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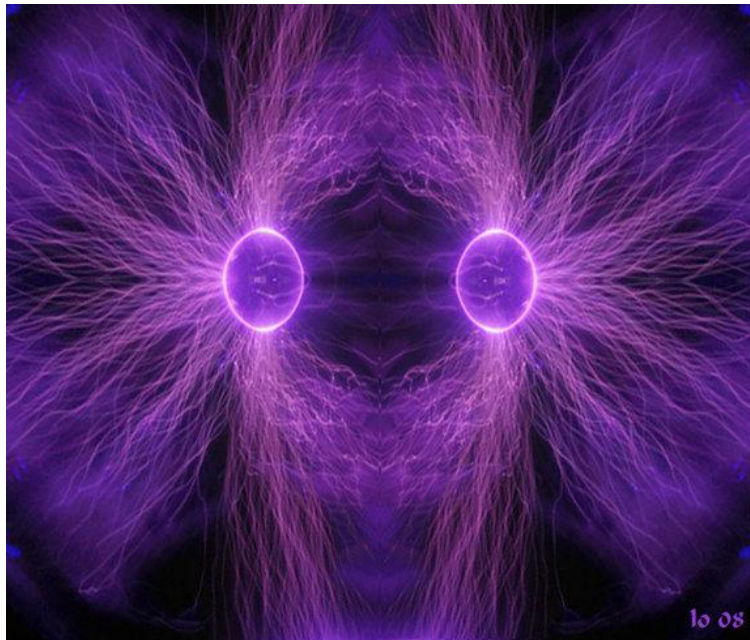
Luminous Ground: The Zero with a Thousand Faces

Iona Miller*

ABSTRACT

Whether or not the universe arises from ‘Nothing’ depends on what one means by that word. A ‘quantum vacuum,’ can be distinguished from the philosopher’s, mystic’s or theologian’s idealized ‘nothing’. What we formerly took for nothing turns out, on closer examination, to have the makings of electrons, protons and neutrons. Ever since physics first penetrated the atom, a new kind of uncertainty has become a principle of science. The archetypes of cosmic history are those of raw nature. Nothing has ever existed. Aspect’s experiment showed electrons have extraordinarily mysterious aspects of being or moving we have dubbed “superpositions”. We are still left with interpreting the framed results of our experiments. Electrons emerge from the “black box” of science in a spectrum of possible directions. Analogously the philosophical pith of subquantal physics contains multiple avenues for continuing exploration.

Key Words: luminous ground, zero, nothing, quantum vacuum, universe, psyche, Carl Jung.



"If things of sight such heavens be, what heavens are those we cannot see?" --Andrew Marvell

"Psyche cannot be totally different from matter, for how otherwise could it move matter? And matter cannot be alien to psyche, for how else could matter produce psyche? Psyche and matter exist in the same world, and each partakes of the other, otherwise any reciprocal action would be impossible. If research could only advance far enough, therefore, we should arrive at an

* Correspondence: Iona Miller, Independent Researcher <http://ionamiller.weebly.com> E-Mail: iona_m@yahoo.com

ultimate agreement between physical and psychological concepts. Our present attempts may be bold, but I believe they are on the right lines.” --Carl Jung, AION

*“...NOTHING was, God willing, NOTHING became something,
I doubted it, I sought that on which the universe rests,
NOTHING preserves the equilibrium and serves to sustain.
Then, with the weight of praise and of blame.
I weighed the eternal, it called my soul,
I died, I adored, I knew NOTHING more.”
--Philosophical Sonnet by Count Saint-Germain*

Introduction

Hear Ye: I begin with nothing. Nothing is the same as fullness. In the endless state fullness is the same as emptiness. The Nothing is both empty and full. One may just as well state some other thing about the Nothing, namely that it is white or that it is black or that it exists or that it exists not. That which is endless and eternal has no qualities, because it has all qualities.

The Nothing, or fullness, is called by us the PLEROMA. In it thinking and being cease, because the eternal is without qualities. In it there is no one, for if anyone were, he would be differentiated from the Pleroma and would possess qualities which would distinguish him from the Pleroma.

In the Pleroma there is nothing and everything: it is not profitable to think about the Pleroma, for to do that would mean one's dissolution.

The CREATED WORLD is not in the Pleroma, but in itself. The Pleroma is the beginning and end of the created world. The Pleroma penetrates the created world as the sunlight penetrates the air everywhere. Although the Pleroma penetrates it completely, the created world has no part of it, just as an utterly transparent body does not become either dark or light in color as the result of the passage of light through it. We ourselves, however, are the Pleroma, so it is that the Pleroma is present within us. Even in the smallest point the Pleroma is present without any bounds, eternally and completely, for small and great are the qualities which are alien to the Pleroma. The Pleroma is the nothingness which is everywhere complete and without end. It is because of this that I speak of the created world as a portion of the Pleroma, but only in an allegorical sense; for the Pleroma is not divided into portions, for it is nothingness. We, also, are the total Pleroma; for figuratively the Pleroma is an exceedingly small, hypothetical, even non-existent point within us, and also it is the limitless firmament of the cosmos about us. Why, however, do we discourse about the Pleroma, if it is the all, and also nothing?

The pairs of opposites are the qualities of the Pleroma: they are also in reality non-existent because they cancel each other out. ... Since we ourselves are the Pleroma, we also have these qualities present within us; inasmuch as the foundation of our being is differentiation, we possess these qualities in the name and under the sign of differentiation... (C.G. Jung, Seven Sermons of the Dead)

The Luminous Ground

Light is a form of transition from three-dimensional space, the old notion of aether, to the space with four dimensions. All forms of energy originate as light. We are beginning to understand what nature has been hiding beneath her mystic veil of non-observability. The unmanifest is latent within the fullness of emptiness. The zero-point field is a blinding light containing all the energy potential available to the Universe.

The kabbalistic *Ayin 0* and *En Soph 00* are the Void and the Plenum, for the material side of nature. Latent pre-existence within nonexistence, *En Soph* includes all varied kinds of beings and their qualities and beauties, and all the laws and forces and particles of the universe. *En Soph Aur*, 000, the third aspect of the Absolute, means Limitless Light. Before the beginning, the limitless light fills the Limitless *En Soph*.

This Limitless Light is described as negative light -- in distinction to positive light manifest within creation. Since it is everywhere, inside and outside of us, permeating every atom in our bodies, we are effectively blind to virtual photon flux. It blinds us by its presence with the illusion of void.

The world of light that we do see is all the rest of the light that is over and above the zero-point field. We cannot eliminate the zero-point field from our eyes. The vacuum remains the simplest state of nature. Life takes refuge in a single space - absolute space - the luminous core of meaning itself. The inherent meaning of life is in our alliance with the changing patterns of eternity.

Jung's Way

The Philosopher's Stone equates with Jung's notion of the mandala as a unifying symbol and the elusive Unified Field of physics. A whole thing will be spaceless and timeless by logical necessity alone. Everything is related through empty space; everything exists in a single continuous field, a unifying matrix. We can only comprehend our essential nature by starting with zero, the groundstate. Such a journey is a modern version of the descent and return to the invisible underworld. Through such processes we touch our wholeness.

Through understanding we transmute matter. One of Jung's central psychological processes involves an alchemy-like mixing of the material and the numinous, the visible and invisible, the "irrigation of the conscious mind by the unconscious." The virtual vacuum, the "zero with a thousand faces," is a manifold of imagery and symbolism. He calls this interactive process individuation, the experiential Grail of Jungian psychotherapy.

The Virtual Physics approach is neither old-school "archetypal" nor complex-oriented. Rather than limiting exploration piecemeal to a few select archetypes or specific complexes, it approaches the individual as an energetic whole, not as a collection of fragmented parts. The similarity of archetypes (pervasive patterns which repeat in nature and the psyche) may be a function of genetic structure.

Genetics provides a sense of universality among all humankind of senses and experiences of structure. We now recognize DNA as the projector of our biohologram. Jung proposed a psychoid nature, (beyond and independent of human experiences), for archetypes. In the deepest sense, these archetypal energies are trans-human, transpersonal.

There is that deeper structure of forms that arises spontaneously from chaos. The limitations of our perceptions and senses, based on genetics, conditions what "archetypes" we tend to perceive, embody and live out. Therefore, an archetype may be a function of genetic commonality. Our perceptions create archetypes by adding words and concepts.

There may be an infinite number of archetypes in the universe, but a select number are most influential in the lives of humanity, including archetypes of nature. These are what get encoded into our being as most relevant. In some cases they are direct representations of archetypal energy patterns.

The organism has rudimentary experience at the sensory level, but no cognitive-emotive existence. It seeks the raw archetypal energy forms rising from its chaotic origin, and selects the ones which most accurately match its experience so far. Because nature always reflects the archetype of death/rebirth, the psychological response to a profound experience in nature may be one of rebirth (Miller).

Dealing with the unknown should be rooted in the best scientific knowledge of one's era. Psychic phenomena can reveal the depths of reality, the meaning of existence. Archetypal images enfold multiple meanings, modes, potentials, dimensions. Beyond the realm of personified archetypes and stereotypical mythic beings is a non-dialogical, purely existential experience of raw energy transforms. In terms of physics, a complex conjugate wave travels back through time, meeting the original wave, modulating it in the process--transforming the present through a transaction.

Every observation -- including those of consciously observing self --sends out a wave toward both future and past. Both the beginning of the wave and end appear to begin in our mind -- our mind in the future and our mind in the present. This bears on the emergence of creativity and intuition. Fred Alan Wolf says that, "the past, present, and future exist, side-by-side. If we were totally able to 'marry' corresponding time each and every moment of our time-bound existences, there would indeed be no sense of time and we would all realize the timeless state, which is taken to be our true or base state of reality by many spiritual practices."

The Jungian symbol is distinguished precisely by its sublime imprecision, its vagueness of outline. Lack of clear definition imbues it with the mystery essential to the numinous. Jung wrote, "Considered from the standpoint of realism, the symbol is not of course an external truth, but it is psychologically true, for it was and is the bridge to all that is best in humanity." The universe is the ultimate symbol and archetype of Being. When we look within, we find a vast realm available to our intuition. In that profound darkness there is a primordial Light, and we are that.

Collaborating with Jung, physicist Wolfgang Pauli encouraged us to find “a neutral or unitarian language in which every concept we use is applicable as well to the unconscious as to matter, in order to overcome this wrong view that the unconscious psyche and matter are two things.” Psyche and soma are indissolubly wed in nature and our nature, and must be considered in an adequate account of reality, from the bottom-up and top-down.

Nature's Way

Information is the distinct patterns or organizations of energy and matter. Information is theoretically defined as something that conveys and harbors meaning; energy is something that is used to perform work; and matter is something that occupies space and has mass.

Matter is a continuous, time dependent, self-organizing process. Particle-wave systems continuously re-order the space that constitutes them. The radiant field is the cosmic egg, the ouroboros. A photon is an elementary particle, the quantum of light and all other forms of electromagnetic radiation, and the force carrier for the electromagnetic force. Light can be interpreted as a field, much like magnetic fields.

The universe could not have come into existence without a pre-cosmic source of potential energy. Both potential mass/energy and potential metric time are fundamental aspects of unconditioned absolute space. This “empty” pre-cosmic space is the origin of total multidimensional spacetime, including all the fractal harmonics of radiant electromagnetic fields and their particle/standing waves.

Unconditioned pre-cosmic space acts like a Bose-Einstein Condensate (BEC) or a super-unexcited and super-cold, superfluid/superconductor boosting quantum effects to macroscopic scales. It has no friction. It is an unusual coherent state of matter that appears because of the quantum mechanical effects on the gathering of entities called bosons.

Quantum decoherence is the process of translation from quantum to classical behavior. It is the loss of coherence or ordering of the phase angles between the components of a system in a quantum superposition. A consequence of this dephasing leads to classical or probabilistically additive behavior.

Quantum decoherence gives the appearance of wave function collapse (reduction to a single possibility seen by an observer) and justifies the framework and intuition of classical physics. Decoherence is the loss of information from a system into the environment. Decoherence does not generate actual wave function collapse. It only provides an explanation for the appearance of wavefunction collapse.

In the exotic BEC form of matter, light is composed of quanta or photons, and its behavior acts as waves or particles. Light particles merge into a single level or entity (such as a laser). All the particles that make up the condensate are in-phase, described by a single quantum wavefunction. All the atoms are identical and no measurement can tell them apart.

The only possible source of such expansive and contractive energy fields within the total manifested cosmic space-time, would have to be the infinite angular spin momentum of the ubiquitous absolute zero-point or infinite ZPE (Casimir Force) located everywhere in the Planck volume of total metric physical space-time (Bearden).

Since all radiant fields have fractal harmonics based on the initial cyclic spin of their ZPE source and the triple cycle loop of its emanation/radiation, all such fields would originate from the same zero-point. Each such field would be woven out of individual rays of ZP force following a triple loop, double helix Mobius Klein path. As all zero-points of absolute space are essentially one thing, all spherical fields (originating from any zero-point spin momentum or singularity in spacetime) would also be interconnected (Maurer). Therefore, all particle-standing waves originating from the same zero-point would be entangled with each other (Aspect).

Archetype of Existence

Aether, hyperspace, and spacetime can be viewed as different states of the same entity at different scales. Aether has no reference points, no meaningful motion, no time, no wave fronts, with empty space as perfectly flat. At the hyperspace level of observation, we get EM waves, strings, branes, quanta, etc. Finally, classical spacetime emerges, the objective Universe as we naturally perceive it. The infinitesimal center is coextensive with the universal continuum.

1. Aether -- (Sub-quantum level) Dimensionless, eternal. David Bohm's implicate order, Basil Hiley's pre-space, subspace. The scale at which non-local, instantaneous state change occurs. This is where Nature's four fundamental forces emerge from.
2. Hyperspace -- (Quantum level) Wheeler's quantum foam. Quantum gravity. Quantum weirdness. A medium where more than one object can occupy the same space; allowing for quantum wave superposition, parallel, and non-linear, information processing.
3. Spacetime -- (Classical level) Intersubjective creation; Gravitation, matter... the objective Universe. (Duchesne)

Each subjective experience injects one bit of translanguistic information into this objective store of information which then specifies the relative probabilities for various possible future subjective experiences to occur. This feedforward is the fundamental mechanism of the self-creation of the universe from a deep level of non-individuated consciousness.

It eventually becomes embodied within the collective and individual, conscious and unconscious activities of all sentient beings. This is the collective entanglement of sentient quantum intentionality, interacting with quantum potentiality which has the most significant determining influence upon deep aspects of the manifestation of quantum reality into the experiential worlds.

Particle-wave systems must be in constant motion, continuously processing space in order to continue their existence. When their motion ceases, they simply disintegrate. Virtual particles pop-up from hyperspace into spacetime as the result of random field interactions, such as

resonance. We are observing energy exchanges in nature. Nothing else is taking place. A wave requires time and space. Amplitude happens in 3D space, and then it moves so that those dimensions change. Time is motion in space.

Particles stay in spacetime because they have stable standing waves. Is a spherical standing wave an emitter and reflector? A transmitter and responder is a transponder. In the case of two emitters, the emitter basically creates its own responder. In that case the "aetheric" background may have new quality. Are spherical standing waves virtual transponders producing an information circuit?

Radiant fields are, in effect, spherical standing waves that follow a double helix spiral vortex Mobius Klein path. Plausibly, the incoming wave is the compressive gravity aspect, and the outgoing wave is the expanding electromagnetic aspect. Is a spherical standing wave (radiant field) the signature of a virtual transponder simultaneously receiving, translating and then re-broadcasting information? (Maurer)

Huping Hu's research suggests biologically/chemically meaningful information can be transmitted through quantum entanglement from one place to another by photons and possibly other quantum objects such as electrons, atoms and even molecules. Second, both classical and quantum information can be transmitted between locations of arbitrary distances through quantum entanglement alone. Third, instantaneous signaling is physically real which implies that Einstein's theory of relativity is in real (not just superficial) conflict with quantum theory. Fourth, brain processes such as perception and other biological processes likely involve quantum information and nuclear and/or electronic spins may play important roles in these processes.

Nature of Consciousness

Paradoxes arise in self-referential systems that cannot be logically resolved, making certain questions in principle unanswerable. Consciousness is self-referential awareness, the self's sense of its own existence. This is the archetype of the feedback loop when consciousness tries to explain consciousness. But human consciousness is more than just an ordinary feedback loop. It's a strange loop, which Hofstadter describes as a loop capable of perceiving patterns in its environment and assigning common symbolic meanings to sufficiently similar patterns.

Symbols stand for abstract regularities in the world, Hofstadter asserts. Human brains create vast repertoires of these symbols, conferring the "power to represent phenomena of unlimited complexity and thus to twist back and to engulf themselves via a strange loop." Consciousness itself occurs when a system with such ability creates a higher-level symbol, a symbol for the ability to create symbols. That symbol is the self -- The I Consciousness.

"You and I are mirages that perceive themselves," Hofstadter writes. The 'I' we create for each of us is a quintessential example of a perceived or invented reality. It's not the stuff out of which your brain is made," Koch says. "It's what that stuff represents that's conscious, and that tells us that lots of other systems could be conscious too." This self-generated symbol of the self

operates only on the level of symbols. Mysteries multiply because the symbol is generated by the thing doing the symbolizing. (Sigfried)

The thing that matters is information. Information can be seen as an abstract, almost transcendental stuff that can circulate unchanged among different material substrates. Once we begin to believe that information is more essential than material forms, we vacate the old cosmos defined by presence and absence, entering a world characterized by the binary feedback of pattern and randomness, signal and noise.

Our community of minds is knitted together by codes and symbols, intuitions, aspirations, histories, hopes. The invisible world of the human experience is far more real to us than the visible world, which is little more than a kind of stage or screen on which we move. Understanding the virtual root of reality we find there are fields of data not ordinarily coordinated by ordinary perception.

Pattern Recognition

Consciousness inherently represents information with symbols and puts that information together to make sense of the world. The brain's information processing powers allow the mind to symbolize itself. Focusing on information could sharpen science's understanding of consciousness. A brain's ability to find patterns in influxes of sensory data, to send signals back and forth to integrate all that data into a coherent picture of reality and to trigger appropriate responses all seem to be processes that could be quantified and perhaps even explained with the math that describes how information works.

Consciousness copes with thoughts and emotions, hopes and fears, ideas and desires. Numbers can represent the complexities of all of mathematics, so a brain can represent the complexities of experience (including the brain itself). Gödel's proof shows math is "incomplete"; it contains truths that can't be proven. And consciousness is a truth of a sort that can't be comprehended within a system of molecules and cells alone. Viewed as a symbol, consciousness as a grand idea can be compared to the atom and the gene.

Michael Persinger suggests that consciousness, including mystical states can be expressed as quantum phenomena, coupled to electron movements, congruent with magnetic fields strengths associated with neurocognitive activity. Such information accessing states may recruit the fundamental properties of space-time, matter and information. Pulsed electromagnetic fields (photons) carry information through quantum entanglement.

A mental experiment can test the actuality that consciousness and time are fundamental qualities of the zero-point of absolute space located everywhere in 3D space-time, and that the universe is a hologram. Mentally observe that the light from every star seen from any point of view on Earth converges in every zero-point between our point of view and the entire star field. Each point of view, regardless of location in 3-space-time, is at the exact center of the universe observed from that point. The total image at the point of observation is a hologram. Bohm and Susskind demonstrate viable theories of such holographic realities.

Metaphysical space is the unconscious -- self-aware emptiness. In quantum theory, matter becomes an aspect of mind. Spin-mediation is one theory of consciousness. The spin-mediated consciousness theory originally proposed in 2002 by Hu & Wu, dealt with the immanent aspect of consciousness such as awareness. By 2004, they added, "Within this framework, the nuclear/electronic spins are the mind-pixels which interact with the brain through quantum effects, modulating and being modulated by various classical brain activities such as the action potentials".

Hu suggests, "The transcendental aspect of Consciousness produces and influences reality through self-referential spin as the interactive output of Consciousness. In turn, reality produces and influences immanent aspect of Consciousness as the interactive input to Consciousness through self-referential spin."

Spin, torsion, torque, vortex, torus are primordial archetypes of being and awareness. Torsion Fields, the quantum spin of empty space are the large-scale coherent effects of the spin of the particles in the virtual sea. If "torsion fields" can be used for communication, they may explain the anomalies of psi phenomena.

Each form that is in each human mind is, in some sense, an archetype -- some more common than others. A self-replicating archetype that is kindled from the collective unconscious is initiated through a mechanism of unconscious levels of tuning.

All information of consciousness is carried, transformed and transmitted as holographic wave interference patterns on the surfaces of higher order hyperspace fields, which are resonant with the intermediate EM field of the brain. The entire universe, including, all the visible and invisible structures within it, is essentially a hologram. According to the fundamental laws of electrodynamics, such information can be transmitted from one fractal-involved field to the other by phase conjugate adaptive resonance.

Repetition pushes the human psyche toward a bifurcation. Psyche has the possibility of using self-referencing repetition as a chaotic attractor. The progressive is suddenly punctuated by what is novel, and thrown into chaos. Archetypes also shape collective consciousness. They are coherent, complex, intelligible patterns of meaning and improvisational creativity, shaped by multilevel unconscious tuning, deep in the unconscious layers.

Meaning is not an entity, not a creed, a doctrine, a worldview, also not something like the fairytale treasure hard to attain. It is not semantic, not a content. Meaning, where it exists, is first of all an implicit or *a priori* fact of existence. It can never be the answer to a question. It is, conversely, an unquestioned and unquestionable certainty that precedes any possible questioning. It is the groundedness of existence, a sense of embeddedness in life, of containment in the world.

Luminous Consciousness

Creativity is the principle of novelty. Unity with cosmos and the groundstate of Being reveals what IS. Everything pulses with the same luminosity - a magnificent light of unparalleled

brilliance. A holographic description of the world is an observer-centric description. In such a world, consensual reality is not a single objective reality, but many entangled worlds that share information.

The "holographic experience" is one of being simultaneously cosmos and individual self. Archetypes act as the fundamental dynamical patterns characterizing all processes, whether mental or physical. The luminous consciousness of the actively engaged soul (psyche) arises. Consciousness and Being are one. In this realization, the mind, the body and the world become transparent and luminous.

"Luminosity" and "intentionality" are two structures of consciousness, which can be distinguished but not separated. Their inter-involvement creates "the paradox of consciousness." Intentionality is oriented to "thing-reality," as luminosity is toward "It-reality." We direct our intentionality to things outward or inward, in the world or in consciousness. We do so by participating in a larger "It-reality" that illuminates what we do.

Virtual Vacuum

The quantum vacuum is a dynamic massless scalar field. A hologram is a scalar field. Scalars are just active information; a hologram is pure information. Entanglement is a property of nonlocal quantum information exchange. A neural hologram made by the interaction of waves in the cortex is, in turn, based on a hologram of much shorter wavelengths formed by the wave interactions on the sub-atomic level. The holographic frequency domain is a plenum.

Our observer-dependent future event horizon may also be the hologram screen. Leonard Susskind's holographic principle suggests the brain is like a television receiver and we receive things through it. If something happens to the receiver your image gets blurred. But it won't hurt the program. Anyone with a good set can still receive it, as you could if you got a new television set.

So the real you (the operator who is using the neurons in the brain to come through) is like a program and the body is like a set that receives it, and has static (noise), a refresh rate, and coherent signals of varying resolution. Our DNA functions as a projector of the quantum biohologram, our existential blueprint. Information emerges from and is preserved as matter (DNA). Frequency modulates matter.

Mind is emergent sparkling awareness, an existential hologram interpreting a holographic universe. Mind is part of a nonphysical but physically-effective reality that can interface and interact with physical reality, and in which physical reality is embedded. There is a fundamental unity between the universal mind and the cosmos itself -- including the unfolding of time. The structure of the relationship between macrocosm and microcosm is expressed in mathematical, scientific and mythological symbols.

Intuitive grasp of these symbols is the root of astrology and astrotheology, and perhaps even modern cosmology. "Twinkle" is evidence of the "filling in" process. The luminosity is the

radiance of our own minds. The alchemists and Jung referred to the phenomena as “scintillae”. Archetypes' numinous luminosity attracts and holds us like a gravity well. Archetypes function like strange attractors. Archetype can be interpreted in a broader way than the same sense as used by Jung.

Whirling particle waves obey the laws of quantum physics. All observable objects are three-dimensional images formed of standing and moving waves by electromagnetic and nuclear processes. All these objects are electromagnetically-formed 3-D images or super-hologram images, neuro wired holograms in a world of simulacra.

Obviously, whatever physical science tells us is simply about the substances of the images and not about the substance of whatever realities to which those images refer. Physical science has revealed the imagistic *modus operandi* but not ultimate reality. We cannot accept that the projection mechanism for such superholograms is ultimate reality.

Remarkable natural frequencies permeate consciousness stimulating and activating potential seeds of transformation within us. These frequencies arouse sympathetic responses that reach into the superconscious mind and stimulate the production of neuropeptides. Powerful hormones are the bridge between mind and matter, open on one side to states of the psyche, and on the other side to the subtle bio-electronic signals and interplay that govern all psycho-physical processes.

Archetypes refer to principles so primordial that they underlie the fundamental shaping of all structures. Attractors bring coherence to various signs and symbols. Symbols (point, line, wave, helix, vortex, singularity, standing waves) themselves -- words, pictures, images, dreams -- point to the deeper structure of things, including the deeper structure of time. Time is the master control. Each moment cuts through the entire physical universe, holding all of space in itself. A line of time is an occurrence, and a wave of time is a recurrence. A circle of time is eternal recurrence. When we break that, we're on a helix, each time we come around is a little different.

Numinous experience is the urgent emergence of Mystery. Light is the archetype of the revelation of ultimate reality. This source effect is the root of the religious drive. Due to religious undertow, mankind never ceases trying to personalize the awe-inspiring and fascinating numinous element. Jung called the "numinous element" the collective unconscious and Clear Light of the Void. The numinous experience can lead to belief in deities, the supernatural, the sacred, the holy, and/or the transcendent. But it is a phenomenon, not contact with a "separate" "divinity", per se.

Activated archetypes are often compensatory in nature, and associated with trance, art, and creativity. Trance (awe and dread of the uncanny) is an escapist dissociation; art is a way of personal expression; creativity brings cognition, universality, and compassion into the process. There is above the celestial fire an incorruptible flame, always sparkling; the spring of life, the fountain of all being. Actually our bodies *are* like fountains, with an electromagnetic heartfield in the shape of a torus that engulfs the whole body. The fountain has a shape only because it is renewed every minute, as our “flickering” bodies are renewed. Entangled with cosmos, we are standing waves -- probability waves -- nonphysical, nonmaterial waves.

What grants access to and control of a higher pleromic body made of a nonmolecular substance? Is this the creative zone -- the edge of chaos? We are always at the creative inflection point. Breakthrough happens at the edge of chaos. This is a region, not a critical bifurcation point as in the classic picture of dynamical systems. Chaos already exists at the onset of this region, enlivened with creativity.

A form of creativity, healing happens at the creative edge of chaos by pushing up against our own boundaries. It happens by letting go of old outmoded patterns and making way for new self-organizing dynamics to emerge. Just as one powerful experience can create trauma, a single potent episode can mobilize healing - a quantum leap to recovery of body, soul and spirit. (Miller)

This holistic philosophy of treatment is an emergent healing paradigm - holographic healing. "Archetypes" was Jung's word for all dynamic processes considered spiritual, holy, sacred, or formerly labelled divine -- including a scientifically approachable transcendental ground of existence.

Metaphorms

Paradoxically, when we look into the depths of matter, we look into the depths of ourselves and find the universe mirrored within. The world we live in lives in us. Scientists and mystics report similar phenomena in their models and phenomenology. Source feeds information into the brain's cortex through a variety of channels (genetic and memetic 'intraspecies' information transfers, then 'interspecies' transfers under specified conditions (mirror neuron activation, intentional behavior, etc)).

Religion and spirituality are largely about trying to understand the nature of consciousness in relation to the cosmos, so it is completely logical and natural to expect that we might actually come to understand the religious aspect of existence by following the conscious mind into its source nature. Spiritual technologies, the software of sacred penetration and amplification, virtually predicted the fine nature of matter as nothing but a complex illusion - what we have come to understand as a hologram. Though the map is not the territory, it is good for orientation purposes, and to compare amongst practitioners with different jargon. Mystics have also always emphasized the primal nature of Light, and claim that we are in fact made of light itself.

Science has confirmed this in numerous ways. Both science and mystics claim the primacy of Light. Nanoscale symmetry is reflected in both matter and the natural number sequence and is the tuning system of resonant nodes. The magnetic field tunes chains of spin. Tension comes from the interaction between spins causing them to magnetically resonate. Their frequencies are in Phi ratios.

Vacuum Domains

In the quantum world, everything is in self-organizing flux, including the subquantal virtual photons popping in and out of existence. The foamy Zero Point fluctuation of subspace perturbs and determines the behavior of quantum systems theoretically through radiant EM fields. Radiation is absorbed from the zero-point background. The stability of matter itself is mediated by the zero point fluctuation phenomena.

All of Nature and our own nature arise from the omnipresent centerpoint of Zero-Point Energy or vacuum fluctuation, beyond energy/matter. There is an infinite realm of pure potential beyond the observational threshold of the metaphorical "Mystic Veil" of manifestation. It is the primal Source of all light and life, love and wisdom, passion and creativity. The strength of our connection to Source determines our relative health and well being, our freedom to be and express our essential nature, and to manifest our own potential.

Our whole body flickers in and out of existence at the quantum level at an astounding rate, and each of those quantum re-creations is an opportunity to transform utterly. First we have to let go of the old outmoded self like a snake sheds a skin that is too constricting. Re-creation emerges spontaneously in a new form as transformation and healing. At our core, we are artful and heartfelt, able to tap our potential for nourishing wisdom, love, bounty, health, peace and other desirable qualities and outcomes.

The Undivided Self

Emergent healing is the result of self-organizing criticality, inevitability of global change, restored organismic integrity. Our own personal Zero-Point is our core self which connects us directly with our hyperspace Source. When we stray too far from our own core beliefs, self-image and self-expression, we feel like we aren't ourselves.

Once we reconnect with that core we feel that all is in alignment, including our physical, emotional, mental and spiritual domains. We feel like ourselves, in our own rhythm, and aligned with Cosmos. This opens us to the synergetics effects of the flow state and synchronicity; doing better than we know. This is the authentic life, also known as self-actualization. Potential becomes lived Reality.

The Heart Sutra tells us that the Void and Form are two paradoxical sides of the same coin: "Void is not other than Form and Form is not other than Void." ZPE contains the undiluted essence of all that emanates from it. It is the upwelling Source of all that flows forth, the moment of expansion spilling over at the edge of infinity. ZPE is the common ground of psyche and matter.

Change happens at the CREATIVE EDGE of order and chaos, the Known and the Unknown. This is why we do challenging EDGEWORK when we want to actualize our potential. Where are the boundaries of conscious experience and self, and why do these boundaries exist? What is beyond this mystic veil? How do boundaries, roles and pathology develop in interaction with

parents, caregivers and others? In what ways are they conditioned by prevailing systems of belief, philosophy, sociocultural history, and environment?

Chaos Theory shows the more complex a system, the more stable and self-correcting it is. A dynamic system in the critical state produces chain reactions of all sizes and durations. Bifurcations are catastrophic state-changes that occur when the critical state is reached.

How is adult experience and sense of self altered by physical, psychological, social or spiritual development and challenge or crisis? How does subjective experience relate to intersubjectivity? How do changes in conscious experience affect one's sense of self, for example through meditation, mysticism, or in pathological states?

When Staying Safe means Staying Stuck your outmoded solution IS the problem, it is time for change. We create an internal map of reality so we can feel safe in our family and environment as children, but it is the viewpoint of a child which becomes outdated or obsolete. Beliefs can come from the inside or outside. We filter sensory input and focus on certain details and delete others, unconsciously, missing the big picture that can challenge and foster our growth.

What is, IS as much as we may try to spin-doctor, edit or deny it. The old self must "die" for the new self to emerge from the pain and fear. We can focus on this natural filtering process and decide how to focus and what to delete to serve ourselves best. We can facilitate actualization of our own positive potential.

Making Time Matter: Instantaneous Tempic Potential

In a continuous creation, the center of the universe is everywhere and it is a seething cauldron of potential. Everything, every thing, manifests from the temporal interaction with the local nonlinear vacuum of spacetime. The interaction of time and negative time extracts massergy from the limitless ocean of roiling subspace. It manifests the temporal potential of force and form in each and every instant at each and every point of being and our being and becoming.

Zero-Point expert, Thomas Bearden describes time as "spatial EM energy compactified by the speed of light squared." Time, therefore, has the same energy density as mass, but in the unobservable time domain, rather than the observable 3-space domain. Time embodies persistence itself – duration.

The "frozen snapshots" of observable physics have excluded or merely implied this dimensionality of time by invoking memory. But since time is energetic, it has a energy density and potential force, which can be tapped. Empty space is highly energetic. Nikola Tesla stated in 1891 that the aether "behaves as a fluid to solid bodies, and as a solid to light and heat," and that under "sufficiently high voltage and frequency," it could be accessed, implying free-energy and anti-gravity technologies.

The flow of mass, and our own mass, through time is generated by the ubiquitous interaction of photons with the mass. This is so for both virtual and observable photons. Mass moves through

time by integrating virtual photons, and absorption/emission of observable photons/biophotons. The internal dynamic flow of time has infolded sublevels and engines that pump up the quantum field effects to breach the mystic threshold of observability.

What Time Is It?

Scalar EM wave vibrations occur in the time domain only. This longitudinal EM wave is called a “scalar” photon in QM, so long as it remains in subspace or hyperspace. The nonobservable scalar photon is the main operator of Quantum Field Theory (QFT). The combination of the scalar and longitudinal photon is observable as the instantaneous scalar potential. It reveals the threshold of manifestation – unfolding spacetime.

When massergy enters 3-space, it becomes entropic, while the negentropic potential remains unmanifest as its sustaining force. When negentropy manifests, its entropy crosses the mystic veil into nonobservability. The generative signal wave is always negentropic, instantaneously reordering previously scattered energy without requiring input energy. Emergent continuous creation.

Time moves forward (retarded wave) as our perceptions verify, but reversed-time advanced waves are enfolded in the energy-density of compactified spacetime. This dual wave system, namely concentric, divergent and retarded on the one hand, convergent, and advanced on the other hand ensure that data circulates both ways. The advanced wave brings information in from the entire universe. The retarded wave conveys information outward.

In Cramer’s Transactional Interpretation of QM, a standing wave in spacetime is set up by a superposition of advanced and retarded waves, equivalent to the Copenhagen “collapse of the state vector”. This backward reaching handshake of the future to the past completes the transaction. The quantum measurement process happens “when” the transaction is finished. This happens over a spacetime interval; not a time of collapse, only to an interval of collapse (consistent with relativity). Signals (t and $-t$) are sent from the future to the past by quantum particles.

Time-polarized EM waves accompany all longitudinal EM waves. Pumping a living organism with longitudinal EM waves also pumps it with time-polarized EM waves, adding a positive time-charge which persists once the longitudinal EM wave radiation is removed.

Space Time Reversal SpaceTime Reversal

Reversed time is virtual or imaginary time. The relevant order of events is more important than the direction of time itself. Things happen within intervals of time. Without massergy, there is no spacetime in this universe. Mass energy and spacetime emerge simultaneously. Continuity follows because there is no physical instant or progression of time, only uncertain intervals, as wave/particle duality hints.

In his Scale Expanding Cosmos model, Masreliez postulates that the universe is constantly and incrementally changing scale, but the increase is imperceptible because the change in space metrics is accompanied by a corresponding change in the metric of time. For those who inhabit the universe, things remain the same.

Everything expands at the same pace. The universe expands by changing the scale of both space and time. When space expands, the pace of time slows down. This four dimensional scale expansion is the impellor of time and probably perturbs space. Kaivarainin states, "The pace of time for any closed system is determined by pace of kinetic energy change of this system. The time oscillation (temporal field) is shown to be related in coherent way to oscillation of electromagnetic and gravitational fields."

Bearden states, "the resident spacetime curvature engine in the mass if amplified and phase conjugated, forms a precise, amplified antiengine which then slowly time-reverses the mass back to a previous physical condition and state." However, he cautions that, "time reversing a single object or single group of objects is not the same as scifi "travel into the past." For that, the entire universe and everything in it – except the traveler – would have to be time-reversed.

Still, "time-reversal of a single thing such as a particle or wave – or even a group of things such as a group of particles or waves – is not only feasible but is readily achievable," in a zone (TRZ) where interactions with antiphotons predominate. Vacuum pumps and vacuum engines can be identified in nature.

Ordinary electrons are in a positive energy condition, so the vacuum of spacetime is a vast ocean of negative electronic energy conditions for electrons to sink into and essentially 'disappear'. If positive energy is added to the vacuum, electrons may also be lifted from the Dirac Sea, creating a flow from the nonlinear vacuum.

The Dynamic Nature of Time

Kozyrev (1967) was among the first to experiment with a dynamical theory of time. The exact sciences negate the existence in time of any other qualities other than the simplest quality of "duration" or time intervals. This quality of time is similar to the spatial interval. The theory of relativity by Einstein made this analogy more profound, considering time intervals and space as components of a four-dimensional interval of a Minkowski universe.

Only the pseudo-Euclidian nature of the geometry of the Minkowski universe differentiates the time interval from the space interval. Under such a conception, time is scalar (scalar = weight) and quite passive. It only supplements the spatial arena, against which the events of the universe are played out.

"Causal" or "asymmetrical" mechanics should be be realizable experience, indicating where the cause is and where the result is. It can be demonstrated that in statistical mechanics there is a directivity of time and that it satisfies our desires. In reality, statistical mechanics constructs a certain bridge between natural and theoretical mechanics.

In reality, the directivity of time signifies a pattern continuously existing in time, which, acting upon the material system, can cause it to transfer to an equilibrium state. Under such a consideration, the events should occur not only in time, but also with the aid of time. Time becomes an active participant in the universe, eliminating the possibility of thermal death. Then, we can understand harmony of life and death, which we perceive as the essence of our world.

Causality is linked in the closest way with the properties of time, specifically with the difference in the future and the past. Time possesses a quality, creating a difference in causes from effects, which can be evoked by directivity or pattern. This property determines the difference in the past from the future.

Cause is always outside of the body in which the result is realized and the result sets in after the cause. Causes and results are always separated by space. Therefore, between them exists an arbitrarily small, but not equaling zero, spatial difference.

Causes and results are separated in time. Therefore, between their appearances there exists an arbitrarily small, but not equaling zero time difference. Variation in a quantity of motion cannot occur under the effect of internal forces.

In atomic mechanics, just the opposite takes place. In it, the principle of impenetrability loses its value and, based on the possibility of the superposition of fields. The influence upon the system of a macroscopic body, i.e., they devise, introduces a difference between the future and the past, because the future proves predictable, while the past is not. Therefore, in the temporal environs of the experiment it is not = to 0, although it can be arbitrarily small. In this manner, classical mechanics and atomic mechanics enter into our axiomatics as two extreme systems.

The rate of the transition of the cause to the effect is accomplished through the "empty" point, where there are no material bodies and there is only space and time. Hence, the value C can be associated only with properties of time and space, not with the properties of bodies.

The conversion of the cause to an effect requires the overcoming of the "empty" point in space. This point is an abyss, the transition through which can be realized only with the aid of the time pattern. From this, there follows directly the active participation of time in the process of the material systems. C is not a scalar value but a pseudo-scalar value: i.e., a scalar changing sign in the case of the mirror image or inversion of the coordinate system [Bearden's Negative Time].

The time pattern should be determined in relation to a certain invariant. Such an invariant, independent of the properties of matter, can be only space. The absolute value of the time pattern is obtained when the absolute difference in the future and the past will be linked with the absolute difference in the properties of space.

In space there are no differences in directions, but there is an absolute difference between right and left, although these concepts per se are quite tentative. Therefore, the time pattern also should be established by a value having the sense of a linear velocity of turning (rotation). From this it follows that C cannot equal the speed of light, C comprising the conventional scalar. From

the pseudo-scalar properties of the time pattern, there immediately follows the basic theorem of causal mechanics.

A world with an opposite time pattern is equivalent to our world, reflected in a mirror. In a world reflected by a mirror, causality is completely retained. Therefore, in a world with an opposite time pattern the events should develop just as regularly as in our world. It is erroneous to think that, having run a movie film of our world in a reverse direction, we would obtain a pattern of the world of an opposite time direction.

We can in no way formally change the sign in the time intervals. This leads to a disruption of causality: i.e., to an absurdity, to a world which cannot exist. In a variation of the directivity of time, there should also become modified the influences, which the time pattern exerts upon the material system.

Therefore, the world reflected in a mirror should differ in its physical properties from our world. However, classical mechanics confirms the identity of these worlds. Up until recent times, this identity was assumed in quantum mechanics and was said to be the law of the preservation of parity.

However, studies by Lie and Young of the nuclear processes during weak interactions led to the experiments, having demonstrated the erroneous position of this law. This result is quite natural under the actual existence of time directivity, which is confirmed by the direct experiments.

This asymmetry can be not only a passive result of the laws of nature, reflecting the time directivity. Most likely, under a definite asymmetry, corresponding to the given time pattern, an organism acquires an additional viability: i.e., it can use it for the reinforcement of life processes.

It is possible that specially formulated biological experiments will be able to prove directly that life actually uses the time pattern as an additional source of energy. At these points cause and effect should have opposite signs, meaning that there should also be an opposite orientation of the perpendicular plane.

It turns out that the time pattern of our world is positive in a levorotary system of coordinates. From this, we are afforded the possibility of an objective determination of left and right; the left-hand system of coordinates is said to be that system in which the time progress is positive, while the right-hand system is one in which it is negative. In this manner, the time progress linking all of the bodies in the world, even during their isolation, plays the role of that material bridge. The rotation alters the possibility of this inflow, and, as a result, the time pattern can create additional stresses in the system. The additional stresses alter the potential and the full energy of the system. These variations produce the time pattern. From this it follows that time has energy. Since the additional forces are equal and are directed oppositely, the pulse of the system does not vary. This signifies that time does not have a pulse, although it possesses energy.

The infinite pattern of time can in no way be altered. Therefore, time proves to be an imparted fate and invincible force. However, the actual time has a finite pattern and can be effective, and

this signifies that the principle of time can be reversible.

Newtonian mechanics correspond to a world with infinitely stable causal relationships. Quantum mechanics represent another critical case of a world with infinitely real causal relationships. The theoretical concepts expounded here are basically necessary only in order to know how to undertake the experiments in the study of the properties of time.

The single universal constant, which can have the meaning of a pseudo-scalar, is the Planck constant, h . In reality, this constant has the dimensionality of a moment of a quantity of motion and determines the spin of elementary particles. Now, utilizing the Planck constant in any scalar universal constant, it is necessary to obtain a value having the dimensionality of velocity.

The possibility of communications through time will probably help to explain not only the features of biological relationship but also a number of puzzling phenomena of the physics of man -- biophysics. Perhaps instinctive knowledge, even telepathy, is obtained specifically in this manner. All these relationships are not shielded and hence have the property for the transmission of influences through time.

Further observations indicate that in the causal-resultant dipoles a complete compensation of the effect of its poles does not take place. Obviously, in the process there occurs the absorption or output of certain qualities of time. Therefore, the effect of the process could be observed without a preliminary excitation of the system.

The force fields transmitting the influences should be regarded as a system of discrete, non-overlapping points. This finding is linked with the general philosophical principal of the possibility of cognition of the world. For the possibility of at least a marginal cognition, the combination of all material objects should be a calculated set: i.e., it should represent a discrete state, being superimposed on the continuum of space.

Among the most important results are the conclusions concerning the finiteness of the time pattern, the possibility of partial reversal of the causal relationships, and the possibility of obtaining work owing to the time pattern.

Kozyrev's tests (1967) proved the existence of the effects through time of one material system upon another. This effect does not transmit a pulse (momentum), meaning it does not propagate but appears simultaneously in any material system.

In this manner, in principle it proves possible to have a momentary relationship and a momentary transmission of information. Time accomplishes a relationship between all phenomena of nature and participates actively in them.

Organized systems exhibit resonances. Resonances lead to oscillations. Oscillations represent time cycles during which changes may be introduced. Such changes may dampen or amplify the existing oscillations. Alternatively, they may create new resonances and excite new sets of oscillations. The more complex the system, the greater the likelihood of introducing change into the system during any given cycle. Hence the exponential growth of information.

From these quantum energy-metaphors we have now also found a more efficient way of imagining how energy takes on its 3-dimensional shape as it moves through the temporal dimension of our reality: Dimensionless virtual/actual particles vibrate across time, forming two-dimensional waves, which oscillate across time in various geometric shapes, which in turn move about in all four dimensions like invisible duct-work energy tunnels. As shaped energy becomes increasingly ordered into evolving patterns of evolving patterns, it begins to electromagnetically manifest as matter.

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On the Nature of the Vacuum and Virtual Subspace Entities

Quantum field theory (QFT) presumes the vacuum ground state is not completely empty, but seethes with impermanent virtual particles and fields. There are two theories that describe the behavior and characteristics of the physical vacuum and the ZPE at the atomic or sub-atomic level, the quantum vacuum field:

QED: The quantum electrodynamics (QED) model of charged particles with the electromagnetic field, consistent with special relativity. At the atomic level, the QED model proposes that, because of the high inherent energy density within the vacuum, some of this energy can be temporarily converted to mass. The QED model maintains that the zero-point energy reveals its existence through the effects of sub-atomic virtual particles. ZPE permits short-lived

particle/antiparticle pairs to form and almost immediately annihilate each other. These particle/antiparticle pairs are called virtual particles.

QED describes mathematically both interactions of light with matter and those of charged particles with one another. In this model, an atomic particle such as a proton or electron, even when entirely alone in a vacuum at absolute zero, is continually emitting and absorbing these virtual particles from the vacuum -- a virtual particle cloud. The absorption and emission of these virtual particles also causes the electron's "jitter motion" in a vacuum at absolute zero. As such, this jittering, or *Zitterbewegung*, as it is officially called, constitutes evidence for the existence of virtual particles and the ZPE of the vacuum.

There is a cloud of virtual particles around the "bare" electron interacting with it. When a full quantum increase in the vacuum energy density occurs, the strength of the charge increases. With a higher charge for the "point-like entity" of the electron, it would be expected that the size of the particle cloud would increase because of stronger vacuum polarization and a more energetic *Zitterbewegung*.

SED: The somewhat more recent stochastic electro-dynamics SED approach affirms that the ZPE exists as electromagnetic fields or waves whose effects explain the observed phenomena equally well. SED treats quantum field-particle interactions like classical dynamics. (Puthoff, 1987) In the SED approach, the vacuum at the atomic or sub-atomic level may be considered inherently comprised of a turbulent sea of randomly fluctuating electro-magnetic fields or waves. Stochastic resonance is produced by random stimuli.

These waves exist at all wavelengths and are homogeneous and isotropic at the macro-level, which means they have the same properties uniformly in every direction throughout the whole cosmos. In the SED explanation, the *Zitterbewegung* is accounted for by the random fluctuations of the ZPF, or waves, as they impact upon the electron and jiggle it around.

Because light waves are an electromagnetic phenomenon, their motion through space is affected by the electric and magnetic properties of the vacuum, namely the permittivity and permeability.

The effect of vacuum fluctuations on electron coherence is known: the time-varying electromagnetic field produces a time-varying Aharonov-Bohm phase.

The Unified Field: Quest for the Holy Grail

The Copenhagen Interpretation (CI) is the standard model of quantum physics because of its ability to make predictions from a real-world experimental basis. In this theory, light is both a particle and a wave and so is everything else. Uncertainty rules supreme since we cannot simultaneously calculate both position and velocity of subatomic operators, but only probabilities.

Other coherent yet flawed theories have been less successful in this and other regards, some being entirely nontestable. All agree that light is a primary manifestation of the engine of the

cosmos. Meanwhile, subatomic factors with many strange properties have proliferated into the “particle zoo.”

Still, the search for undiscovered particles or energies that could point toward unification continues. Many attempts have been made to fit all observations into one ‘container’ that describes everything from the macro- to the microcosmic, down into the virtualities of subspace. Abstract models, flawed inventions or approximations are not physical explanations. Clarity remains elusive and many alternative and idiosyncratic theories have arisen. Theories are often patched up with unnecessary complications.

In the 1960s, Buckminster Fuller proposed a geometric philosophy of a crystalline vacuum based on nature he called Synergetics. His notions of tensegrity have applications in classical and quantum physics, as well as biophysics. He described the crystalline vacuum of cosmic space as with the pre-geometrical properties of Cosmic Zero in his model of the Vector Equilibrium Matrix.

The ‘80s ushered in the era of chaos theory, complexity, dynamics and self-organization, which may ultimately play into the final solutions. Every theory is based in certain fundamental assumptions and postulates about how nature works. They may be coherent within themselves, but not among themselves, which are often mutually exclusive.

Leading contenders in New Physics include the following: Bohm created a holographic concept, Deutsch a variation on Many Worlds (MWI), and Cramer a Transactional Interpretation (TI). Sarfatti has proposed a postquantum backaction theory. Pitkanin describes a TGY physics based on world sheets. Masreliez suggests a Scale Expanding Cosmos (SEC), with a uniform scale invariant expansion for the whole spacetime manifold of the universe.

Greene is the main proponent of String Theory. It has lots of popular appeal but many theoretical inconsistencies, including a proliferation of dimensions and multiple solutions. Since it makes no testable predictions, it is accused of being more of a philosophy than a science. But Kanno et al (2002) describe how “quasi-scalar-tensor gravity works as a hologram at low energy in the sense that the bulk geometry can be reconstructed from the solution of quasi-scalar-tensor gravity.”

Witten unified the five solutions of strings in M-Theory. Still, answers about the true nature of Reality are unlikely to come from a new mathematical model. It should be the other way around: first find what you think might be the solution to a problem, then express it as a mathematical model, then test it.

Negediev uses QCD (quantum chromodynamics) bubbles to describe properties of the vacuum and propagation of quarks and mesonic states in two- and four-dimensional models. In QCD the vacuum is full of quark and gluon condensates with negative energy. Electrogravitics theory (Valone) is a way of modeling gravity as a matter of time with emergent energy science.

Thomas Bearden has generated a great deal of interest in the potential for extracting zero-point energy from the vacuum potential, as originally described by Nikola Tesla and Dirac.

Technological applications are rooted in hyperspace, Quantum Field Theory (QFT), and reformulation of electrodynamics. Most quantum views of space pertain to a fixed instant of time, but Bearden brings [negative] time back into the equation in his experimental models and engineering of the vacuum.

QFT models the fabric of space as tiny oscillating fields interacting with one another, reconciling quantum mechanics with special relativity. Elementary particles, local excitations of the vacuum, are point-like objects of zero intrinsic size. They appear smeared over a region of space due to quantum effects, but their description is written as mathematical points. Together, space, time, and energy form a manifold of functional quantum space.

Astrophysicist, Nikolai Kozyrev wrote a dynamic vacuum theory – an aether theory -- in the 1950s. Hamein-Rauscher (2005) produced a Unified Theory based on differing relative vacuum densities. Unfortunately, it requires black holes at the center of everything, which is impossible in a scale invariant expanding cosmos. Tiller proposed a vacuum theory for psycho-energetic phenomena, intentionality, and subtle energies. He describes it as a way for more spirit to enter dense matter.

Comings and Miller (2005) have also proposed the void is a plenum in the Creative Physics ether model. The nature of embodiment is light. Another viable model of the Bivacuum comes from Kaivarainen. The quantum vacuum is a dynamic massless scalar field. A scalar is a vector characterized by magnitude and time.

Scalar waves (virtual particle flux wave) in the virtual state massless charge flux do not breach the quantum level to become observable, yet they are real. They are harmonic oscillations of the stress energy tensor of the vacuum. They cross the threshold of manifestation only briefly before they vanish. In the vacuum state everything is disintegrated, but highly dynamic.

The vacuum is not an emptiness filled with massless charge, rather, it IS identically massless charge (disintegrated dynamicism). Though no real particles are present, it is a plenum, not an emptiness. It is also pure, undifferentiated action. A curious thing has happened along the way to a Theory of Everything, which is that physics is taking a more and more mystical attitude in its descriptors of what remains essentially a great Mystery. This mystery is compounded when we attempt to apply physics theories to biological organisms, including ourselves – the realm of biophysics.

Cosmic Crystalline Vacuum

Buckminster Fuller spoke in quasi-mystical tones rhapsodizing about his sublime geometries, which bear a suspicious resemblance to zero-point. Jitterbugging Vector Equilibrium Matrix is not structure but a system, the prime nucleated system. V.E. makes conceptual models of 4th, 5th and 5th dimensional omniexperience possible, using tetrahedroning. A current example of this is CDT theory, a triangular universe of 4-dimensional tetrahedrons Equilibrium between + and is Zero.

V.E. is the true zero reference of the energetic mathematics. It is cosmic zero. Zero pulsation in the V.E. is a metaphorm of eternity and God: the zero-phase of conceptual integrity inherent in the + and - asymmetries. V.E. is important because all the nuclear tendencies to implosion and explosion are reversible and always in exact balance.

V.E. is the anywhere, anywhen, eternally regenerative, event inceptioning and evolutionary accomodation that is never seen in any experience. This metaphorm (V.E.) represents the self's initial real=I-zation both inwardly and outwardly from the beginning of being "betweenness"; maximum inbetweenness. Push/pull; convergence/divergence; gravity/radiation. At zero-point, waves pass through waves without interfering with one another. Vectoral phase or zone of neutral resonance occurs between outwardly pushing wave propagation and inwardly pulling gravitational coherence.

Emptiness at the Center: all 4 planes of all 8 tetrahedra are congruent in the four visible planes passing through a common V.E. center, the cosmic terminal condition and nature's most economical lines of energy travel. The dynamic activity connected with the drive to know, to penetrate, to illumine, culminates in a stillness, silence, cessation of all effort which itself dissolves in the tranquility of total negation. $0 = 2$. It is only by virtue of the fact that it is Naught. All form and power are latent in the Void. Hamein and Rauscher (2005) have employed this cuboctahedron to model all of creation. The Crown of Creation

There is a virtual replica (VR) of all matter, including living organisms, in the vacuum. Resonance and oscillation is accompanied by modulation of virtual particle/antiparticle pressure waves. We come from, are sustained by and are returning to the light of our mass, radiant energy. It is the mass-free, force-free form that energy takes in space before its interaction with mass creates force.

The most we can say about our so-called physical existence is that we are standing wavefronts in spacetime. To truly live from that place is to identify ultimately with a superluminal massless body of light, the Diamond Body. That is the true nature of the vehicle of our consciousness, our essence.

Virtual particles are the unseen energetic medium, the dynamic energy matrix of the Universe, riddled with virtual pressure waves. Bidirectional EM wavepairs are the hidden scalar potential. These infolded electrodynamics describe subspace or higher dimensions, depending on how you model it mathematically.

Kozyrev described spinning or twisting "torsion fields" and/or "torsion waves" as the spiraling flow of "time energy". Lt. Col. Tom Bearden, calls them "scalar waves." Their spiraling nature is simply an impulse of momentum that travels through the medium of the aether/ZPE/physical vacuum, without electromagnetic qualities.

Torsion fields, like gravity or electromagnetism, are capable of moving from one place to another in the Universe at "superluminal" speeds, meaning that they far exceed the speed of light. An impulse that moves directly through the "fabric of space-time", travels at super-luminal

velocities and is separate from gravity or electromagnetism, is a significant breakthrough in physics – one that demands that a “physical vacuum”, “zero-point energy” or “aether” must really exist.

“Once we establish that all force fields such as gravity and electromagnetism are simply different forms of aether/ZPE in motion, then we have an active source for gravity and a straightforward reason for why it would exist. We see that every molecule in the entire body of a planet must be sustained by an ongoing in-flow of aetheric energy. The same energy that is creating the Earth is also creating and flowing into us.

Our bodies cannot travel through solid matter, but the current of aetheric energy certainly can – and this is one of the many things that Keely, Tesla, Kozyrev and others demonstrated. A star or planet must continually draw energy from its environment in order to “stay alive.” Kozyrev had made very similar conclusions about our Sun back in the 1950s, concluding that stars acted as “machines that convert the flow of time into heat and light.” (Wilcock)

The active vacuum is active spacetime. The vacuum potential is the pervasive source of all matter/energy or “massergy,” rooted in the cosmic acceleration. Its first observable manifestation is photonic and biophotonic Light. A photon is composed of both spatial and time-energy, even though it is massless. The vacuum potential is raw, untranslated spacetime. Massergy (dynamic structure) is rooted in the unfolding time-charged potential of electromagnetic fields.

The pure vacuum potential, without its zero-point fluctuations decomposes into a harmonic set of bidirectional longitudinal EM phase conjugate wave pairs. Thus EM energy flows between the imaginary plane of time domain and manifest 3-space when the four-fold symmetry is broken with any dipolarity or potential, such as longitudinal or scalar (time) polarization of the photon.

Field Theories

Andrei Linde of Stanford has suggested the expanding fractal universe generates emergent information that could be poetically considered an evolving universal intelligence. If so, it is an emergent property of spacetime as is every thing. But seemingly separate things are a construction of our minds [maya, illusion], an overlay of what is essentially one unbroken movement – a dynamic verb, not a group of nouns.

The largest component of our corporeal existence is the vacuous space between the atoms that make up our physical bodies, which are far from solid in the quantum perspective. We are undergird and literally in-formed by that pervasive infinite informational flow.

Could this be the ancient Greek’s “universal harmonious wisdom” resonating as human consciousness? If so, are we listening to its integrative message? ...in terms of our paradigms, our technology, our ecology, our ethics? The bottom line is that tapping this soulful source, both through aesthetic and technological means may be the key to our survival as a species.

Buckminster Fuller had his own notions of the morphing dynamics of energy/matter in the womb of spacetime. Fuller re-discovered nature's own pulsating flux and means of self-assembly. He lamented that classical science is based on Cartesian coordinates and the structurally incoherent cube, rather than nature's tetrahedral forms and structural tensegrity. He taught us that energy has shape. That shape emerges from the vacuum potential. As the Heart Sutra implies, all form is inherent in the void. The prime pre-geometrical form is the Vector Equilibrium Matrix and its pulsative transforms.

Spacetime for scientific philosopher Fuller meant: "526.01 There is no universal space or static space in Universe. The word space is conceptually meaningless except in reference to intervals between high-frequency events momentarily "constellar" in specific local systems. There is no shape of Universe. There is only omnidirectional, nonconceptual 'out' and the specifically directioned, conceptual 'in.' We have time relationships but not static-space relationships."

The Nature of Nothing

While the laws of nature have not changed, the explanation of what it is to be a *thing* has changed in both QM and cosmology. The vacuum is filled with virtual photons whose motion constitutes the "zero-point energy". This "cosmic zero" may be related to consciousness in some as-yet-unknown way. ZPE fluctuates because this fundamental domain is not smooth but consists of virtual particles boiling into and evaporating out of existence. But where did all these photons in the vacuum originate from? They originated on all the other particles throughout the universe.

All the charged particles in the cosmos are doing the same jitterbug dance that causes electrons to radiate and absorb photons like crazy. Zero-point energy is made up of photons created by all those electrons in distant stars. Virtual photons in space are created by the motions of other electrons, mainly by "distant matter," Each zigzag of a local electron is actually a communication between it and distant matter (Swanson).

The local forces of physics have their origin in the distant matter of space. This amount of matter increases as the square of the distance away. There are enough electrons in cosmos to create the vacuum energy we measure, and to absorb all the photons produced by local particles. We are connected to the distant matter and forces that arise from this connection.

The distant matter of the universe can be displaced or disturbed in different patterns, called "modes." They resemble the vibrational modes of a bell when it vibrates after it is struck. These fundamental vibrational modes can be excited and can resonate. These modes have symmetry and can interact with geometric shapes.

It is possible for every local, nearby electron (or any other particle) to interact with the distant matter virtually instantaneously. Radiation can travel backward in time as well as forwards. Photons which travel backwards in time are called "advanced waves." Photons which travel forward in time are called "retarded waves."

As we look further away in space, we are also looking backward through time into deep time. Feynman-Wheeler suggested as electrons zig zag, they create photons, which radiate away traveling forward in time. Later, it is absorbed by electrons in the distant matter which accelerate and in turn radiate a photon which travels backward in time [actually spacetime], converging back at the original electron's location almost simultaneously with the first photon's radiation.

Instant coupling, the concept of photons traveling backward in time equally balanced by those going forward in time, is deeply embedded in contemporary physics. When electrons point toward one another, their velocities create an interaction over huge distances that are narrow and intense. They push one another backwards at near the speed of light.

Mutual interaction leads to a finite exchange of energy and momentum in the form of a very sharply spiked photon, a photon "pulse" It is these photons that make up the "zero-point energy" of space. The coupled photons produce a very, sharp, short pulse or spike of electromagnetic energy at the smallest unit of energy exchange. Every interaction between electrons consists of one or more photon pulses.

At the Planck scale, space-time structure of the universe begins to break up. Smaller scales than this make inertia and position meaningless. Synchronizing the phases of the photon pulse combines them into "wave trains" or "quantum wave packets", actually made up of many photon pulses from elementary exchanges between electrons. Interestingly, this means the electrons are communicating both forward and backward in time, much like in the quantum handshake of Cramer's transactional model of QM, Bohm's pilot wave, or Sarfatti's post-quantum backaction. They send and receive signals across the universe virtually instantly.

Each quantum photon consists of many photon pulses, which are collectively the ZPE of the vacuum of space (Swanson). Electrons can synchronize together in a collective effect and undergo a "phase transition." Random motions are then superimposed on synchronized motions and collective oscillation occurs, which is a long range temporal order.

Cosmic Jitter Quantum Jitterbug (Zitterbewegung) Each particle sees itself in the center, surrounded by distant matter. The central electron only sees an electron out at the edge when their velocities line up and this only occurs when they are "in sync." The key is when their periodic motions remain in step with each other.

In this "phase locking" all electrons in the coupled system orbit around their average position at the same frequency. This is the womb of quantum mechanics, but we don't see the inner workings, just the "fuzzy ball" of probability on the outside.

The phase conditions for stable orbits (Higgs' Phase) will only be right at certain spots. The places at which stable orbits can occur will form a regular array resembling "crystal structure" at very small scales in space, so electrons actually "jump" from one such point to another. Frequency has a very definite physical meaning. It is the rate at which the electrons (or any particles) orbit their center of mass location.

Electrons are either in phase and able to see and interact with each other, or out of phase and therefore effectively invisible and unable to exert force on one another. Unsynchronized particles appear as “quantum noise.” Other nearby parallel dimensions normally only interact with ours through quantum noise. However, consciousness appears to interact across these parallel dimensions.

Coherence between parallel realities can be thought of as hyperdimensional structure, which crosses dimensions. It is nonphysical yet has physical manifestations. Higher dimensional structures can be designed which, by their shape and topology, are stable. Such forms may be a possible model for consciousness and the soul. The hypercube (the Diamond Body) and Vector Equilibrium are hyperdimensional structures that relate directly to the sacred geometries of all mystical traditions (i.e., Merkabah; Cube of Space).

The key is to understand what makes up these higher dimensional geometrical structures. The answer is phase variation in spacetime. Normal space is “in phase” from point to point at this deep level, but it experiences small departures from the common resonant phase of all particles. These departures can become systematic. When mapped in spacetime they can form three-dimensional and higher dimensional geometric structures. These “phase structures” can cross several parallel universes, and become the physical basis for “subtle energy” and paranormal phenomena.

Electromagnetic waves are a collection of synchronized photons of different frequency and amplitude. Radiation is constantly pouring in and flowing out, balancing on average. The electron goes forward and backward in a seemingly random pattern in space and time, in order to balance all the radiation coming in and flowing out.

This balanced radiation pattern is analogous to the interference pattern of a hologram. A 3-D pattern of energy created by regions of interference is what we see as an image. There is creative and destructive interference. An electron and every particle is a “hologram,” produced as the result of the actions of the electron to preserve the balance of energy (Miller et al, 1973).

To be more than ethereal like a technologically produced hologram, it must have mass created by including the photons traveling backwards in time from the future. This is a 4-Dimensional hologram, which is an integral aspect of every particle and real physical object. If we want to manipulate the particle, electron or whatever, all we need to do is manipulate its 4-D hologram.

Fierce Luminosity: Hidden Sparks

Superposition is the fabric of the universe. It carries information - patterns at the most basic level. Nonlocality is a fundamental property of the universe, proved to exist at the quantum and macroscopic level, responsible for instantaneous interactions between all cosmic phenomena - a mathematical consequence of Umezawa’s Quantum Field Theory (Umezawa, 1993) that unifies the electromagnetic, nuclear and gravitational fields in a subjacent indivisible totality. According to relativistic quantum field theories, particles are understood as specific arrangements of the fields and vacuum states rather than fundamental material particles (Krauss).

Quantum Field Theory explains all subatomic, atomic, microscopic and even macroscopic phenomena, as well as superconductivity and lasers; and is considered the most fundamental physical theory of the universe. Besides being mathematically similar to the gravitational and electromagnetic fields, the quantum field doesn't exist physically in 3D spacetime giving rise to its peculiar nonlocal property. As a nonlocal phenomenon it influences instantaneously all others regions of spacetime, without necessity of any change of energy.

In Bohm's holographic universe model, space and time are mixed, "folded" into a dimension of frequencies that is an implicit hidden order without spacetime relations. In this field of frequencies dimensional fluctuations occur, more intense "undulations" like holographic patterns, to build a spacetime dimension (Peat, 1987). This explicit order is our manifest universe. (Di Biase)

In the continuous creation, the center of the universe is everywhere, a seething cauldron of potential. Everything manifests from temporal interaction with the local nonlinear vacuum of spacetime. The interaction of time and negative time extracts massergy from the limitless ocean of roiling subspace. It manifests the temporal potential of force and form in each and every instant at each and every point of being

Scalar waves are real even if unobservable. They are oscillations of the stress energy tensor of the vacuum. The dense energy potential of the vacuum plays a key role in structuring the Universe. Energy moves from a free to a bound state via the dynamic structure of the vacuum. The vacuum contains randomly fluctuating electromagnetic fields with infinite zero-point energy. A quantum fluctuation IS the appearance of equal but opposite particles out of vacuum.

Scalar EM wave vibrations occur in the time domain only. This longitudinal EM wave is called a "scalar" photon in QM, so long as it remains in subspace or hyperspace. The nonobservable scalar photon is the main operator of Quantum Field Theory (QFT). The combination of the scalar and longitudinal photon is observable as the instantaneous scalar potential. It reveals the threshold of manifestation – unfolding spacetime. Further the metrics of spacetime oscillating at high frequency may be the ontological source of the quantum world and particle/wave duality.

Time is quantized. Time energy is transduced into dynamic spatial energy as cosmic jitter (ZPE; zitterbewegung), cosmic acceleration, radiant energy, and mass. Research suggests we may eventually be able to tap the flow of time, itself. Some speculate that in a scale expanding cosmos (SEC), radiant energy is time or close to it and non-EM.

The engine of the universe runs by consuming the negentropy of highly compressed spacetime. So do we. We don't feed on energy, but on negentropy. Both mysticism and science describe it in their different vocabularies for the deep nature of Reality.

Enmeshed Field Lines

Virtual Physics is a QFT theory of primordial field interactions beyond our current observability. We need to reexamine the nature of the groundstate in the light of new theories and postulates rather than irrelevant mathematical vagaries and conventional theories. Mathematics should follow, not precede observation and inference. The ramifications of plausible alternative theories must be worked through to separate the lead of the unviable from the gold of applicable insights.

Virtual Physics, rooted in the metaphysical domain, suggests that the groundstate of our being is a psionically-charged “fierce luminosity” emanating from the vast roiling ocean of the creative vacuum – the endless sea of creation. What IS is, and the primal matrix is the eternal shimmering, full vacuum of space -- IS-ness. We can avoid the taboo word, ether, paraphrasing Marshall McLuhan that “the medium IS the message,” quite literally.

It is no accident that in many creation myths, light first issues from the void. The void is the flux of virtual photons / antiphotons in “negative” space. Negative space manifests in the time domain but the first stirrings of the process are non-observable. Light is composed of both spatial and time energy. Matter is a transduction of time into spatial energy. Paradoxically, nothing happens without time [all puns intended].

Light is the fiat, the first excitation of empty space. But, where does it come from? It comes from the subspace holographic blueprint, a subtle field that allows the flux of virtual photons to spontaneously appear and disappear in the vacuum so quickly they cannot be individually observed.

However, their collective effects are definitely observable, if interpreted correctly. Virtual particles are real while they exist below the uncertainty principle’s minimum magnitude. Virtual photons integrate to produce an observable quantum of energy, which observably affects charged particles. They may not be real in the conventional sense, but their effects are absolutely real, and may lead to novel solutions to the energy crisis we face for sustainable life on Earth.

The discrete photon is the physical form of the quantum. As the smallest bundle of light, it is a messenger for oscillating EM forces, carrying information without substance (mass). A photon is a mode of oscillation of an EM stress field in the cosmic medium. Light beams contain trillions of photons.

Photons of different energy values carry electromagnetic force of different wavelengths, which unfolds over time. The absolute vacuum is devoid of all structure, but the false vacuum contains frozen and decomposing subatomic energies as fermions, bosons, quarks, photons, electrons and gravity. Radiant energy is a quantum of energy measured in joules. It is transferred as photons emanating in short bursts, the wave train.

Virtual Physics suggests we visualize processes at work in nature, but elegant mathematics has led us to ignore observations about the nature of the primordial cosmic medium. We need better visualizations of subquantal processes, not more elegant but inaccurate mathematics, unless it

describes inferences of essentially metaphysical non-observables. All forces of nature, electromagnetic and mechanical, are caused by interaction of virtual particles with mass.

The vacuum and its emanations are the central ingredients of 21st century physics. Science is learning to produce, manipulate and detect single photons, though QM doesn't help us visualize the interactive processes that lead their emanation. An electron is a closed-loop photon. It is a transducer of other forms of energy. A photon may simply be an artifact of nonlinear EM events. Resonant photon-graviton conversion takes place in EM fields.

Only single-quantum events become measurable, as something emerges from subspace. They deliver a finite flux density in time. Light is a self-propagating harmonic EM undulation. EM radiation is photon release. Photon EM energy affects the "steady state" EM fields of matter (electrons) by displacing them from their ground states. We need to determine the nature and bounds of the primordial field strength.

Virtual Physics

Virtual Physics describes oceans of free energy including the following: 1). Zero-point vacuum energy; 2). Dirac Sea; 3). Time derivative fields; 4). Micro electro-dynamic fluctuations; 5). Telluric currents; 6). Earth's core energy; 7). G-strain energy of spacetime.

Cold fusion is really just heat liberated by matter rushing into the void. Photonics (1) is the basis of the information revolution. Free energy remains an elusive treasure that is tantalizingly close. Radiant energy, streams of energy quanta, is a more plausible candidate for clean energy, however (2). Bearden suggests, point-contact transistors can easily be developed into true negative resistors manifesting overunity.

At zero absolute temperature, in the macroscopic world all motion ceases. That is not true in the quantum mechanical world; those subquantum oscillations continue, and can be of extraordinary energy if the time is short enough (Bearden, 2007). Potentially, that energy can be used to do work. Some contend, the Second Law of Thermodynamics is not absolute, just a useful rule.

It is about time to make "much ado about nothing." That "Nothing" saves us each day from extinction. At the mysterious cosmic threshold or mystic veil, "nothing"-- the massive scalar field -- becomes "something," mass/energy. We aren't near the center of the galaxy or universe, nor are we made of the most common matter. Our source is beyond observability, but no doubt remains that the virtual particles are real.

The stability of matter itself is mediated by zero-point fluctuations (ZPF) of the quantized electromagnetic field. Nature is inherently random, as Chaos Theory demonstrates. The chaotic virtual particle sea (spatio-temporal chaos) interacts through field operators with physical matter through antimatter and light. The threshold between matter and the vacuum is becoming blurrier. Gravity may be a probe of the vacuum rather than identical with it.

Empty space and matter are a seamless whole. Spontaneous emission is not something atoms do all alone but are the result of an interaction between the atom and the vacuum. The vacuum literally pulls radiation out of the atom. The observed effect of sonoluminescence is extraction of virtual photons from the electromagnetic zero-point fluctuations. Photons and gravitons are usually considered massless fields.

According to Virtual Physics, self-renewing energy comes from ceaseless emission and absorption of virtual photons and also creation and annihilation of electron/positron pair. Bosonic vacuum fluctuations are created as particle-antiparticle pairs.

In each and every nano-instant, we are reborn at the birthplace of matter, much like a refreshing screen. We are virtual dipoles. All atoms, including those of our bodies, are 99.999% space with an accompanying informational content (holographic blueprint).

Object and vacuum take turns existing equally or as superpositions (multiple states) in the same space. Objects, including our bodies have a definite shape while the vacuum is homogeneous. Objects condense from the vacuum as ZPF determined systems. All EM waves travel in the vacuum at the speed of light.

The dense energy potential of the vacuum plays a key role in structuring the Universe. Energy moves from a free to a bound state via the dynamic structure of the vacuum. The vacuum not only contains but also is randomly fluctuating electromagnetic (EM) fields with an infinite zero-point energy. That potential, an unseen sea of negative energy particles, can be chaotic and amorphous or coherent. Although it comes from chaos, each temporary virtual particle is totally ordered while it exists.

Quantum Metaphysics: Continuous Creation

Our place in cosmic history depends on the delicate interplay between the very big and the very small. Chaos and complexity theory show us that patterns tend to reiterate and persist (like fractals) at all levels of observation: "As Above; So Below." A few competing theories describe the subquantal nature of Reality in both quantum cosmology and quantum physics. The field patterns of the finest organization of energy and matter also affect the evolution of the cosmos. The various models include a non-zero cosmological constant, quintessence, tracker fields, Bohm's implicate order, and the varying-speed-of-light (VSL) theory.

Similar mechanisms also describe the mind/matter interface--the holistic organism--the holographic mindbody. They describe how infinite pure potential becomes actualized as human consciousness -- how the superposed quantum potentials collapse into a single tangible wavefunction -- how mind becomes matter. Here again, there is competition for the process which describes the source or virtual groundstate of our consciousness. Can the constant fluctuation of quantum foam perturb the orbits of electrons in our neurons and bootstrap macro-changes in consciousness states? Strictly statistical and mechanical views of consciousness have failed to account for the richness of inner and outer human experience.

How are waves of possibility transduced into classical or macrocosmic forms? The models presented include Stapp's cations, Walker's synaptic tunneling, Penrose's quantum gravity, Marshall's Bose-Einstein condensate, Goertzel's Ons algebra, and Hammeroff's microtubules (Orch OR).

The internal structure of the universe is a virtuality of infolded virtual photons. Charge continually absorbs disordered virtual state energy from the subquantal oscillations of the virtual state vacuum. The quantum vacuum, the internally kinetic energy-field that characterizes the ground state of the universe, possibly furnishes the indicated "fifth field". The hidden variables of chaotic yet deterministic micromotion bootstrap all energy/matter into existence. This plenum could transmit as-yet-unknown effects. This quantum foam, which Wheeler called superspace, consists of a pure massless charge-flux.

Subquantal virtual photons or scalars pop in and out of existence from subspace. The *zitterbewegung* of the vacuum "shakes out" a real, observable photon, so that the excitation abruptly decays by emission of a real, observable photon. The process iterates, so that observable photons are continually emitted, with no observable energy input but with the required energy input in virtual state form. (Bearden)

The very type of system represented by the source charge and its continuous production of negative entropy is an example of just such an asymmetrical electrical power system. It takes its input energy as disordered energy from the subquantal fluctuations of the vacuum, then reorders it to apply a negative entropy operation, breaking the "symmetry" of the virtual state vacuum itself. Then in accord with Leyton geometry, this generates a new symmetry at the next higher level: the observable state level where we encounter the usable EM fields and potentials and usable EM energy of the universe. (Bearden)

The leading contender for such a field effect was proposed by David Bohm. Turbulent motion in this highly excited, subquantal field leads to the emergence from virtuality into actuality of quantum entities which just as quickly dissolve back into the subquantal sea. This same ocean of virtual or metaphysical stuff has the property of containing, storing, and transmitting information about the nature of matter and even thought.

We argue, along with Laszlo that, "The conclusion to be derived from the considerations presented here is that the four-dimensional manifold Einstein described as spacetime is likely to be more than a geometrical abstraction. As the energetically super-dense quantum vacuum, it may be a physically real field, limiting the velocity of light and other matter-particles and transmitting a variety of effects, including, but not limited to, gravitation and electromagnetism. We may well ask, then, whether the field would also transmit the kind of effects associated with psi.

Waves of this purely informational (scalar) force could create a potential gradient where quantal motion triggers scalar waves in the vacuum, and these propagate by alternately compressing and rarefying its virtual-particle gas. Scalars are neither light nor matter, but longitudinally propagating fluctuations below the energy-threshold of particle pair-creation. This produces a self-generating cosmological feedback cycle which translates into interference patterns created

by the motion of charged particles modifying the local topology of the vacuum. The modified vacuum field modifies in turn the motion of the particles, (Laszlo).

The quantum vacuum is a highly anomalous universal energy realm of pure potential. It is both the source and destination of all matter in the universe, and thus of any form of consciousness which may emerge through its autopoietic process. The human brain, with its pronounced and constant state of chaos, could receive and amplify such signals, expressed both consciously and unconsciously in our biophysical self and our ephemeral thoughts and intuitions.

Certain frequencies represent enhanced channels between subquantal (virtual) and spatial (observable) states and virtual particle charge flux. Bearden says, "It means that the charge continuously absorbs statistical virtual energy from the seething active vacuum, and coherently integrates that subquantal energy."

The Tibetan classic, *Bardo Thodol* said that in the Fifth Stage of the world's development, a stage not yet actualized, "Ether" will dawn in the consciousness of man.

An ether is a propagation medium. The bardo is the threshold between the formless and manifest, the virtual body and the "real" body. The template of life resides in the primordial ether, the fifth element. In this context, Ether is correlated with spirit and relates to the change in consciousness from dense to subtle body, during the period between death and rebirth. This also applies to the ego death and rebirth of daily meditation. The all-pervading luminiferous ether is synonymous with consciousness.

The void is a plenum. Any momentary state of consciousness can be considered a bardo, as are our lacunae, our empty places. Lacuna means a resonating gap that describes a space of missing or formless information. This liminal state lies between our past and future existences. It provides us with the opportunity to experience reality, which is always present but obscured by the projections and confusions due to our previous unskillful actions.

This *Bardo Thodol* metaphysical statement about the ether conjures up woolly Theosophical abstractions and outmoded 19th century science theories of a universal medium. But new physics confirms this modified "ether" theory of the deep field, hyperspace. It is a re-visioning of the nature of deep space itself as infinite energy and potentiality, absolute fullness that propagates all pattern and form.

Creative Physics is based in the negentropic potential. In plenum physics, this primordial creative field of Zero-Point Energy (ZPE) is the dynamic vacuum of scalar physics. It is a virtual condition, the vortices of space that carry the electromagnetic oscillations or vibrations. Light is basically information. We can learn to wrap our minds experientially around this quantum reality. We are not separate from the ongoing process of creation, even if an energetic field of information defies detection.

Scalar ether is being seriously reconsidered as the medium of electromagnetic and light waves. It is the dynamic basis of the subquantal and biophotonic energy body in integral medicine and healing. The subquantal realm of quantum physics is every bit as awe inspiring as any earthly

landscape. Just imagine subspace as a luminous ocean of ceaseless virtual photon fluctuation, popping into and out of existence in every instant.

Discussion and Conclusions

In this dynamic model there are no “things”, just energetic events. Light and sound (acoustic cymatics) modulate all matter. This “holoflux” includes the ultimately flowing nature of what is, and all possible forms. All the objects of our world are three-dimensional images formed of standing and moving waves by electromagnetic and nuclear processes. This is the guiding matrix for self-assembly, and manipulating and organizing physical reality. It is how our DNA creates and projects our psychophysical structure.

Our brains mathematically construct ‘concrete’ reality by interpreting frequencies from another dimension. This information realm of meaningful, patterned primary reality transcends time and space. Thus, the brain is an embedded hologram, interpreting a holographic universe. Supernal light emerges from this ground of being.

All existence consists of embedded holograms within holograms, fractally embedded waves within waves of clear light. Their interrelatedness somehow gives rise to our existence and sensory images. When we embody this intimate wisdom, our bodies become temples of the living spirit.

Absolute space is the womb of creation and the physics of virtual photon fluctuation reflects not only Nature, but also our nature. Only now are we learning just how literal that experience of Light is, and the interactive mechanisms it engages in our holistic psychophysical Being.

Is this “process zero” of the Mother Luminosity what the Lamas see when they look deeply within in their meditations? Is what is true for subspace true for superspace? It is a fact of physics that at the subquantal level the fabric of reality and our bodies flicker in and out of existence each nanosecond at a phenomenal rate. In music theory, a lacuna is a contrasting period of no music, which acts like “negative music,” inducing a state of serenity, experiential silence.

All “things” arise from the vacuum potential, including the three great illusions of space, time and personality. This mystical realization means release from the triple prison of personal isolation and illusion. We are all simply connected: self, others and cosmos. Superspace is a virtual-state hierarchy of infinite contextual and potential fractal levels on a fine gradient from 3D into higher dimensions from which all creation manifests; and it is, of course, also zero-point energy.

Space is not empty, nor are the relatively vast empty places between our atoms in the body. Modern physics theories recognize space or the vacuum as a very active medium saturated with quantum energy fluctuations, which has been described as a turbulence of particles, mini-black and mini-white holes, and a sea of bubbling foam.

The psychical attributes of "Ether" as conceived and defined by the Lamas are, in modern terms, precisely those of the Deep Unconscious, seamlessly welded psyche and matter. They believe, in fact, that what we call the Unconscious is a "transcendental" consciousness, an undeveloped higher than normal awareness, where imagination is reality.

The *Heart Sutra* says the Void is all forms and all forms are void. The formless field gives rise to itself. Both the vacuum and the psyche are expressions of the virtual plenum of 'in-form-ation,' the virtual photon flux.

The gist of the holographic paradigm is that there is a fundamental reality that is an invisible flux not comprised of parts, but an inseparable interconnectedness. The holographic paradigm is one of reciprocal enfolding and unfolding of patterns of information. All potential information about the universe is holographically encoded in the spectrum of frequency patterns constantly bombarding us.

In the quantum world, everything is in self-organizing flux, including the subquantal virtual photons popping in and out of existence. The foamy Zero Point fluctuation of subspace perturbs and determines the behavior of quantum systems theoretically through radiant EM fields. Radiation is absorbed from the zero-point background. The stability of matter itself is mediated by the zero point fluctuation phenomena.

Mindfulness and pure awareness is the active consciousness of the next stage of the world's development, which the Lamas estimated would begin in the twentieth century and flower in the twenty first. It is not passive absorption in the collective state, but empathic psychophysical engagement and participation. It is certainly more foresighted to prevent the onset of problems than to resort to supernatural heroics as a last resort.

The process of mind-expansion produces unusual byproducts and powers called *siddhis*. Seldom seen naturally, they are said to be "developed" by yogis and others as a result of spiritual training. *Siddhis* include life extension, healing, ESP, telepathy, precognition, prophecy, time distortion, healing, pain anesthesia, psychic heat, clairvoyance, levitation, OOBÉ's, psychokinesis, and autonomic control.

But the compassionate aspirant remains unattached to these potentially hazardous powers and egoic power traps, in general, continuing toward enlightenment, the Buddha fields of the ground state.

Ervin Laszlo says, "The interaction of our mind and consciousness with the quantum vacuum links us with other minds around us, as well as with the biosphere of the planet. It "opens" our mind to society, nature, and the universe. Mystics and sensitives, prophets and meta-physicians through the ages have known this openness.

Biophysicist and leading proponent of the theory of quantum coherence in living organization, Dr. Mae Wan Ho, postulates that, "a pure coherent state for the entire system would be a many-mode quantum electrodynamical field with a collective phase over all modes. It may be attainable only under very exceptional circumstances, as during an aesthetic or religious

experience when the ‘pure duration’ of the here and now becomes completely delocalized in the realm of no-time and no-space.”

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