherence which simply amounts to a unification or coherency of interatomic oscillations and motions—or in other words the absence of kinetic-atomic thermal agitations within the sub-quantum-superfluid matrix. Atomic bosons contain a balance of spins so that they do not possess internal oscillations to interfere with the de-thermalizing reduction to quantum coherence.

However, When we get to the sub-atomic level and when dealing with continuous charge fields, spin takes on a quite different meaning because often there is no rotation or angular momentum at all being abstractly quantified by the spin. This is not to say that actual spin or rotation is not a key factor in the equilibration of the field, but just that the simple parameter itself is not dealing merely with actual spin, but with a very complex mix of fluid-dynamic and wave-harmonic properties of a highly compressible fluid field which does contain highly compressed spinning portions called atomic nuclei.

What “spin” refers to in these cases is a fluid-dynamic and wave-harmonic type of balance emergent from all of these highly complex and non-linear factors. And this complication is the reason that the concept of cooper-pairingⁱ was invented, i.e.

ⁱ now found to be quite inadequate – see:

<http://www.bnl.gov/bnlweb/pubaf/pr/2004/bnlip022304.htm>

to deal with the “bosonic” or self-equilibrating properties of the “fermionic” “electrons” which are supposed to compose the charged field of a super-conductor. What really happens is that the continuous charged environment of the inter-atomic matrix comes to a fluid-dynamic equilibrium with the atoms that compose it. And this equilibrium calms the channels of the inter-atomic matrix which enables the electric pulses to pass through them undisturbed (i.e. not refracted into decoherence) by density fluctuations (thermal and magnetic agitations) otherwise in the matrix.

Let’s look a bit more closely at the concept of spin in modern physics. Take the “photon,” a boson with spin of 1. A boson is considered to be “its own anti-particle” and this is quite the case for the “photon.” In Sorce Theory, as we have seen, a light wave is not composed of particles at all, and a “photon” is an abstract measurement effect. It is, rather, a quantum reaction of an atom to a longitudinal light wave with of specific frequency range in complex harmonic interaction with the complexities of the electronic shell itself. A longitudinal wave of light can encode transverse patterns (polarization), as we have seen in the experiments with superfluidity,ⁱ and is generally composed of an equal balance of compression and rarefaction pulses. Thus it is balanced in terms of pressure and charge—it is its own anti-particle.

In Sorce Theory it is the unequilibrated pressure of a pulse with respect to its environment that determines its charge. Thus a photon is composed of equal positive and negative charges. This is why, if the experimental conditions are just right, a “photon” of the right frequency can be split into an electron and a positron. The photon actually contains these balanced proportions within it, of otherwise imbalanced positive and negative pressure pulses. Thus because it contains both positive and negative portions, it can have no anti-particle. And also because it is intrinsically balanced it does not seek to

ⁱ See *The Hidden Error*, p73

equilibrate in either the positive or negative direction so it will generally not curve in a magnetic or electric field. But because it is actually composed of imbalances such fields can change the balance itself as its intrinsic portions skew in different directions causing complexities in the internal patterns.

What about the Pauli Exclusion Principle? For the “photon” it is quite simple to understand why this would not apply. As a balanced pressure wave, a photon can superimpose with other “photon” wave-trains. This is a common aspect of waves. An electron, however, represents a positive pressure gradient or soliton which seeks equilibrium with its environment. Thus it will move away from any other positive gradient, and we will thus see that two electrons will strongly resist superposition. In the right conditions, however, such superposition can actually occur, as Milliken showed with his oil-drop experiment in which thousands of integer (or multiples thereof) electron charge (pressure) portions are equilibrated into the continuous inter-atomic matrix. This is because the conditions are right to allow the electrons to actually merged into a positive pressure field.

In the case of two solitary electron waves in a field, the reason they don’t simply merge into the surrounding field is because the equilibrium conditions of the field will be disrupted by any additional positive pressure. And the reason they won’t merge together is simply because that is the opposite direction of their pressure energetic gradient. They are seeking equilibrium, not merging into a greater disequilibrium.

So we see that Pauli’s principle is a rather loose expression of the tendency of the subquantum fluid to resist compression and to seek equilibrium, but it fails when dealing with the superposition of a particle with its anti-particle, such as the electron and (the poorly named) positron. In such case, which can indeed happen, the superposition of positive pressure pulse (electron) with its negative counterpart (positron) will simply result in a rapid inter-equilibration of the opposing pressure disturbances into each-other, and we call this “annihilation”

rather than superposition because the two super-imposed “particles” have equilibrated themselves out of existence (and clearly they never existed as indivisible or fundamental particles in the first place).

If two fermionic or rotationally and fluid-dynamically unbalanced atoms come into close approximation, assuming that no chemical reaction (inter-atomic and inter-electronic equilibrium) takes place there will be constant inter-atomic oscillations (quantum incoherence) as the atoms move to the beat of their own drummers and attempt to equilibrate to their surroundings and to each-other’s different internal complexities and “fermionic” imbalances. Such non-unified or incoherent inter-atomic motions lead to fluid friction and quantum decoherence which disturbs the flow of electric pulses in the shared matrices of superconductors.

For example, take the question of what will happen to electron spins in a semiconductor film (GaAs crystal), when an electric field (a constant DC voltage) is applied in the plane of the film.

First of all the measurement of the “spins” of the “electrons” within a GaAs semiconductor is only achieved through sensing specific changes in the magnetic field. Essentially what is measured are the changes induced in the flows of the charged field (electron fluid) as they move toward a new equilibrium with the additional injected charge (pressure). The changes in flows emit (ultra-high frequency) “magnetic” waves (a magnetic field) perpendicular to the local changing flows of the charge fluid. This is based on the Venturi Effect and the perpendicular equilibrational effects it has on the flow of a highly compressible fluid as it oscillates into new equilibria by flows and induced Venturi pressure drops which recursively change flows etc in very complex recursive and non-linear patterns. It is these patterns which induce small oscillations into the flows setting up ultra-high-frequency perpendicular emissions of magnetic waves which are measured and symbolized as changes in the parameter of “spin.” The details of such a “state-of-the-art” spintronic interaction are highly complex and

depend on very many unspecified variables which are just being fleshed out by the researchers. Since I am neither on the bleeding edge of the field of spintronics nor well-versed in the art of quantitative physical predictions, I will leave that up to the experts.

Note: The spintronicists talk of measuring a single electron spin, but this can't really take place unless the electron's worth of charge is extracted from a field or otherwise isolated into a quantum-dot electronic gate or something. Otherwise all you will get is a statistical average of the detection of changes in the magnetic field emissions of the charge field as a whole.

The Particle Zoo and the Basement Level

Because physics came into the superfluid basement level under the influence of the particle-bias, virtually the whole of Standard Model “particle physics”—once the *retro*-dictions claimed as *pre*-dictions are cast aside—has been one long retro-fix to a string of unexpected empirical findings. First atoms were found fundamentally anatomical or corpuscular—the proton, neutron and electron, and the nucleus itself being discovered purely by surprise. Then the whole “particle” menagerie exploded into further and further, ever more fleeting particles, appearing as mere resonances for miniscule fractions of seconds and then disappearing entirely. We can see this problem plainly with its very name, “particle physics.” It imposed a “particle physics” on a level of physical reality that was hardly particulate at all. Problem number one: faulty preconceptions.

These basement-level results are quite difficult to explain in a particle-based foundationalism, but in the context of Sorce Theory they are entirely expected. At the basement level, where maximum continuity and superfluidity gives way to the emergence of the root-MU atom, the reverse is also true. Beneath the atom, and its core proton, particles break down into mere fleeting, harmonic, resonant and dissonant patterns and properties of zero-energy super-fluid dynamics and wave-harmonics. Such fluidity in the fundamentals of physics can

easily be seen in graphs of “resonances,” such as in the following images from S.Y. Lee’s *Accelerator Physics*.

V. BEAM MANIPULATION IN SYNCHROTRON PHASE SPACE

295

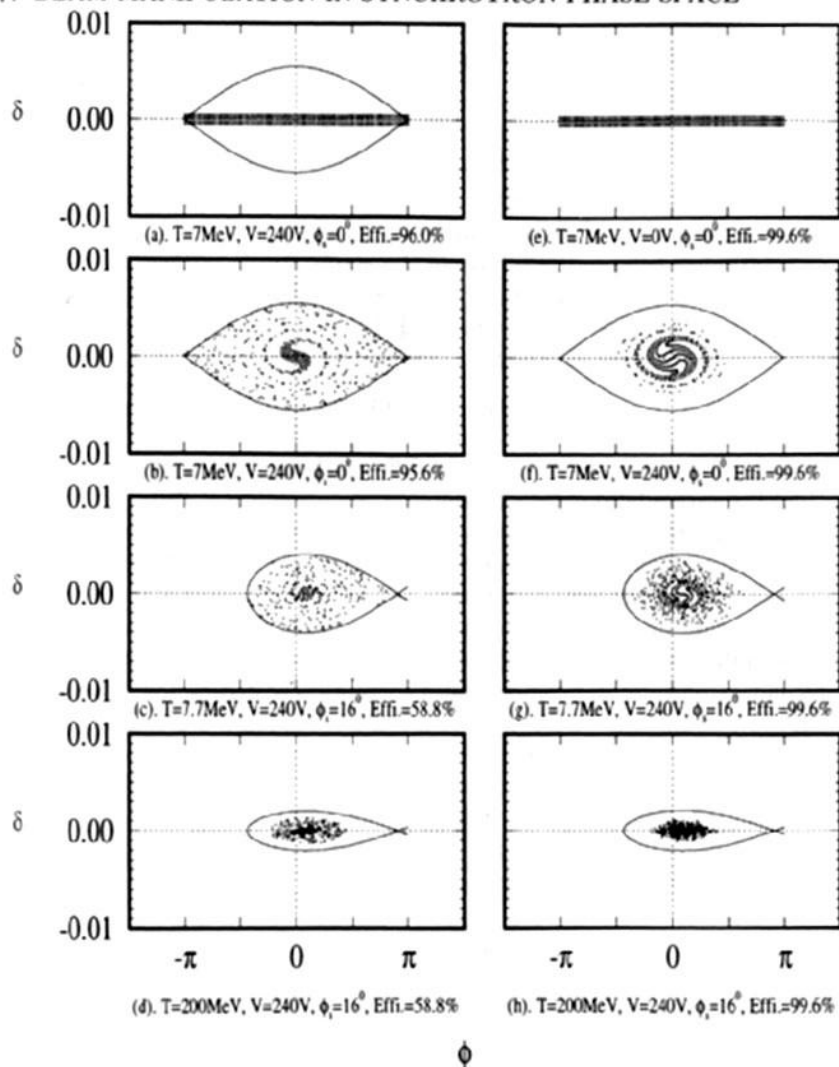


Figure 3.19: The left plots, (a) to (d), show non-adiabatic beam capture during injection and acceleration. The right plots, (e) to (h), show adiabatic capture of the injected beam: the rf voltage is ramped from 0 to 240 V adiabatically to capture the injected beam with a momentum spread of 0.1%. The rf synchronous phase is then ramped adiabatically to achieve the required acceleration rate. Space-charge force and microwave instability are not included in the calculation. This calculation was done by X. Kang (Ph.D. Thesis, Indiana University, 1998).

VII. NONLINEAR RESONANCES

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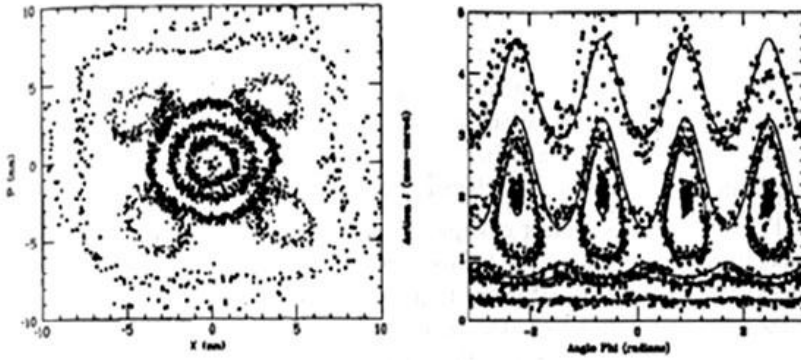


Figure 2.41: Left: The measured betatron Poincaré map (surface of section) (x, P_x) of normalized phase space near a fourth-order resonance $4\nu_x = 15$ at the IUCF cooler ring. Note that the phase-space ellipse is distorted into four island when the betatron tune sits exactly on resonance. The right plot shows the Poincaré map in action-angle variables $(J = J_x, \phi = \psi_x)$. The solid lines are the Hamiltonian tori of Eq. (2.374).

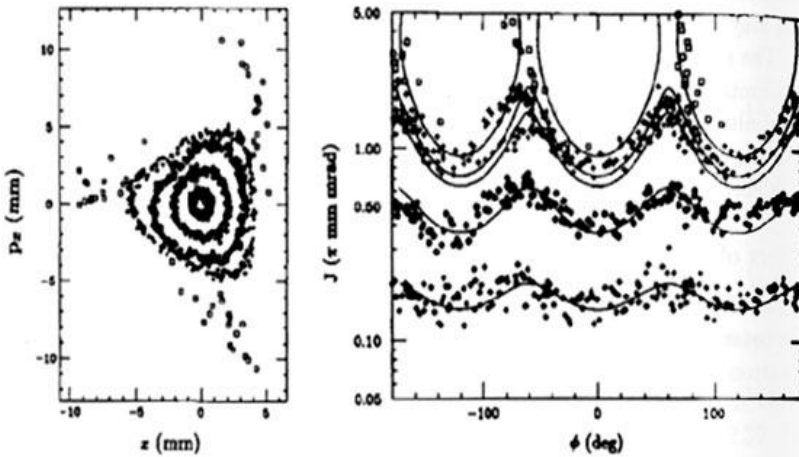


Figure 2.40: Left: The measured Poincaré map of the normalized phase-space coordinates (x, p_x) of betatron motion near a third-order resonance $3\nu_x = 11$ at the IUCF cooler ring. Note that particles outside the separatrix survive only about 100 turns. Tori for particles inside the separatrix are distorted by the third order resonance. The orientation of the Poincaré map, determined by sextupoles, rotates at a rate of betatron phase advance along the ring. The right plot shows the Poincaré map in action-angle variables (J, ϕ) . The solid lines are Hamiltonian tori of Eq. (2.371).

Figure 24: Accelerator Physics: Graphs of Resonances

Eric Lerner explains this problem from his *The Big Bang Never Happened*:

TROUBLES WITH QUARKS

If the latest theories—GUTs and superstrings—are stripped away from particle physics, the standard model with its quarks is left. Unfortunately, the problems don't end here: the standard model is not at all a satisfactory theory of nuclear forces, or of other structures of matter generally.

The theory arose as an attempt to simplify the zoo of particles discovered in the forties and fifties. Back in 1911 physicists believed that only two particles exist—protons and electrons. The neutron was discovered in 1930—it was a little heavier than the proton, electrically neutral, and a key constituent of the nucleus of the atom. Things seemed fine. The bulk of the mass of matter is contained in the nucleus, made up of protons and neutrons, while electrons swirl around the periphery of the atom. But this simple picture was spoiled as the cyclotron and other particle accelerators started hurling nuclei at each other with increasing energy, and scientists started to analyze the constituents of cosmic rays. New particles, all unstable, were discovered in the tracks they left on photographic plates and other instruments.

First came the muon, 207 times as massive as the electron. “Who ordered that?” nuclear physicist Isidor I. Rabi responded. Then came the pion, somewhat heavier, theorized as the carrier of the nuclear force. Then came an ever-increasing flood of particles.

By 1960 particle scientists were struggling to simplify this bestiary. Murray Gell-Mann noticed that the particles can be grouped together according to their properties in symmetrical arrays—the idea of perfect symmetry started to raise its head.

By 1963 Gell-Mann developed the idea that the symmetry of the groups can be accounted for if it is assumed that mesons and baryons are made up of smaller particles, which he called quarks, from a passage in James Joyce's *Ulysses*. Gell-Mann proposed the existence of three quarks, dubbed “up,” “down” and “strait” which carried fractional charge—either one-third or two-thirds of an electron's charge. Two quarks together form a meson, three a baryon. Leptons—an electron, muon, and neutrino—and photons are left out of this scheme, but all the

particles will be reduced to leptons, the photon, and the three quarks, a total of seven.

Complications in this neat picture developed immediately. For one thing, no matter how hard accelerators smashed protons against each other, no quarks came out—they were never observed. Obviously, theorists reasoned, there is a force between quarks that increases with distance—a confining force that never lets quarks go free. A second complication occurred when they realized that in some particles all quarks will spin the same way and thus are indistinguishable—which violates a fundamental postulate of field theory, that identical particles cannot exist in the same energy state. So the quarks were assigned a new property, arbitrarily termed “color.” A quark can come in three “colors”—red, blue, and green. Three quarks had become nine.

Worse still, newer particles kept turning up uninvited, so new quarks were needed—a “charm” quark and a bottom or “beauty” quark. More neutrinos showed up among the leptons—a muon, neutrino, and a new massive lepton called the tauon.

To explain the nature of the strong and weak forces, still more particles were needed. A theory called quantum chromodynamics (QCD) was developed postulating gluons—also never observed—to carry the strong force. Another theory, the electroweak theory, described the weak field as merging with electromagnetism at high energy; it requires two more particles.

The synthesis of QCD and electroweak is the standard model, which had its successes. The masses of the W and Z particles needed to carry the weak force were actually predicted before the discovery of these particles in the eighties. The theories can make rough predictions of the mass of most particles and the lifetimes of some. Perhaps most significant, in particle collisions experimenters observed concentrated jets of particles coming out in certain directions. These, it was argued, show that unobserved quarks are hit in collision and then emit observable particles in the direction of the quarks’ motion.

But the standard model has important limitations. For one thing, what it can predict pales before what it can’t. The masses of all the quarks and the strengths of the interactions—a total of twenty constants—all have to be plugged into the theory,

based on observation. Why these masses? Why is the proton, for example, 1,836 times as massive as the electron? Why are there so many particles? Why, three generations of quarks and leptons? Who needs neutrinos anyway? The strengths of the field are even more puzzling. Why such different strengths? And where does gravity, 1042 times weaker than electromagnetism, fit in?

Unfortunately, like Ptolemy's solar system, the standard model requires many special assumptions to match observation even remotely. To be sure, it makes valid predictions—so did Ptolemy's system—within broad limits of accuracy. But it has no practical application beyond justifying the construction of ever-larger particle accelerators. Just as electromagnetism and quantum theory successfully predict the properties of atoms, one might expect a useful theory of the nuclear force to predict at least some properties of nuclei. But it can't. Nuclear physics has split with particle physics; nuclear properties are interpreted strictly in terms of empirical regularities found by studying the nuclei themselves, not by extrapolating from QCD.

A Successful Sorce Theory Prediction: Quark Quirks and the Shell-layered Proton

One finding that rings out in the context of Sorce Theory, however, is from experiments by Alan Krisch involving protons. Lerner continues:

The most serious contradiction with theory comes in a series of experiments done with spin-aligned protons. In a decade-long series of experiments, Alan Krisch and his colleagues at the University of Michigan have demonstrated that protons have a far greater chance of being deflected in a collision when their spins are parallel, instead of spinning against each other. What's more, they also deflect nearly three times more frequently to the left than to the right. In effect, the protons act like little vortices, pushing each other around [Figure 25].

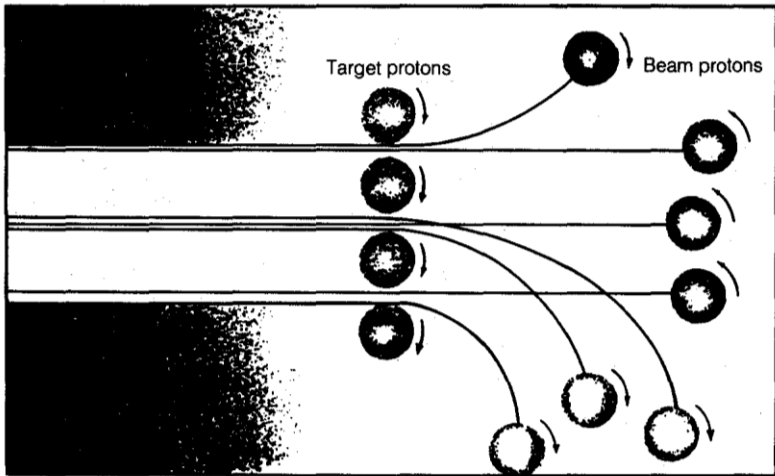


Figure 25: BBNH: Trouble With Quarks: Krisch Proton Spin

This seriously contradicts a basic assumption of QCD, that quarks act independently within a proton. This implies that a proton's spin should have little effect on a proton's motion. Each of the three quarks has a spin of one-half unit of angular momentum, so a proton's spin of one-half arises from two quarks spinning in one direction, one in the other. If two protons collide, it is the spin of the colliding quarks that should determine the outcome of the collision—in which case collisions of opposite spinning quarks should be only 25 percent more common for opposite-spinning protons than for parallel-spinning protons. But the effects Krisch observed are far bigger—two or three to one. This strongly implies the spin is carried by the proton, not by the quarks—if they exist at all. In the view of many theorists and of Krisch himself, this clearly contradicts QCD.

Probably more important, QCD also predicts that spin effects, like all other asymmetries, should decrease at higher energies in accordance with the broken-symmetry approach of all particle theories. Yet Krisch's experimental results show that spin effects steadily increase with the energy of the collision. Evidently, spin effects are fundamental to the structure of matter—matter is, therefore, inherently asymmetrical. But as with proton decay, such contradictions have been ignored for the most part.

Most importantly for Sorce Theory, however, is Krisch's 1973 finding that the results of his experiment only began to make sense in "the framework of models in which the nucleon possesses a layered substructure."ⁱ It is exactly this framework that is predicted in Sorce Theory, recall, with its electronic shell structure inverted within the tight gradients of the nucleus in Figure 21, p219. This then seems to constitute a successful prediction of Sorce Theory in 1965, eight years earlier and entirely independently of Krisch's research team.

ⁱ (A. Krisch) Research References: http://prola.aps.org/abstract/PRD/v8/i1/p168_1 "Dip in High-Energy p p Scattering and the Proton Substructure," G. Eilam and Y. Gell, Department of Physics, McGill University, Montreal 101, Canada, Received 17 January 1973, "The recently observed dip in high-energy elastic p p scattering is explained in the framework of models in which the nucleon possesses a layered substructure." ©1973 The American Physical Society, URL: <http://link.aps.org/abstract/PRD/v8/p168> , DOI: 10.1103/PhysRevD.8.168, The easiest to find references are: "Spin Dependence of High-P² Elastic p-p Scattering", D. G. Crabb et al., Physical Review Letters 41, 1257 (1978). "The Spin of the Proton", A. D. Krisch, Scientific American 240, 68 (1979), "Collisions between Spinning Protons", A. D. Krisch, Scientific American, 255, 42 (1987). A later reference in a German Journal is: "High-P² spin dependent measurements," A. D. Krisch, Z. Phys. C - Particles and Fields, 46, S133 (1990).

QUICK SORCE Q & A

Q: What is the problem in this Theory that have caused Physicists to avoid it. And if this is not TRUE name the Physicists who backed this theory and the Universities at which they teach.

A: It happens in history that when a theory is radical enough to solve the problems which need to be solved, very often it is too radical to be accepted very easily (e.g. Copernicus). The author, long ago tried to get his peers to review his theory, but no one could break down his own preconceptions far enough to accept the fundamental concept of an amorphous continuum as the basis of a physical model. The kinetic atomic theory is too ingrained in the minds of virtually every physicist. This theory consequently has gone underground where it has incubated for many years. While it has evolved, many predictions have come true and the theory has continually been strengthened by ever more observational evidence. The time has come when computer simulation is getting powerful enough to run fluid-dynamic simulations of this fluid medium to fine-tune the constants, perhaps derive the unified field equations and see the theory in action.

Q: Can sorce theory really provide a replacement explanation for all these weird quantum effects and to what extent have experiments been done to test the theory? quantum teleportation, quantum tunneling, quantum non-locality

A: In Sorce Theory the experiments that led to the quantum hypothesis of Planck and its subsequent reinforcement by Einstein, et al, are more coherently explained by the complex fluid-dynamic processes in a frictionless continuous medium. The key to understanding how the “quantum weirdness” can acquire a physical explanation thus entirely eliminating this weirdness altogether, is in the understanding of the atom and the electronic shells as a quantization process via fluid-dynamics and wave-harmonics mechanisms. A correct understanding of the atom leads directly to an understanding of the “quantum reaction” which is the basis of all quantum “particle-like” wave-detection events.

Q: How, for instance, does Sorce Theory explain the apparent discreteness of electron charge? Why can we not seem to place 7/8ths of an electron charge upon an object?

A: Within an atom, the electron is a harmonic-equilibrated density shell, formed and delineated through fluid-mechanical wave-resonance mechanisms (vaguely intuited by Schrödinger’s wave mechanics and outlined in great detail in the Sorce Theory books). The shape of the electronic shell structure exactly fits the shape of the current probability cloud of a QM electron. In fact if you change Schrödinger’s ‘psi’ (which currently stands for the abstract idea of “the probability of locating the position of the discrete point-sized electron”) back into his original ‘phi’ (which originally stood for pressure) you will get the precise density structure of the electronic shell system. The electron is the entire orbital shell with pressure waves circulating within it.

When the resonant equilibrium of the atom is disrupted and an electronic shell is subsequently separated from the atom, both the atom and the material of the ejected electronic shell must come to a new resonant, harmonic equilibrium with the internal and external etheric pressure. Because mass and charge are effects of the resonant structure of a “particle” in reaction to an etheric density or pressure gradient (gravitational or electric field respectively), and because of the

non-proportionality of the properties of matter when dealing with increasing density and pressure, when the ejected electron and the remaining atomic nuclear and electronic shells restabilize and reformulate into a lower density equilibrium, there is consequently a disproportionate value of measurable properties such as mass and charge. In other words, because of the non-linearity between the properties of the condensed matter (which forms an atom and an electron), during re-equilibration to a different density level and electronic shell configuration, the ratios of the resultant higher-level measurable effects (mass and charge) do not result in a one-to-one ratio with the measurements of the original state. (This also hints at the explanation of the mass-defect and the resultant packing factor.)

The discreteness of the electron charge is due to the fact that the electronic orbitals are of quantized (and actively quantizing) size. This is all explained by the very detailed fluid/wave-dynamics of the atomic shell structure presented in the work. This concept is somewhat similar to the idea of a standing wave phenomenon (though much more complicated), which says that only discrete wavelengths will self-resonate constructively. The rest of the non-harmonic wavelengths interfere and self-destruct thus they ultimately disappear.

Q: Why do the emission-lines in the decay of excited hydrogen appear where they do, and not somewhere else (or even variably)?

A: The emission lines are a direct reflection of the precise frequencies of the electronic orbitals of the hydrogen atom. When the internal pressure waves of the electronic orbitals are disrupted they consequently disturb the surrounding medium in the same set of frequencies as the initial set of disrupted electronic orbitals. When this disturbance escapes into the external field and enters a prism it is measured as light precisely matching the frequencies of the hydrogen electronic

shell structure. This is why each element (and variant thereof) emits a unique spectrum.

Q: Why is it only in the gaseous state that these discrete spectra are emitted?

A: This is because in the liquid or solid state the inter-atomic resonances form a loosely connected inter-equilibrated matrix and the release of a light pulse must escape from the resonant structure of the surface. In the elemental gaseous state the atom is isolated and the frequencies of the electronic shell structures can emit unimpeded.

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BIBLIOGRAPHY

- Blavatsky, Helena Petrovna. The Secret Doctrine (Reprint edition). Theosophical University PR, 1999.
- Deleuze, Gilles. The Fold: Leibniz and the Baroque. Mineapolis: University of Minnesota Press, 2001.
- "Electric Stars in Action." 10 January 2005. Thunderbolts.info. <<http://www.thunderbolts.info/tpod/2005/arch05/050110/electric-stars-in-action.htm>>>.
- Frame, Michael. "Fractals and Education: Helping Liberal Arts Students to See Science." Pickover, Clifford A. Fractal Horizons. n.d.
- Kelly, Kevin. Out of Control: The New Biology of Machines, Social Systems, and the Economic World.
- Krisch, Alan D. "Collisions between Spinning Protons." Scientific American 257.2 (1987): 42-50.
- Krisch, Alan. "Dip in High-Energy p p Scattering and the Proton Substructure." The American Physical Society (1973).
- Lebau, Gerald I. In the Beginning There was God. n.d.
- . "personal correspondence."
- . The Nature of Matter and Energy. Self-published (1965) web-published as "The Orb" (2003 anpheon.org), 1965.

—. The Theory of Reality. n.d.

—. What it All Is and Why. n.d.

Lee, S.Y. Accelerator Physics, ISBN: 981-02-3710-3. n.d.

Lerner, Eric J. The Big Bang Never Happened. Vintage Books, 1991.

Levey, Samuel. "Leibniz on Mathematics and the Actually Infinite Division of Matter." The Philosophical Review 107 (1998): 49-96.

Lipton PhD., Bruce. "Fractal Evolution." 2006-7. brucelipton.com.

Ouspensky, P. D. Tertium Organum: The Third Canon of Thought, A Key to the Enigmas of the World. n.d.

Rado, Steven. Aethro-Kinematics. n.d.

Verelst, Karin and Bob Coecke. "Early Greek Thought and Perspectives for the Interpretation of Quantum Mechanics: Preliminaries to an Ontological Approach." CLEA-FUND, Free University of Brussels (n.d.).

Verelst, Karin. "Some remarks on the relation between the microcosmical and macrocosmical." CLEA, Free University of Brussels (n.d.).

—. "Zeno's Paradoxes. A Cardinal Problem: I. On Zenonian Plurality." FUND-CLEA Vrije Universiteit Brussel (n.d.).

Volovik, Grigory E. The Universe in a Helium Droplet (The International Series of Monographs on Physics, 117). Oxford University Press, 2003.

Watts, Alan W. The Joyous Cosmology. New York: Pantheon, 1962.

—. The Two Hands of God. n.d.

Wilber, Ken. A Brief History of Everything. Boston: Shambhala Publications, 1996.