

Article

## Ultraholism: The Field of Infinite Meaning

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### ABSTRACT

We have seen back in time to the infancy of our Cosmos. As we press against the boundaries of Existence, we find our paradigm of holism expanding from local to global to galactic to cosmic - into a Universal Ultraholism that connects not only all existence in this universe, but perhaps includes others currently beyond conception, much less perception. But they are inferred in intuition and some models of scientific reality. Even though "explanations" fail as paradigms until widely embraced, ultraholism may provide insight into an even more sophisticated physics. Such a radical worldview is gaining scientific currency though a unified theory remains elusive. Ultraholism may be the latest buzzword for the Holy Grail. Broader models of ultraholism are emerging in life sciences and physics. It is now commonly accepted that the seed of life transcends our planet, and the seeds of being may transcend our universe. Consciousness may be the sole informing element.

**Key Words:** Ultraholism, holographic, optics, consciousness, paradigms, paradigm shift, field theory, psyche, modeling, archetypes.

### Ultraholism

*This feeling for the infinite can be attained only if we are bounded to the utmost. In knowing ourselves to be ultimately limited we possess also the capacity for becoming conscious of the infinite. But only then!* C. G. Jung

*What it means to be human is still a mystery and various folks have given their guesses - Freud emphasized Sex, Jung emphasized Myth and Reich emphasized Body.* Nick Herbert, Physicist

### Alpha & Omega

Things are not what they seem -- just space and wave motions. The universe floats on a vast sea of light, whose invisible power provides the resistance that gives matter its dynamics and feeling of solidity. All matter is interconnected by quantum waves, a dynamic coherent whole information.

There is evidence for the holographic nature of nonstandard fields that have been proposed in recent years -- the zero-point field (a candidate for the unified field), the psi field of psychic phenomena, Ervin Laszlo's Akashic field, and the morphic field proposed by Rupert Sheldrake.

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The notion of resonance has been proposed for individual tuning to Jung's collective unconscious. If a holographic image has many different holograms embedded within it, shining a laser of a specific frequency upon it will cause only those holograms made with lasers of the same frequency to stand out. Things with the same vibration naturally resonate and reinforce one another like two musical strings at the same pitch resonate with one another. Resonance may also explain how each of us interact with psi or Akashic fields... picking up only that with which we personally "resonate."

## **Fields of Meaning**

When physicist Wolfgang Pauli collaborated with Jung, he 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.

Is the co-occurrence of events within the same field of meaning a fundamental reason why things tend to happen? Does each individual's resonant frequency, determined by their life experience, physical body, and energy body limit what they can perceive? Such models may just eventually be shown to be belief systems of our era, memes whose roots we recognize from Theosophy. Jung almost never championed one set of archetypal claims at the expense of another, though he was an uncanny intuitive trendspotter.

Jung felt that the task of individuation involved resisting these collective forces and developing a critical response to them. Any collective movement which identifies with an archetypal process is, virtually by definition, not going to accord with Jungian taste, which is based on the ethics and aesthetics of individuation. Jung's attack on what he called "identification with the collective psyche" is conveniently and deliberately ignored by all those New Age therapists, consultants, advocates, and shamans who like to freely celebrate and even "worship" the contemporary version of constellated archetypal contents.

If the New Age appears Jungian it is not because it has used Jung, but because it draws its life from and incessantly parades a particularly strong archetypal current that maps this psychospiritual territory. The same subjective evaluations and claims have been made for esoterics such as astrology, depth psychology, and for the Standard Model in physics. People claim they use them because "they work." Archetypal correlations, a heightened level of communication between unconscious and conscious coordination, are radically participatory in nature, shaped by relevant circumstantial factors and human response.

## **The Last Wave**

The precise nature of such resonance, frequency or vibration has not been scientifically described, but merely suggested as jargon for what we don't and perhaps cannot know. The hypothesis is that different emotions and therefore attitudes have different frequencies. This is not to say that disease and other psychobiological process do not share an electromagnetic

signature, but it is far from a total description. The simple feedback process of self-reflection can perhaps be more directly effective at modulating behavior and experience.

Such mimetic notions are popular because they "confirm" certain belief sets, which include personal and collective memes. They are part of the self-confirmatory search that reassures us we not only comprehend our experience, but are somehow "blessed" within that process, which may just be self-delusion. We continue to reach toward Truth, toward wholeness, both as Quest and palliative -- still "placating" the gods.

Nevertheless, speculative models may point us in the right direction -- toward ever-more primordial subquantal levels of observation, beyond the kaleidoscope of the "content" of our consciousness toward its fundamental nature. Nevertheless, such narratives are being constructed in heterodox physics and enjoy wide acceptance from people who comprehend them or not. Artists are often inspired by concepts from physics. At least they open our speculative thinking, taking us from the known toward the Unknown. We turn to the Void for our answers.

### **Autonomous Psychic Contents**

Such models have been applied to healing and disease processes and linked to placebo effect and the meaning of disease. Jung made the strong statement that "the gods [archetypes] have become diseases" due to their relativization in society. The fundamentally psychosomatic nature of disease manifests in both the psyche (mind) and soma (body). Jung's idea of spiritual authority rests on individual experience, on the need for cultural transformation, and unorthodox ways of achieving unity with the Cosmos.

*"We think we can congratulate ourselves on having already reached such a pinnacle of clarity, imagining that we have left all these phantasmal gods far behind. But what we have left behind are only verbal specters, not the psychic facts that were responsible for the birth of the gods. We are still as much possessed by autonomous psychic contents as if they were Olympians. Today they are called phobias, obsessions, and so forth; in a word, neurotic symptoms. The gods have become diseases; Zeus no longer rules Olympus but rather the solar plexus, and produces curious specimens for the doctor's consulting room, or disorders of the brains of politicians and journalists who unwillingly let loose psychic epidemics on the world." (Jung, CW 13, par. 54)*

A physical or psychological breakdown allows us to leave the track of production and social obligation to focus on healing. Hillman clarified by suggesting, "Soul enters only via symptoms, via outcast phenomena like the imagination of artists or alchemy or "primitives," or of course, disguised as psychopathology. That's what Jung meant when he said the Gods have become diseases: the only way back for them in a Christian world is via the outcast." Do we have to be broken before we heed the call of our spiritual center, the ultraholistic field of the imaginal?

Perhaps this is analogous to Jung's realization in his *Red Book* era in the statement the "entanglement is your madness." The personality disorders should be included in his notion of conversion. Operating beyond our consciousness, the gods return confounded with the Shadow as pathologies, through the syzygy as relational problems, and with the self as overblown metaphysical notions and literalized pseudo-scientific theories. "Concretization" is an even more

difficult problem at the collective than individual level. It is the root of intractable fundamentalism, in fact, all -isms.

The main difference between depth psychologies and quantum physics [as well as esoterics] is that psychologists base their approach in the metaphorical rather than literal nature of reality. To take such material literally is considered a gross error, a misnavigation of the imaginal. This is an often overlooked but major difference in worldview and approach to phenomenological experience.

Systems philosopher and integral theorist Dr. Ervin Laszlo says the universe is an information field which is not only 'the original source of all things' in time and space but is also 'the constant and enduring memory of the universe'. An interconnecting cosmic field links man and matter and continually affects everything and everyone. 'It literally conveys all the information of life itself.'

Past, present and future flow together in the zero-point energy field. Linear time is an artifact of our nervous system. Healer Edgar Cayce believed the Akashic Records contained a history of every soul from the dawn of creation, connecting us to each other. The records are impressed or encoded into energy/information. Our choices continually rewrite them, modulating thoughts and emotion. The Akashic records (information domain) not only store everything in the past of an individual but also contain all the future possibilities and potentials for our lives. Einstein put it concisely: "Space and time are modes in which we think, not conditions in which we live."

### **Meta-Nexus**

*We have a habit in writing articles published in scientific journals to make the work as finished as possible, to cover up all the tracks, to not worry about the blind alleys or describe how you had the wrong idea first, and so on. So there isn't any place to publish, in a dignified manner, what you actually did in order to get to do the work. --Richard Feynman in his Nobel Lecture, 1966*

*Consciousness is a singular of which the plural is unknown; that there is only one thing and that what seems to be a plurality is merely a series of different aspects of this one thing, produced by a deception. --Schrödinger*

Thinking Big requires a new approach to the way we pursue knowledge about our universe, our lives, and our species. The history of the universe is our history. We are in the midst of what we might call a generational shift in the way the world works.

We're still asking life's Big Questions and tackling humanity's Big Problems, but in the context of Big History -- a revisionist blend of cosmology, physics, chemistry, geology, biology, anthropology, psychology, sociology, and history. Such a meta-disciplinary approach attempts a single, unifying, compelling narrative that continues unfolding meaning, purpose, and insight.

But, all we ever really talk about is ourselves and our own processes. Pioneered by William James, Sigmund Freud, and Carl Gustav Jung, Depth Psychology is the study of how we

dialogue with the Unconscious via symbols, dreams, myth, art, nature. Marshall McLuhan articulated our dynamic relationship with Media and Technology. A symbol is something which can have many meanings at once. By paying attention to the messages that show up from beyond our conscious egos, we can be guided to greater understanding, transformation, and integration with the world around us, inner and outer.

Ultimately, "explanations" fail as paradigms of human behavior, being only approximate models and theories that shift with time and related sciences, but our drive to do so remains. No matter what we call them, archetypes, gods and demons still exist as "real" in the human mind, in all their grandeur and monstrosity. The idea that all life or all consciousness is interconnected is one of the most enduring spiritual traditions. Objective evidence of this fantastic notion has only surfaced in recent decades. But evidence-based truth is undergirt with self-evident truth often expressed in metaphors.

Our historically-conditioned culture is undergoing a collective transformation process. Countries, regions and continents have their own unique "mindscapes." Cultures can have complexes. Cultural complex theory itself mediates between the particularity of place and the universality of archetypal patterns, which can be explored in cross-cultural settings. The notion of a "cultural complex" is a synthetic idea, springing from analytical psychology. It draws on different strands of that tradition to build a new idea for the purpose of understanding the psychology of group conflict.

The collective persona has broken down utterly, shattering the social mask that covered the denial, weaknesses and corruption of the collective shadow, which is now undeniably revealed. It reveals an underlying alchemical process, whose first manifestation is the collective *nigredo*, manifest in the 21st century Depression, economic and otherwise.

Will this Depression be the driving force that moves the global death/rebirth process forward, as it does in individuation? Will it help us take a quantum leap into a more meaningful future of mankind? In this collective "ego death," the dead void disappears once we connect with the fertile void of the dynamic ground, the formless state of pure potential. First we must endure the overwhelming sensations created by contact with this powerful source. The missing transformative information lies in the very heart of chaos.

There is a generic process in nature and consciousness which dissolves and regenerates all forms. The essence of this transformative, morphological process is chaotic -- purposeful yet inherently unpredictable holistic repatterning. It implies a flowing state of consciousness, "liquification" of consciousness, a return to the womb for rebirth, a baptism or healing immersion in the vast ocean of deep consciousness. It facilitates feedback via creative regression: de-structuring, or destratification by immersion in the flow of psychic imagery through identification with more and more primal forms or patterns -- an expanded state.

As mythologist Joseph Campbell described, "[Heroes have] moved out of the society that would have protected them, and into the dark forest, into the world of fire, of original experience. Original experience has not been interpreted for you, and so you've got to work out your life for yourself. Either you can take it or you can't. You don't have to go far off the interpreted path to

find yourself in very difficult situations. The courage to face the trials and to bring a whole new body of possibilities into the field of interpreted experience for other people to experience—that is the hero's deed."

Campbell also suggests, "It is by going down into the abyss that we recover the treasures of life. Where you stumble, there lies your treasure." And, "One way or another, we all have to find what best fosters the flowering of our humanity in this contemporary life, and dedicate ourselves to that." "The goal of life is to make your heartbeat match the beat of the universe, to match your nature with Nature." These have become societal goals of our collective awakening from materialism, not just individual ones.

## **Social Alchemy**

Plutocracy is unraveling. Underlying all our problems, the preeminent issue of our age is human awareness. From one perspective, the ancient version of human awareness limited by fear, anger, greed, reproductive drives, tribal affiliations, ignorance and self-centeredness is the greatest destructive force on Earth. It is no longer adaptive as it was in the Stone Age.

On the other hand, a collective of potentiated humans who embody even a little of the new awareness, an awakened, relaxed and observant big picture awareness, has the potential to be the greatest healing and creative force on Earth. Is our solution an awakening collection of embodied, present-centered people who are enjoying the transformative effects of this new awareness? What are the gaps between where we are as an emergent culture and where we should be?

Many wish to connect with others in an effort to preserve civilization, all life on Earth, and to propel humanity to its next evolutionary step in the face of overwhelming disaster and calamity. Can we break our identification with totalitarian society or will the dream of awakening remain a meme? Has complexity shed new light on cultural and organizational change?

A July 2011 article from '*Science Daily*' entitled "Brain Co-opts The Body to Promote Moral Behavior," considers the work of Mary Helen Immordino-Yang of the USC Brain and Creativity Institute. According to Yang, "The human brain may simulate physical sensations to prompt introspection, capitalizing on moments of high emotion to promote moral behavior." The article explains, "... individuals who were told stories designed to evoke compassion and admiration for virtue sometimes reported that they felt a physical sensation in response. These psycho-physical 'pangs' of emotion are very real -- they're detectable with brain scans -- and may be evidence that pro-social behavior is part of human survival."

Yang continues, "These emotions are foundational for morality and social learning. They have the power to change the course of your very life... Our very biology is a social one. For centuries poets have described so-called gut feelings during social emotions. Now we are uncovering the biological evidence." Stephen Porges describes our Social Engagement System as essential in attachment and bonding. He contends **automatic reactions** in your body cue from what's happening around you. The *nervous system* integrates and regulates bodily and psychological processes. He's developed therapeutic interventions from what he calls **Polyvagal Theory**.

But if our brains are naturally wired for cooperation, where does the breakdown occur? The nervous system can also damage social relations. Some research shows the answer may lie in damaged or suppressed emotional centers in the brains of some individuals. Does that mean civilization is cursed by the rulership of high-risk emotional invalids and market processes -- survival of the damaged in a perpetual war with the ethically-motivated?

Is a species-wide biopsychosocial spiritual awakening on the horizon, as some claim? Is a new state of identity forming, based on the collective repulsion of the dominant paradigms and accelerated by social media-technology? You are life, I am life, the cosmos is life (evolving, responsive, self-referential, self-organizing stuff) bringing forth evermore life.

2012 is a year in which the individual forecasts point to a new generational reality and a redefinition of how the world works, but it is not the final stage of the transformation process. Clearly, the Post-Cold War world has come to an end, replaced by changed players and changed dynamics.

Civilizations and eras need a myth to live and that myth may define our collective fate. Futuring includes six synergetic aspects: 1) mapping acceleration, 2) anticipating, 3) timing and 4) deepening the future, 5) creating alternatives to the present and 6) transformation. Aspirational futuring and analysis includes environmental scanning, forecasts, scenarios, visions, audacious goals and understanding change and strategic issues.

Trends identify key forces shaping the future. Environmental scanning includes global, local, political, economic, technological, environmental and social trends. Roadmaps help us visualize strategies and collaborative foresight. Paradigms underpin the assumed truths of our logic.

Obviously, we cannot figure out the Mystery of life with intellect or social science alone. Though "the map is not the territory", the only consciousness maps we have are those left over from our ancestors -- mostly esoteric systems describing the cartography of the human condition. Modern researchers, such as Stan Grof, Ken Wilber, and John Curtis Gowan have attempted to map the mindscape and relationship between the numinous and the ego with some success, at least in broad conceptual strokes.

Our attempts to ignore or obliterate the Self are an attempt to wipe out that awareness -- to deaden or destroy any connection with it, and the pain of struggling with our higher and primordial selves, godhead, consciousness or whatever we choose to call the "divine" or sacred dimension and forms. Synthesis echoes the alchemical *coagula*, attempting to counter the fragmentation of the ego, to put the pieces back together in an increasingly chaotic world devoid of the in-dwelling sacred.

Realizing our separateness from the whole is a privilege given to gods. When our separateness realizes its divinity, it realizes that the microcosm is truly the macrocosm, "as above so below". Ego has been characterized as sinful since we realized our nakedness. Without such separation, which Jung termed "individuation", nothing can be achieved in the name of the Great Work.

Our feelings, thoughts, and needs, as well as our inherent beliefs and spiritual essence are composed of energy. The reintegration of the earthly and spiritual aspects of being in the alchemical marriage reunites us with Cosmos. The light of the soul is the barometer of being, reflecting our humility and inflations, our compassion for our fellows and our hubris. Literally and metaphorically, we ceaselessly yearn for more light - sunlight, torchlight, incandescent light, illumination. Light is a metaphor for energy, life, and knowledge. When you head into the light be sure to pack your sunscreen.

Cosmic pattern recognition is the root of shamanic human culture from Paleolithic and Neolithic times. Humans have always pursued cosmology (the linking field), seeing cosmic patterns at work. Perhaps the greatest ancient discovery was the Precession of the Equinoxes, a recurrent 26,000 year cycle, leading to the model of astrological Ages and the mytheme of Eternal Return and The Great Year. Jung took an interest in astrology because he found it archetypally predictive, including the wheel of time and opposites.

### **Existential Shockwave; Worldview Warfare**

The change of Age, to one of "information" such as we face now, was always considered a challenging time of crisis and chaos as old ways die while new forms emerge. Images permeate our inner and outer life. Therefore, today we find the mindscape riddled with the transitional, messianic, and apocalyptic memes of "2012", the Rapture, and Ascensionism. Or, is "borgification" the shape of things to come, as encoded in the "Singularity" archetype or meme? In the New Media electronic info-culture we've all become cyborgs with machine-extended senses. Will machines become more conscious than we are by 2050, and begin self-replicating throughout the universe? This is a macro version of the world destroying "grey-goo theory" prompted by nanotech proliferation nightmares in the mid-1980s.

A crisis can be a blessing when it gets us to the devastating point where the pain of letting go is less than the pain of hanging on to a self-system that is so undeniably wounding. Not just the world, but "psyche" is in a time of crisis as demonstrated by the modern apocalyptic imagination, the economics of the spiritual marketplace, the commodification of countercultural values, and the cult of celebrity reign supreme. We must acknowledge the variety of manifest emotional and active responses globally to the onslaught of crises facing humanity and the centrality of psyche in articulating, holding and acting on these concerns, in a fragile world in turmoil.

### **The Physics of Creation**

Our universe and everything we know always seems to eventually lead us to the conclusion that we live in a holographic reality. From cosmology to quantum physics, our scientists today are truly having a troublesome time trying to explain the nature of our reality. How can we draw the extreme conclusion that our world is only an illusion and what does that mean when we want to know our place in the cosmos?

We've always wanted to understand our origins, going right back to creation stories or creation myths. Physics connects the largest and smallest things in the Cosmos: "As Above; So Below".

It is our common story because, for the first time, humans have an origin story that transcends our regional, religious, and tribal differences. That is, at least in theory. The flip side is that there is no consensus in physics, behind rather desperate attempts to rescue the Standard Theory from oblivion and the proliferation of orthodox and heterodox models. What may be closer is that we have a fantasy about how we think this has revolutionized our world.

The narratives of the past were as clear as the grossly limited understandings, beliefs, superstitions and power structures of their times allowed them to be. What is the point of chasing an ancient past that we are ill-equipped to understand in its original context? It is a sure path to detour or derailment in all conclusions resulting from it, if we take it literally.

Old ideas are rediscovered, and succeeding generations find new applications for these ideas, valid and illusory. Other ideas become obsolete, while others are retrieved. People identify with their beliefs, and they identify with their own self-image most strongly and enthusiastically -- even desperately. Both "official culture" and denial can lead to tunnel vision, medieval and older mindsets.

We need to differentiate between lies and truth not only "out there", but more importantly in ourselves. Most people can't face the lies "out there" because they can't face the many lies in themselves, which make up part of their existence, from popular held beliefs about politics, government, religion, education, family, etc., up to more subtle lies we tell ourselves to make our lives more "comfortable" and justified. Ideology and culture intersect in explanatory power that has real effects, regardless of the truth value of those explanations.

Questioned on any of the mass-accepted beliefs we may have to reevaluate our own lives and realize we may have been largely living a lie. Truth is not always pleasant. However, there is no judgment in truth. It only IS, neither "good" nor "bad". Because of the identification with certain beliefs that make up their whole life and existence, people tend to ignore truth and/or the lies they tell themselves. We tend to build buffers, excuses and all forms of denial to keep our "world view" intact. Ultimately we defend and argue limitations and the prison we are in to defend false ego states. We defend our tragic social systems the same way.

This is why Jung noted, "People will do anything, no matter how absurd, to stop from facing their souls." And he goes on to say, "One does not become enlightened by imagining figures of light, but by making the darkness conscious."

In short, if people can't face the lies within themselves, they will never be able to face the lies in the world and find truth within and without. Their whole life just becomes way of shutting oneself out from anything that may be a "threat" to their beliefs and way of life. As the Russian mystic Gurdjieff wrote: "In order to understand the interrelation of truth and falsehood in life, a man must understand falsehood in himself, the constant incessant lies he tells himself." Hence, the most important aspect in life is to Know Thyself.

In "States of Denial", (Cambridge), Stanley Cohen remarks that "the scientific discourse misses the fact that the ability to deny is an amazing human phenomenon [...] a product of sheer complexity of our emotional, linguistic, moral and intellectual lives." He writes that Denial is a

complex “unconscious defense mechanism for coping with guilt, anxiety and other disturbing emotions aroused by reality.” Even skepticism and solipsistic arguments – including epistemological relativism – about the existence of objective truth, are generally a social construction.

Much of the value of studying these 'Holy Grail-type' notions, in science, psychology and philosophy, comes from making connections across disciplines and ultimately building up our intellectual muscle power -- conceptual background. Learning different perspectives from our own is a primary source of human creativity. It can also be fallacious. To the extent such ideas spark insight they may help us move forward, but new ideas in reductionistic form can stall progress, too.

We know more than previous generations and have caused more problems than previous generations. The future we craft together depends on transformational dialogue and sharing worldviews. Exponential growth must be curbed to avoid catastrophic consequences. Decisions made now have effects over a very long period.

There is a hidden revolution in science today. Instead of focus on a part, focus has moved to relationships. A psyche capable of manipulating forms can create logical relationships, but logic remains a limited tool. Imaginal images have enabled interaction, projection and cultural expansion. The human capacity itself is an extension of nature.

Images and symbols, like language, can be ambiguous. Piantadosi et al (2011) have shown that all efficient communication systems will be ambiguous, assuming that context is informative about meaning. They also argue that ambiguity allows for greater ease of processing by permitting efficient linguistic units to be re-used. We can imagine the same is true for symbols. Theoretical analysis suggests that ambiguity is a functional property of language that allows for greater communicative efficiency.

So, instead of what something is, we look instead toward what something is doing and its non-deterministic effects on whole systems. The solutions lie not in the past but the future-perfect tense. Still, the near future is unlikely to be perfect. Furthermore, the nature of that future is a wide-open field, subject to endless confabulation -- personal and collective delusion. The ability to shift approaches with agility and speed is the essence of future adaptation.

We sense we are ending and yet just beginning because both are simultaneously and timelessly true. Humanity's race is against time toward the great Unknown. The perennial question remains, "What is wrong with the world and why is it that way?" Religion, philosophy, nor systems theory have been able to do more than balance out the negative, much like Yin and Yang. Transcendental religions seek to escape time and its dichotomies altogether.

The treasures of cultural history and spontaneous renewal reside within this living field, our connection with the primal source of life and parallel phenomena. The history of the world emerges from the multidimensional field of possibilities. Somehow life works despite infinite deviations. Viability can be anticipated if not planned. But we've outgrown Earth's carrying capacity.

Though barely aware of them, we are tied together by deep processes. We can learn to consciously understand and apply, rather than destructively act out these eternal patterns. We must learn to recognize what is being revealed even though it is always open to interpretation. We are also subject to delusions and misperceptions, so we need to learn discernment. We need to focus on our own dynamic process, not just its finite contents, personalistic signs and symbols.

## **Archetypes of Nature and the Nature of Archetypes**

Jung reduced archetypes to a select few that mostly matched up with ancient godforms that described human behavior sets and transformational forces. But archetypes are not limited to that in any way. The forces of nature and the elements have always been considered archetypal -- floods, hurricanes, volcanoes, tornadoes, earthquakes, fire, ocean, river, mountain, cave, stars, lightning, voidspace -- the abyss of the transcendent imagination. Nietzsche famously claimed, "And if you gaze for long into an abyss, the abyss gazes also into you."

The Unconscious Mind is not unconscious at all. Only the conscious mind is unconscious of the consciousness of the Unconscious Mind. There are archetypes emerging in science that have an ancient history in symbolism with meaningful messages that resound through the ages: "Turning and turning within the widening gyre..." They have been resurrected in scientific forms to explain even the mathematical mysteries of the microcosm and the macrocosm: vortex, gyre, spiral, solitons, toroids, entanglement, spin, singularity, black holes, flower of life, fractal iteration, interference patterns, and more. (Card)

## **Interference Patterns**

Is reality an enormous interference pattern? It has become increasingly plausible that the energy that powers the universe, which some call the unified or zero point field and others call God, is consciousness. It is this consciousness projected through the interference pattern of energy waves that gives rise to us, all that we perceive and that which we do not. Even what we perceive as solid objects are all manifestations of wave energy forms.

We can view scientific notions metaphorically, noting particularly their similarities and differences and their multiple dimensions. Is an attractor basin and a gravity well essentially the same metaphor? Space is never empty, since it is full of virtual pairs. Black holes draw everything into their sphere. Near a black hole the negative virtual particle is drawn into the black hole, while the positive radiates away (Hawking radiation). A binary black hole merger replicates the form of the inspiraling double helix, seen in DNA, at the macrocosmic level, creating enormous singularities at the event horizon. *Fiat Lux*. Such massive jets create shockwaves - gravity waves

Is there a hierarchy of singularities in light fields? If we live in a holographic universe, and the principle of "As Above, So Below" prevails, then the nature and intensities of interference patterns is crucial. Interference is another name for wave propagation. It is this interference

pattern that is imprinted on the recording medium in a hologram. According to diffraction theory, each point in the object acts as a point source of light. Is interference itself, cycling between interference, entanglement and interference, more than a metaphor? There is primordial darkness in the light as well as radiant effulgence.

Photon interference among distant quantum emitters is a promising method to generate large scale quantum networks. Interference is best achieved when photons show long coherence times. For the nitrogen-vacancy defect center in diamond we measure the coherence times of photons via optically induced Rabi oscillations. Experiments reveal a close to Fourier-transform (i.e., lifetime) limited width of photons emitted even when averaged over minutes. The projected contrast of two-photon interference (0.8) is high enough to envisage applications in quantum information processing. (Batalov et al)

Perhaps even sterile theories can be mined for metaphorical gold, prospecting for data. We can make a psychological axiom, that when the parallels in physics are strong, the results are useful. One of the classic metaphors is that "light" can also mean perception or consciousness. It brings to mind the significance of signal-to-noise ratios and a variety of other possible transformations that can be applied to the human scale. Is it more than compensatory to think that perhaps the symbolic nature of the unconscious is the natural and fuller state of things -- a reflection of fuller consciousness?

*During this writing, a synchronistic communication occurred mirroring such ideas, unearthing the mythic life: "the symbolic nature of the unconscious is the natural state of things", precisely. C. G. Carus and Schelling affirmed that in 1940 the symbolic language of the unconscious (Traumbildsprache) is the language of Nature. The unconscious is Nature in us. Hence, from the point of view of the human psyche, everything is symbolic. (The Centaur in Pasolini's Medea says so in a beautiful way). Yet questions remain. If projection is attributing unconscious contents to the object of observation, now when we try to observe our unconscious terrains... we can detect some projections in our feedback, but what is the reason that although this projection tells us about unconscious materials, it is not equal to the observed ones? (Private letter; Henrickson)*

The universe is the sum of the interaction of all waves that are correlated. Interference usually refers to the interaction of waves that are correlated or are in phase, and destructive interference when they are half a cycle out of phase. The use of two-photon interference allows entanglement. Cabrillo et al suggest creation of entangled states of different atoms by interference.

Does the fine structure of light have something to do with focusing? Diffraction patterns are wave dislocations or line singularities. A polarized wavefield is an even finer structure of singularities. The singularities of geometrical optics are systematized by catastrophe theory. Partial decoherence comes from rays with widely differing paths of differences. (Nye)

Caustics dissolve into intricate interference patterns which catastrophe theory describes as emergent semiclassical phenomena called diffraction catastrophes. In spectral universality, if we consider quantum systems whose classical mechanical treatment is chaotic, we find that the statistics of the spectra of all such systems is the same. Spectral universality is nonclassical, because it is a property of discrete energy levels, and it is semiclassically emergent because the

number of levels increases in the classical limit.. As we generalize to a deeper theory, the singularities of the old theory are dissolved and replaced by new ones. (Berry)

When is a rainbow a catastrophe? In optics, "Catastrophes" are at the heart of many fascinating optical phenomena.

The bright side of the rainbow (below the primary bow) shows a delicate interference pattern. Catastrophe optics describes the wave properties of ray singularities. In the hierarchy of physical concepts, wave optics refines and embraces ray optics, and quantum optics rules above wave optics. So, what would be the quantum effects of wave catastrophes? First, what are quantum catastrophes? It might be a good idea to begin with an example, the black hole. When a star collapses to a black hole an event horizon is formed, cutting space into two disconnected regions. Seen from an outside observer, time stands still at the horizon freezing all motion. A light wave would freeze as well, propagating with ever-shrinking wavelength. Potential quantum effects of such a wave singularity are effects of the quantum vacuum. The gravitational collapse of the star into the black hole has swept along the vacuum. The vacuum thus shares the fate of an inward-falling observer. Yet such an observer would not notice anything unusual at the event horizon. (Leonhardt)

*Singularities, chaos and order depend on our perspective or level of observation: there is a problematic relation between the presence of chaos in classical mechanics and its absence in quantum mechanics. If classical mechanics is the limit of quantum mechanics when Planck's constant  $h$  can be ignored, why does a system appear nonchaotic according to quantum mechanics and yet chaotic when we set  $h = 0$ ? Moreover, if all systems obey quantum mechanics, including macroscopic ones like the moon, why do they evolve chaotically? This problem is located within a larger one: namely the mathematical reduction of one theory to another. His claim is that many of the problems associated with reduction arise because of singular limits, which both obstruct the smooth reduction of theories and point to rich "borderland physics" between theories. The limit  $h \rightarrow 0$  is one such singular limit, and this fact sheds light on the problem of reduction in several ways. First of all, nonclassical phenomena will emerge as  $h \rightarrow 0$ . Secondly, the limit of long times ( $t \rightarrow \infty$ ), which are required for chaos to emerge in classical mechanics, and the limit  $h \rightarrow 0$ , do not commute, creating further difficulties. To illustrate the role of singularities in the semiclassical limit, first consider a simple example: two incident beams of coherent light. Quantum mechanics predicts interference fringes, and these fringes persist as  $h \rightarrow 0$  due to the singularity in the quantum treatment. But in the geometrical-optics form of classical physics (where the wave-like nature of light is ignored) there are no fringes, only the simple addition of two light sources. To regain the correspondence principle between classical and quantum mechanics we must first average over phase-scrambling effects due to the influence of the physical environment in a process called "decoherence." (Michael Berry)*

In optics, a caustic or caustic network is the envelope of light rays reflected or refracted by a curved surface or object, or the projection of that envelope of rays on another surface. There is a parallel between the physics of optical caustics and protein-folding. How does energy from diverse small sources drive a complex molecule to a unique state? Perhaps the missing factor is in the geometry.

Berry claims, "A putative underlying physical link between caustics and folding is a torsion wave of non-constant wave speed, propagating on the dihedral angles and found in an analytical model of the molecule. The translation of genetic information, which is encoded in the DNA, into uniquely folded proteins defines a central mechanism in all living cells. The first stages of the process, entailing the translation of the information into an amino acid sequence in the protein, have been understood for a long time. The final step, the folding of the protein into a unique native state, remains an intensely active research field."

The optical field, including the caustic, is an interference pattern which requires no additional energy to form. There are only a finite number of caustics that can be uniquely characterized geometrically. Also, the formation of caustics is strikingly insensitive to perturbations. The theory of caustics entails the application of mathematics to the propagation of electromagnetic waves subject to various boundary conditions.

One of researchers' motivations for comparing caustics and folding is the appearance of waves and solitons in an analytic molecular model. One issue is that caustics are a wave phenomenon (although geometric optics also gives a complete picture of caustics). Do torsion waves on the molecule backbone, disrupted by heterogeneities in the arrangement of amino acids, form singular points which direct the folding into elementary geometric catastrophes in short segments? Does bond formation subsequently alter the shape? (Simmons).

In a new discovery, scientists using the Spitzer Infrared Space Telescope detected tiny specks of matter, or particles, consisting of stacked buckyballs. They found the particles around a pair of stars called "XXOphiuchi," 6,500 light-years from Earth, and detected enough to fill the equivalent in volume to 10,000 Mount Everests. In 2010, Spitzer first identified definitely these exotic particles. He later identified the molecules in a host of different cosmic environments. He even found them in staggering quantities, the equivalent in mass to 15 Earth moons, in a nearby galaxy called the Small Magellanic Cloud.

"This exciting result suggests that buckyballs are even more widespread in space than the earlier Spitzer results showed," said Mike Werner, project scientist for Spitzer at NASA's Jet Propulsion Laboratory in Pasadena, Calif. "They may be an important form of carbon, an essential building block for life, throughout the cosmos." (Spitzer)

The archetypal nature of such translatable models is highlighted by a recent paper ("Theory of the Origin, Evolution, and Nature of Life", Andrulis, 2012), first released as "scientific" then retracted from peer-review because no one can understand it. It is based entirely on a decidedly heterodox non-mathematical model of the gyre to explain all domains of existence and information morphology. It claims to unite atomic and cosmic realms. This paper highlights the apparent stranglehold archetypes have on the nature of our thinking and conceptualization. That is, if the notion of archetypes themselves holds up. Right or wrong, it shows the power of primordial symbols to attract and fascinate us and bend our thinking.

A quantum approach may be clearer: We are pieced together out of atoms. Atoms are made from protons, neutrons, and electrons. Protons and neutrons are made of quarks. Quarks and electrons,

as far as we know, are elementary particles, with nothing smaller inside. Andrulis contends the gyre is the caged electron. Science thinks of the electron as something that circles so fast around a center proton so as to have the properties of a cloud around the proton with varying strengths here and there. But in the microtubule there is no proton to cloud around. It is not the case where the cloud behavior of the electron is sometimes associated with the beta molecule and then it jumps over to the other molecule as most seem to imagine.

The caged electron has no proton to center around and forms a gyre or tornado or vortex or cyclotron orbit instead. The gyre or electron cloud is forced to form by the Van Der Waal forces between the opposing repelling molecules.

Sometimes the flow of vibrations from one molecule excites the gyre and sometimes the flow from both molecules excites the electron gyre. The gyre can be squeezed or expanded. The gyre has a singularity which is made of photons emitted during the excitation of the gyre or electron cloud in cyclotron orbit. The brain recreates the behavior of the gyre. Life is delayed entropy and what delays the entropy is the incomplete dissipation of information in the singularity held by the gyre.

Vortex-motion has been suggested from pre-history to account for creation, and is with us today in other modern theories of black hole singularities at the core of all matter. Heterodox theories often show more archetypal influence than conventional theories, as they tend to be idiosyncratic. This one is based on the premise that any cycle that exists in nature—in physical, chemical, or biological systems—may be viewed as a gyre. The ground state is the base of the gyre. Gyre collapse occurs by two extreme means: overcontraction or overexpansion.

Because it is so unabashedly archetypal in nature, it illustrates the point that conventional and heterodox theories, in general, are archetypally molded. The gyre is suggested as a basic and concrete model of broad applicability, a profound heuristic, and an unchanging form that changes. Further, nested gyres evidently fulfill many of the modeling requirements of complexity, emergence, chaos, systems, information, and evolutionary theory.

Andrulis claims his theory organizes scales across all domains by feedforward and feedback between, among, and within nested gyrosystems, and that all physical systems, particles, and phenomena in the microcosmic and macrocosmic realms obey a vortical trajectory. He claims to demonstrate that, "that each gyrosystem singularity represents the origin of that gyrosystem. In other words, the singularity is the beginning and the end, the thermodynamic source and the sink of each cycle."

His metaphysics reflects a conceptual surety of an "elegant solution to the origin, evolution, and nature of life in the cosmos.": "The gyre models the living universe perfectly. I have been unable to find one system, particle, event, or process—at any point or stage leading up to or during the origin of life—that does not consent to modeling onto the gyre form. In other words, there is no "before" or "after" the gyre in a spacetime sense; the gyre is evolutionarily and existentially omnipresent. This theory proves that the gyre is the long-sought invisible and inevitable metaphysical element of the universe, fulfilling a philosophical goal that dates to ancient Greece..."

The central idea of this theory is that all physical reality, stretching from the so-called inanimate into the animate realm and from micro- to meso- to macrocosmic scales, can be interpreted and modeled as manifestations of a single geometric entity, the gyre. This entity is attractive because it has life-like characteristics, undergoes morphogenesis, and is responsive to environmental conditions.

The gyromodel depicts the spatiotemporal behavior and properties of elementary particles, celestial bodies, atoms, chemicals, molecules, and systems as quantized packets of information, energy, and/or matter that oscillate between excited and ground states around a singularity. The singularity, in turn, modulates these states by alternating attractive and repulsive forces. The singularity itself is modeled as a gyre, thus evincing a thermodynamic, fractal, and nested organization of the gyromodel. In fitting the scientific evidence from quantum gravity to cell division, this theory arrives at an understanding of life that questions traditional beliefs and definitions.

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## **Natural Laws & Ordering Principles**

These primordial forms, geometries, and pre-geometrical dynamics are the archetypes of nature, at levels more fundamental than those of personification. As our penetration of our own depths and those of nature deepens, we become cognizant of the primordial nature of such symbols in our personal and collective life.

Personified archetypes were well-covered in the 20th century, but in the 21st we need to revision our view of the essential meaning of archetypes and what is archetypal to include the raw nature of archetypes, not just the archetypes of nature. Energy has shape...and that shape emerges from the vacuum potential. As the Heart Sutra implies, form is not other than void and void is not other than form. In this sense, all of manifestation is archetypal.

*"The vacuum is an observable emptiness that is a virtual plenum. It is spacetime, massless charge, electrostatic scalar potential, broken bits (subquantal) of energy, pure virtual particle flux, zero-vector wave flux, multilevel, structured, patterned. It is all things and contains all things in potential state. It is not, in that it is not observable. But from it comes all observables. It is both ordered and disordered, simultaneously. The vacuum is the absence of charged spinning particles of observable mass.*

*In the presence of a spinning charged particle, in a del-phi which contains electron-vortex-holes*

*to mesh with, the charged particle attaches itself to the moving del-phi flux gradient, moving itself with the river. This produces an  $\ddot{E}$  field. The  $\ddot{E}$ -field CONSISTS OF the smeared electron, it does not CAUSE THE MOVEMENT of the electron. It is an effect, not a cause. The conventional equation for del-phi equals  $E$  is correct for matter waves in electron gases; it is not correct in vacuum itself. A spinning charged particle, when it hooks to a spin-hole in a del-phi river, MOVES ITSELF.*

*Electromagnetic waves in vacuum are scalar longitudinal waves of alternate compression and rarefaction of the vacuum virtual particle flux. That is, they are waves of electrostatic potential. They are zero-vector waves. They are internally structured and patterned. They usually contain electron "spin holes" unless made in a fashion so as to make opposing spin holes that cancel each other. Since they are pure phi-waves, they need not be limited in velocity to the speed of light. They are hyperspatial waves. They are waves in the virtual state itself.*

*Both poles in the virtual substructure remain as a translated scalar magnetic field. There's a virtual flux to and from each observable particle of charged mass in the observable state. Accelerated portions -- atoms with electrons in whirling orbit, spinning electrons, protons, etc. -- possess nonzero ordinary vector magnetic fields by translation. There are successive interlocking levels of reality, all the way from deep in the virtual state into interlocking levels in the observable state." (Bearden)*

Matter conceptually arises from our perception of the universe. In the computational analogy the universe is a virtual reality - it is 'made' of computation and information. Only through virtual senses does it seem to be 'solid'. Existence is a field of consciousness, our personal consciousness is an aspect of the cosmic consciousness and with a focused awareness we participate in that field. By interacting with the underlying energy and information we may influence it, then when our senses perceive the situation it seems that 'matter' has been influenced - but that matter is just the underlying energy and information as it appears to our senses.

Rumi, the 13th-century Sufi mystic poet said, "The nature of reality is this: It is hidden, and it is hidden, and it is hidden."

Physical reality is not absolute. Science has tried to find the fundamental building blocks of matter, but has been stymied. It simply depends on the assumptions and theory you use with the level of observation: cosmological, molecular, atomic or subatomic. Now the quark (theoretically point-sized), long thought the smallest unit discernable, is giving way to finer distinctions -- a whole new level of the makeup of matter.

In *The Quantum Brain*, Jeffrey Satinover describes, "a world in which one can comfortably argue the dynamics of interference among multiple universes both forward and backward in time; can ask seriously, as did Feynman and Wheeler, whether every electron in the universe is the same one, just reappearing through multiple loops in time."

Lee Smolin is not a fan of Many Worlds Interpretation, (MWI), but he describes its anomaly: "only an observer who lived outside the universe who had somehow the same relation to the

whole universe that we may have towards some atoms of gas in a container, could observe this quantum state of the universe. . .it is only such an observer who could know all of reality.”

Creation may come from nothingness (ex nihilo), but it doesn't travel very far from it when closely examined. It only and ever manifests as quantum potentiality, though it appears particle-like. This includes both the so-called organic and inorganic matter. The universe is more like a dream than concrete.

In fact, there is no such thing as solid matter at all, no hordes of tiny particles. All manifestations are reduced to probability waves in quantum mechanics – an ephemeral yet living field. In “Helix to Hologram”, this author has suggested elsewhere that the so-called material world is a projection of a frequency domain, fields within fields, tuned with resonance, light and sound. This holographic concept of reality requires the unperceived information background as its basis. Both particle and field exist only in the implicate order.

Light is even more ephemeral. As Wolf (2000) describes, “When we see light, we really don't see light at all; we see an effect appearing as a result of light pushing and pulling on the matter making up our sensory bodies. We see matter moving. Light itself is really out of this world and, as far as I can tell, out of any parallel world we wish to think about.”

## Conclusions

The most theories provide is the best explanation. Explanation not prediction is the point of science. We explain the world in terms of embedded hierarchies of substructures and superstructures. Each appears as a thing in itself with specialized functions and dynamics. Physics determines what can be computed, including the information capabilities of matter and energy underlying physical dynamics and deeper sub-quantal levels.

Reality consists of continually diverging and converging waves unfolding from the information level, but that is another story, as is the physics of consciousness. The mind arises from the laws of matter. While some scientists are trying to describe matter as consciousness others are trying to reduce consciousness to matter.

A thought of a thing is not that thing, but it is not nothing either. Our thoughts about the ultimate nature of reality affect that reality at the metaphysical level. As intuitive Jorge Luis Borges said, “Time forks perpetually toward innumerable futures.” All that can happen, must happen. The outdated notion of our universe is an idea, not a reality. As an idea it has been proven obsolete.

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