

The Origin and Nature of Human Consciousness, Part Four: An Alternate Model of the Higher Dimensional Structure of Human Existence

Christopher P. Holmes

*'material points without extension' are Leibnitz's monads,
and at the same time the materials out of which the 'Gods'
and other invisible powers clothe themselves in bodies.*

*Whence the substance that clothes them—the apparent organism
they evolve around their centers? H. P. Blavatsky, 1888¹*

*The Swift and Radiant One
Produces the Seven Laya centers... and Seats
the Universe on these Eternal Foundations.
(Stanzas of Dzyan, VI 2)²*

*the heart is truly a wonder, for its creative action
mirrors the original act of Creation. Chaim Kramer, Kabbalist³*

Abstract

An alternate model of the higher dimensional structure of human existence is proposed based upon the archaic teachings of Helena Blavatsky, *The Secret Doctrine* and the *Stanzas of Dzyan* and synthesized with emerging ideas in physics concerning the information-processing and holographic paradigm. Specifically, it is proposed that the living entity within a human being is a monadic essence which exists within a seven-fold hyperspace dimension—or Parent Space. This Monad, or God Spark, has seven interior *holes dug in space* and these have inherent spin properties as manifestation of the “Ceaseless Breath” and its circumgyrating motion. These spin properties manifest as “spin energy” or “spinergy” and act upon the sevenfold Aether of Space to precipitate varied matters upon successive planes of being; hence, to clothe the divine source emanation within spiritual, psychical and material bodies. The Sons or “winks in the Eye of Self-Existence,” which we are, expand and contract through their own hearts and Self within such a higher dimensional universe of unspeakable subtlety and beauty. Ultimately,

every man and woman is a Star, a point source light emanation existing within higher dimensional space.⁴ Seven *holes dug in space* serve as mini-white/black hole information processors and are the basis for such a higher dimensional magic and existence, weaving webs through spirit and matter. This is a theoretical attempt to synthesize ancient mystical axioms with emerging concepts in holographic physics.⁵

Cosmic Evolution

Book I of Helena Blavatsky's *The Secret Doctrine* (1888), *Cosmogogenesis*, deals with the “genesis” of the “Cosmos”—the

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origin and creation of the universe. *Cosmogogenesis* outlines the laws of cosmology, physics and metaphysics from an esoteric and occult perspective, based upon Stanzas from the *Book of Dzyan*, an ancient poetic text of Tibetan origin, which apart from Blavatsky's writings, seems largely unknown to modern scholarship.⁶ The *Stanzas of Dzyan* are referred to as "the heart of the sacred books of Kiu-ti," once known only to Tibetan mystics. Blavatsky describes a "very old Book" originally recorded in Senzar—the "sacred sacerdotal tongue" and derived from "the words of the Divine Beings, who dictated it to the sons of Light, in Central Asia, at the very beginning of the 5th (our) race."⁷ Certainly, these are unusual claims and the origin of the Stanzas seems largely lost in antiquity. Blavatsky explains that the *Stanzas of Dzyan* provide an "abstract algebraic formula of ... Evolution," which can be applied to "all evolution." There are "seven terms of this abstract formula, related to the seven great stages of the evolutionary process, as described in the Puranas as the 'Seven Creations,' and in the Bible as the 'Days of Creation.'"

Within *The Secret Doctrine*, the Universe is claimed to have emerged from a zero point or singularity condition, out of a seeming void and plenum—a seven dimensional hyperspace or "Eternal Parent Space" with an underlying fundamental holomovement or "Eternal Ceaseless Breath." These primordial Mother and Father principles are the basis for the material and spiritual worlds. A Kosmos⁸ grows from a zero point source within-without to become a world and will eventually contract without-within back to a final zero point—to return into the sevenfold hyperspace of the Divine Mother. As early as 1888, Blavatsky regarded our Kosmos as a point center rooted into an underlying Ceaseless Breath within a Parent Space!

The two primary root principles of creation are the higher dimensional seven-skinned Eternal Parent Space and the Eternal Cease-

less Breath. The *Stanzas of Dzyan* begin before the big bang when the world was empty and void during the "Nights of Brahma," and the Spirit (Breath) moves across the face of the Waters (of Space). The Stanzas then depict the dynamic emergence of a Kosmos, the dropping of a world egg, the emergence of the seven divine intelligences or Luminous Sons, and the unfurling of varied cosmic processes through different hierarchies of creation. These abstract causes and root principles "phenomenalise in the form of the material Universe, by a process of conversion of metaphysics into physics, analogous to that by which steam can be condensed into water, and the water frozen into ice." Blavatsky states, "metaphysical abstractions ... are the only conceivable cause of physical concretions."⁹

In modern terminology, the Eternal Parent Space is the seven-dimensional hyperspace of the *quantum vacuum*—the quantum ether with its zero point fields as postulated within models of physics including: Superstring and M-theory—the supposed "Mother" of all theories. A modern physicist declares: "All of physics is in the vacuum" and this is quite consistent with the viewpoint elaborated by Blavatsky. Blavatsky's seemingly bizarre descriptions of metaphysical processes have anticipated the essential concepts of modern physics: including vacuum genesis, creation from a singularity condition, 11 dimensional string theory and M-theory, quantum information theory and the holographic principle. Further, they shed a wholly different light on the enigmas of the "uncertainty principle" and the "baffling holism" of quantum physics. Blavatsky's perspectives on the mysteries of creation are ever more intelligible in light of the theories and findings of modern science.¹⁰

Monads can similarly be regarded as "winks in the Eye of Self-Existence." Of course, since a human embodies the Universe, as a microcosm of the macrocosm, then the same abstract numerical and symbolic formulas applied to understanding the zero point dynamics underlying the creation

of the Universe can also be applied to understanding the emergence of the Monad. A *Stanza of Dzryan* states:

THE SONS EXPAND AND CONTRACT THROUGH THEIR OWN SELVES AND HEARTS; THEY EMBRACE INFINITUDE. (III, 11)

The nature of the “I AM,” the Monads, the individual living beings, the “winks in the Eye of Self-Existence” can be considered according to the same formula of the Stanzas for Cosmic Evolution. A monadic essence existent within a seven dimensional hyperspace, by some hidden inner magic, becomes “clothed in different bodies” based upon zero point *laya centers*. Blavatsky offers a higher dimensional model of human existence within holographic Space, in comparison with which 20th century psychology looks meagre indeed.

Zero Point Foundations and the Role of Fohat

*The seven Laya centers are the seven Zero points, using the term Zero in the same sense that Chemists do, to indicate a point at which, in Esotericism, the scale of reckoning of differentiation begins.*¹¹

The *Secret Doctrine* maintains that the universe is founded upon an original zero point *laya center* which further differentiates into *seven zero point centers*. Seven minute *holes dug in space* are the means by which higher dimensional forces sculpt the void through the processes of creation. Blavatsky offers this explanation of the “Forces of Nature:”

... all the so-called Forces of Nature, Electricity, Magnetism, Light, Heat, etc., etc., far from being modes of motion of material particles, are *in esse*, i.e., in their ultimate constitution, the differentiated aspects of that Universal Motion. ... When Fohat is said to produce ‘Seven Laya Centers,’ it means that for formative or creative purposes, the GREAT LAW (Theists may call it God) stops, or rather modifies its perpetual motion on

seven invisible points within the area of the manifested Universe. ‘*The great Breath digs through Space seven holes into Laya to cause them to circumgyrate during Manvantara.*’ (Occult Catechism). We have said that Laya is what Science may call the Zero-point or line; the realm of absolute negativeness, or the one real absolute Force ... the neutral axis, not one of the many aspects, but its center ... ‘Seven Neutral Centers’, then are produced by Fohat¹²

The Ceaseless Breath or Universal Motion “digs holes in Space” to channel intelligence and influences into the material realm. Any Cosmos, Universe, Monad, atom or quantum is thus “worked and guided from within outwards” through the dynamics of such zero point centers. Life within a living being thus originates within/without, out of higher space dimensions through the dynamics of a multi-dimensional heart.

Within *The Secret Doctrine*, understanding the role and significance of *Fohat* is a key to the mysteries of cosmogenesis and the relationship of the laws of physics to ancient metaphysics:

But just as the opposite poles of subject and object, spirit and matter, are but aspects of the One Unity in which they are synthesized, so, in the manifested Universe, there is “that” which links spirit to matter, subject to object.

This something, at present unknown to Western speculation, is called by the occultists Fohat. It is the “bridge” by which the ‘Ideas’ existing in the ‘Divine Thought’ are impressed on Cosmic Substance as the ‘Laws of nature.’ Fohat is thus the dynamic energy of Cosmic Ideation; or, regarded from the other side, it is the intelligent medium, the guiding power of all manifestation, the ‘Thought Divine’ transmitted and made manifest through the Dhyana Chohans, the Architects of the visible World. ... Fohat, in its various manifestations, is the mysterious link between Mind and Matter, the ani-

mating principle electrifying every atom into life.¹³

Just as a human has a body, soul and spirit, so also does the Cosmos. Fohat is that agent of spirit which ensouls the material body of the Cosmos: “the animating principle electrifying every atom into life.” Fohat is the “dynamic energy of Cosmic Ideation” and embodies the intelligence of the spiritual builders or the Seven Luminous Sons.

THE PRIMORDIAL SEVEN, THE FIRST SEVEN BREATHS OF THE DRAGON OF WISDOM, PRODUCE IN THEIR TURN FROM THEIR HOLY CIRCUMGYRATING BREATHS THE FIERY WHIRLWIND. V. 1

The PRIMORDIAL SEVEN entail modifications of the fundamental Ceaseless Breath. These are the first born from the Darkness and Matrix of Non-Being. The Seven Breaths are circumgyrating, indicating vortices spinning around a center. These, in turn, produce “the Fiery Whirlwind,” which is Fohat. Fohat links the seven primary realms of spiritual creation above to the seven realms of material nature below. The Stanzas declare: “SEVEN INSIDE; SEVEN OUTSIDE.”

Fohat is the energetic principle, the fundamental cosmic electromagnetism and it conveys the influence of divine and spiritual intelligences to impress upon matter.

It is through Fohat that the ideas of the Universal Mind are impressed upon matter. Some faint idea of the nature of Fohat may be gathered from the appellation ‘Cosmic Electricity’ sometimes applied to it; but to the commonly known properties of electricity must, in this case, be added others, including intelligence.¹⁴

According to Blavatsky, Fohat is the Messenger of the Primordial Sons of Light and Life, the Dhyān-Chohans, running their errands and impressing their divine thoughts and intelligence into the seven realms of material creation below. Further, just as there are seven Luminous Sons or seven circumgy-

rating Breaths and seven primordial matters latent in the Eternal Parent Space, Fohat is also sevenfold having seven sons:

Fohat ... is One and Seven, and on the Cosmic plane is behind all such manifestations as light, heat, sound, adhesion, etc., etc., and is the ‘spirit’ of ELECTRICITY, which is the Life of the Universe. ... Thus, while science speaks of its evolution through brute matter, blind force and senseless motion, the Occultists point to *intelligent* LAW and *sentient* LIFE, and add that Fohat is the guiding Spirit of all this. ... the ‘Messenger of the primordial Sons of Life and Light.’¹⁵

Fohat is Cosmic Electricity, the energetic and vivifying principle linking Cosmic Spirit (Intelligence) to Cosmic Matter. Fohat is “metaphysically” the “objectified thought of the gods” and “the transcendental binding Unity of all Cosmic Energies.”

Fohat is also a source of gravitational influence established within higher dimensional Space of one’s heart, holding it all together. Fohat binds living Cosmoses together and conveys the influences of higher dimensional dynamics into the manifest realm below. The Hearts of living beings are their LIFE centers, wherein we might find Deity, as within “every point of the universe.” Fohat is also the “vital electric force that leaves the body at death,”¹⁶ whether a Kosmos or Son.

The *Stanzas of Dzyan* depict the formation of the Laya Centers which serve as the foundations for the universe:

VI: 2. THE SWIFT AND RADIANT ONE PRODUCES THE SEVEN LAYA CENTERS ... AND SEATS THE UNIVERSE ON THESE ETERNAL FOUNDATIONS 3. ... SEVEN SMALL WHEELS REVOLVING; ONE GIVING BIRTH TO THE OTHER. 4. ... FOHAT ... MAKES BALLS OF FIRE, RUNS THROUGH THEM, AND ROUND THEM, INFUSING LIFE THEREINTO, THEN SETS THEM INTO MOTION; SOME ONE WAY, SOME THE OTHER WAY.

The laya centers, the eternal foundations for the Universe, are “revolving” and “set in motion” in different directions. They differentiate through sequential symmetry breaking; “ONE GIVING BIRTH TO THE OTHER.”¹⁷ Imagine such wheels within wheels, through different generations of causes and effects originating from a dynamic zero point center established within the transcendental hyperspace of the Eternal Parent Space!

The Eternal Ceaseless Breath, which is infinitely energetic, manifests as the Primordial Seven – the Seven “HOLY CIRCUMGYRATING BREATHS” which produce “THE FIERY WHIRLWIND,” the “MESSENGER OF THEIR WILL,” Fohat and his seven Sons, the *Lipika*. Fohat “RUNS CIRCULAR ERRANDS” and forms seven “WHEELS” in the six directions of space and one in the middle—depicted in Figure 1 by the *flower of life* symbol of ancient Egypt with a central seventh point. A certain “spinergy” or “spin energy” is thus inherent to the zero point foundations of a Cosmos.

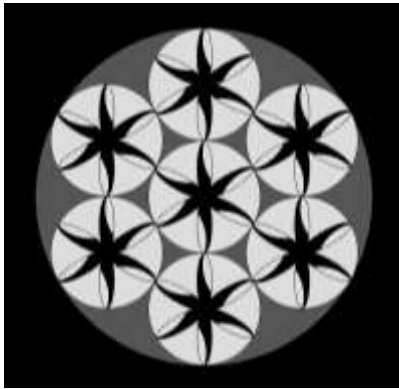


Figure 1

The Seven Sons of Fohat link Spirit above to Matter below and spin their magic through “seven holes dug in space,” invisible centers within the Eternal Parent Space. Any living Cosmos is set upon such a foundation. These “holes dug in space” might be regarded as seven mini white or black holes, according to whether we are speaking of the emergence or dissipation of a Cosmos. The seven holes dug in space are “whirlwinds” of activity—modifications of the Ceaseless Breath—which just like black holes, may have mass, rotational and spin properties. These meta-

physical processes in a higher dimensional space are rendered equivalent to outward worlds of seemingly separate energies and material particles manifesting within external four-dimensional spacetime. The central point is thus “clothed” in different bodies.

In Blavatsky’s view, there are varied external four-dimensional spacetime realms—physical, astral and mental worlds on a lower level, and corresponding Atmic, Buddhic and Manas planes on higher levels. Each of these is a projection of dynamics founded upon holographic boundaries or shells surrounding the central holes dug in space. Living beings have such LIFE Centers, as Monads existing within the Eternal Parent Space, and the outward physics of life is created as a great Chain of Being surrounding the higher dimensional metaphysics of a Monad in Hyperspace.

It is from such mysterious zero point conditions that the differentiation of a Cosmos, a quantum or Monad begins. Such dynamics are reiterated through interior dimensions. Modern scientist, Paul Davis, described such a model of 11 dimensional theory in modern physics where seven “compact dimensions” are rolled up into elements at zero point levels. Davis explained, “think of the extra dimensions as somehow inside the atom.”¹⁸ Remarkably, Blavatsky explained exactly this type of peculiar inner dimensionality to “atoms,” quanta, Monads and Cosmoses over a century ago. Accordingly, Blavatsky’s model suggests that there is a complex metaphysics to reality at zero point levels.

Helena Blavatsky offers modern science profound gems of insight into the possible mechanisms of Divine and Spiritual Intelligences in creating, maintaining and dissolving any finite holographic Cosmos. Instead of a bearded patriarch sitting on a throne, the Divine Workmen carry out the Will of the Dhyana Chohans and spin their magic through the seven dynamic vortex action centers established within higher dimensional Space. The Gods “micro-intervene” within the laws of nature with such holes dug in Space functioning as information micro-processors!

The Universe as a Hologram

In 2003, *Scientific American* published an issue posing the question “ARE YOU A HOLOGRAM? Quantum physics says the entire universe might be.” In a fascinating article, *Information in the Holographic Universe*, J. Bekenstein discussed some of the unusual features of modern information and holographic theory and the physics of black holes. The holographic principle is being proposed as the possible Holy Grail of physics as it unifies the quantum field theories of physics with an account of gravity.

Bekenstein regards “information” as a third force underlying the manifestations of matter and energy within time and space. This is similar to Bohm’s “pilot waves” and the “quantum potential” permeating space, as information fields of the implicate orders that inform transformations of matter and energy.¹⁹

“Ask anybody what the physical world is made of, and you are likely to be told “matter and energy.” Yet if we have learned anything from engineering, biology and physics, information is just as crucial an ingredient. ... a century of developments in physics has taught us that information is a crucial player in physical systems and processes. Indeed, a current trend, initiated by John A. Wheeler of Princeton University, is to regard the physical world as made of information, with energy and matter as incidentals.²⁰

In *Black Hole Computers*, Lloyd and Ng similarly emphasize “information” as third force in the new physics:

... to a physicist, all physical systems are computers. Rocks, atomic bombs and galaxies may not run Linux, but they, too, register and process information. Every electron, photon and other elemen-

tary particle stores bits of data, and every time two such particles interact, those bits are transformed. Physical existence and information content are inextricably linked. As physicist John Wheeler of Princeton University says, “It from bit.”²¹

The statement “it from bit”, suggests that “it,” meaning a material and energetic system, comes from “bit,” meaning bits of information. Some modern physicists now regard information as a primary element in nature. From this perspective, everything is a computer, as everything processes bits of information—whether an electron, a black hole, a cell or a human heart. Thus, a trinity of intelligence, energy and matter is basic to the new science—as it is to mystical orientations and *The Secret Doctrine*. According to Lloyd and Ng, the uni-

verse itself is a giant computer and not only that, but a quantum computer. They quote physicist Zizzi, “It from qubit,”—or quantum bit, as a variation on Wheeler’s “It from bit.”

Bekenstein explains aspects of information theory as they apply to black holes and the emerging holographic theory and suggests that: “Theoretical results about black holes suggest that the universe could be like a gigantic hologram.” The reasoning that leads to such a concept concerns modern views of the laws of entropy and how this relates to the entropy of information. The *law of entropy*, traditionally applied to material and thermal processes, can also be applied to information processes. In 1877, physicist Ludwig Boltzmann defined *thermodynamic entropy* as the number of distinct microscopic states that particles in a body of matter could be in: For example, consider all the possible arrangements of the gas molecules in the room around you and their possible positions and momentum. It was in 1948 that Claude

Blavatsky’s seemingly bizarre descriptions of metaphysical processes have anticipated the essential concepts of modern physics: including vacuum genesis, creation from a singularity condition, 11 dimensional string theory and M-theory, quantum information theory and the holographic principle.

Shannon defined entropy in terms of information theory. The *Shannon entropy* is the number of binary bits needed to decode the information content within a message. The two measures and concepts of entropy are *conceptually equivalent* (under higher degrees of freedom), although they are expressed in different units—either “units of energy divided by temperature” for thermal entropy, or as “bits” which are *essentially dimensionless* for information entropy. The conservation of information is also demanded within quantum mechanics.

According to the *Generalized Second Law of Thermodynamics*, the loss or gain of entropy in a material/energetic system must be compensated for by changes in the entropy of information as one balances the other in order to maintain an overall GSL. Bekenstein explains a consequence of this principle as applied to the physics of black holes:

... when matter falls into a black hole, the increase in black hole entropy always compensates or overcompensates for the “lost” entropy of the matter. More generally, the sum of black hole entropies and the ordinary entropy outside the black holes cannot decrease. This is the generalized second law—GSL for short.²²



Figure 2²³

This implies that when the matter and energy of a quantum system are absorbed into a black hole, huge amounts of information should spew out. *Scientific America* (November 2004) featured an article on *Black Hole Computers*, which suggests: “*Stephen Hawking was Wrong. Matter goes in. Answers come out.*” The loss of entropy which occurs as matter and energy are absorbed into a black hole is compensated for by an increase of the entropy of the information—thus, answers come out—like the 0 and 1 sequences illustrated in Figure 2 as emerging from a mini black hole processor.

In *Black Hole Computers*, Lloyd and Ng explain that in the 1970s, Hawking proposed that when matter fell into a black hole the radiation produced was simply random. However, the newer view now endorsed by Hawking is that the outgoing radiation is not simply random but “a processed form of the matter that falls in.” The authors thus declare: “Black holes, too compute.”²⁴ Furthermore, the authors note: “... a black hole is nothing more or less than a computer compressed to its smallest possible size.” Thus, when matter falls into a black hole past the event horizon, it cannot leave but the “information content can.”

The total storage capacity of a black hole is proportional to its surface area. Susskind (2008) states this principle: “The entropy of a black hole, measured in bits, is proportional to the area of its horizon, measured in Planck units.”²⁵ Figure 3 depicts a black hole as having its surface or horizon divided into bits, triangular sections containing 0’s or 1’s. This is counter-intuitive, as one might have expected that the information content of the black hole would be related to its interior volume. However, this is not so and instead the information is encoded on the surface of the black hole—on a two dimensional surface instead of in the 3-dimensional interior volume.

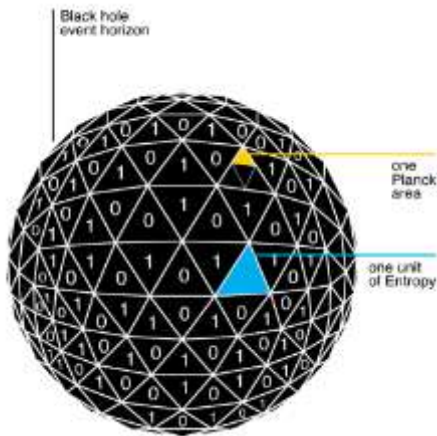


Figure 3

Paradoxically, the physics of black holes suggests that as a physical system of matter and energy collapses down to the level of Planck units at 10^{-33} cm and beyond, the amount of information potentially contained within a volume of space becomes huge. Bekenstein considers the amount of information contained within “a Planck area” which is the square of two Planck lengths of 10^{-33} cm—or 10^{-66} cm^2 . At Planck’s level, at zero point levels in the quantum vacuum or aether, the information content and capacity is potentially huge. Bekenstein states:

The entropy of a black hole one centimetre in diameter would be about 10^{66} bits, roughly equal to the thermodynamic entropy of a cube of water 10 billion kilometres on a side.²⁶

Bekenstein argues that there seems “to be no limits to how densely information can be packed—and that our universe might be like a giant hologram.” In Bekenstein’s model, the more we penetrate into the heart of being, the more vast amounts of information might be contained within the seeming emptiness and there might be such complex inner worlds and black hole dynamics. Furthermore, black holes have both mass and rotational or spin properties and could function as the ultimate mini-computers, processing immense amounts of information at Planckian levels. Everything computes in the new science of information theory, including mini-black holes.

Diverse new views of black holes suggest also that they are not such simple structures as once conceived. In string theory, they are regarded as composite bodies made of multi-dimensional structures called branes. Information falling into the black hole is stored in waves in the branes and can eventually leak out. Black holes have also been described as “a giant tangle of strings,” a “fuzzyball” which can act as a repository of the information carried by things that fall into the black hole. Information has another “escape hatch” out of a black hole through “entanglement,” whereby the properties of two systems inside and outside of the black hole remain correlated across spacetime. Entanglement is thought to possibly enable teleportation, in which information is transferred from one particle to another with such fidelity that the particle has effectively been beamed from one location to another. The annihilation of an infalling photon acts as a measurement, transferring the information contained in the matter to the outgoing Hawking radiation. Scientists are arriving at complex views of reality at zero point levels, looking at the information processor capacities of black holes and other structures at Planck’s levels.

Physicist L. Smolin describes the world according to the holographic model:

The world must be a network of holograms, each of which contains coded within it information about the relationships between the others. In short, the holographic principle is the ultimate realization of the notion that the world is a network of relationships. Those relationships are revealed by this new principle to involve nothing but information. Any element in this network is nothing but a partial realization of the relationships between the other elements. In the end, perhaps, the history of a universe is nothing but the flow of information.²⁷

Smolin describes the atomic or quantized structure of space in terms of spin networks, information and relationships. Certainly, these are profoundly alternative models of deep reality at zero point levels!

Bekenstein comments on the direction of modern physics towards finding deeper and deeper levels of structure at zero point levels:

There could be more levels of structure in our universe than are dreamt of in today's physics. ... the deepest level of structure I shall refer to as level X. ...²⁸

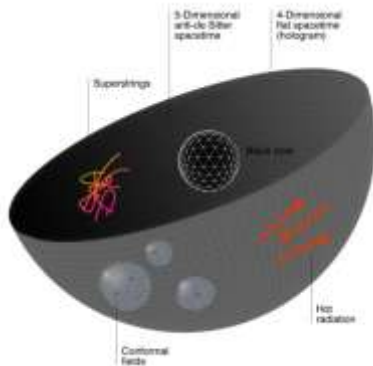


Figure 4

Black Holes & Alternate Space Dimensions

Figure 4 depicts one of the most unusual ideas of the holographic model in physics. The interior of this sphere represents a “5 dimensional anti-de Sitter spacetime” and the circumference of the sphere, the shell, represents the “four dimensional flat spacetime (hologram).” Bekenstein explains that if the physics of the universe is holographic, then different sets of physical laws that apply in the de-Sitter spacetime (the shell surrounding the black hole) and the anti-de Sitter spacetime (within the sphere) are rendered equivalent. Thus, the “conformal field theory of point particles” applies on the two dimensional surface of the sphere (the holographic boundary or shell) and it is rendered equivalent to a physics of superstrings elements and black holes within the 5 dimensional anti-de Sitter spacetime (within the interior of the sphere). Thus, what manifests in the physical realm is rendered equivalent to metaphysical processes in an alternative higher Space dimension. Figure 5 depicts how the activities of a black hole in the interior of the anti-de Sitter space is rendered equivalent to swarms

of particles on the boundary surface of the spacetime sphere.

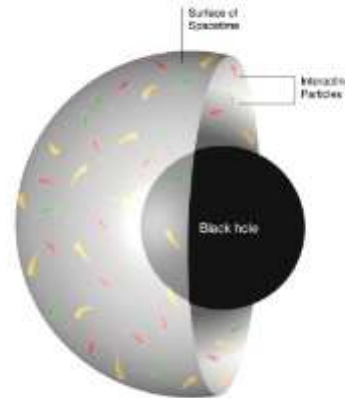


Figure 5

Thus, quantum field theories and point particle interactions might apply on the outer shell, but inside, we have the physics of superstrings and black holes. The holographic principle renders these two theories equivalent. The outer shell or surface of the sphere is compared to a two dimensional holographic plate which records or embodies processes occurring within the interior space. Bekenstein writes:

Creatures living in one of these universes would be incapable of determining if they inhabited a 5-D universe described by string theory or a 4-D one described by a quantum field theory of point particles.²⁹

Bekenstein suggests that in this case, the three dimensional physical world is projected from a flat boundary or screen, the shell of the sphere, just like a holographic image is projected into space from a flat two dimensional holographic plate. In Figure 6, clouds of quarks and gluons on the boundary surface describe related complex objects such as an apple within the interior of the sphere. The object in the interior is subject to gravity even though such a gravitational attraction does not exist on the surface. It turns out that the mathematics of particle physics are almost the same as the mathematics of string theory. What is so startling about this is the fact that these phenomena are on such diver-

gent orders of scale. The protons and neutrons can be 10^{20} times larger than the fundamental strings and they vibrate 10^{20} times more slowly.

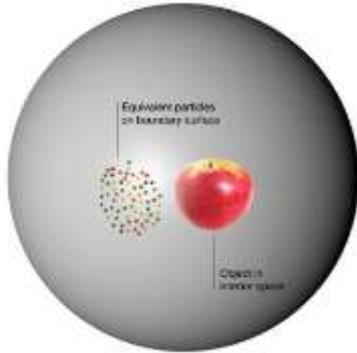


Figure 6

Scientist L. Susskind similarly concludes:

... the three-dimensional world of ordinary experience—the universe filled with galaxies, stars, planets, houses, boulders, and people—is a hologram, an image of reality coded on a distant two-dimensional surface. This new law of physics, known as the Holographic Principle, asserts that everything inside a region of space can be described by bits of information restricted to the boundary. ... everything inside this giant shell is an image of microscopic bits spread over the shell. ... everything taking place in the interior of the region is a holographic image of the pixelated boundary. ... the world ... is pixelated, and all information is stored on the boundary of space.³⁰

Susskind notes that of this most peculiar holographic principle:

Getting our collective head around the Holographic Principle is probably the biggest challenge that we physicists have had since the discovery of Quantum Mechanics.³¹

On the surface of the sphere, quantum theories and point particle analysis applies, but these reflect a deeper metaphysics of membranes and strings, matrices and spin networks in higher dimensional space. Finally, at the centre of the holographic system is a black hole information processor in this al-

ternate space dimension. This is quite analogous to how Blavatsky depicts material/energetic processes as based upon zero point foundations—*holes dug in Space*—established within an underlying seven skinned Eternal Parent Space. Further, from the perspective of Blavatsky, we would consider there to be seven such shells instead of simply one, as related to the sevenfoldness of the Eternal Parent Space, the Akasha or Aether.

Of course, Bekenstein and Susskind do not consider that a holographic model might be applicable to human beings—as their focus is on the black holes, information theory and the holographic principle within physics. It is not immediately evident how one might jump from the levels of Planckian units and elementary quanta in physics to the dimensions of human existence. However, the mystical idea—that the microcosm embodies the nature of the macrocosm based on seven holes dug in space—suggests the rationale for applying these concepts to the inner cosmos of consciousness. These concepts are all particularly significant in light of Blavatsky’s description of seven such “holes dug in space” as the means by which the Gods and other invisible powers “clothe themselves in bodies.”

The Illusion of Gravity³²

A holographic view of physics offers an alternative perspective on the nature of “gravity.” In *The Illusion of Gravity*, theoretical physicist Juan Martin Maldacena explains:

... the theories predict that the number of dimensions in reality could be a matter of perspective: physicists could choose to describe reality as obeying one set of laws (including gravity) in three dimensions or, equivalently, as obeying a different set of laws that operates in two dimensions (in the absence of gravity). ... A hologram is a two-dimensional object, but when viewed under the correct lighting conditions it produces a fully three-dimensional image. ... Gravity ... would be part of the illusion: a force

that is not present in the two-dimensional world but that materializes along with the emergence of the illusory third dimension.^{33 34}

Maldacena describes a quantum theory of gravity as the “holy grail for a certain breed of physicist” and explains that string theorists have developed such a “complete, logically consistent, quantum description of gravity in what are called negatively curved spacetimes—the first such description ever developed. For these spacetimes, holographic theories appear to be true.”³⁵

The anti-de Sitter space is the simplest of such negatively curved spaces. They neither expand nor contract, but look the same at all times. Maldacena explains the equivalency of the physics of these alternative dimensions in the interior of the sphere to those upon its boundary:

... the boundary of four-dimensional anti-de Sitter space at any moment in time is a sphere. This boundary is where the hologram of the holographic theory lies. Simply stated, the idea is as follows: a quantum gravity theory in the interior of an anti-de Sitter spacetime is completely equivalent to an ordinary quantum particle theory living on the boundary. If true, this equivalence means that we can use a quantum particle theory (which is relatively well understood) to define a quantum gravity theory (which is not). (2005, p. 61)

Thus, gravity can be accommodated within string/M-theory in the interior of the sphere and be unified with particle theories on the holographic boundary. Maldacena explains:

... gravity in four dimensions is an emergent phenomena arising from particle interactions in a gravityless, three dimensional world. ... physicists have known since 1974 that string theory always gives rise to quantum gravity. The strings formed by gluons are no exception, but the gravity operates in the higher-dimensional space.³⁶

According to this formulation, “gravity operates in the higher-dimensional space.” This is in accord with H. P. Blavatsky who argued that the underlying causes of gravity lay within the higher seven dimensional Eternal Parent Space and within the ethers of the Solar system—the electromagnetic ocean of life. Gravity is not simply due to non-sentient physical mass but has an underlying metaphysical nature, one of the variants of Fohat, as all things adhere within the Aether of Space.

In physics, the holographic principle is a primary contender for the ultimate theory of everything—incorporating gravity with quantum field theory. Gravity is incorporated within the alternate spacetime within superstring/M-theory (and black holes physics), while quantum theory (involving the triune electro-weak and strong forces) applies on the flat holographic boundary. Although there are many unresolved issues to be faced in understanding this paradigm, it is a rich alternative model of how lower dimensional physics could be an outward manifestation of a higher dimensional metaphysics in alternative Space dimensions. This is the basic premise of *The Secret Doctrine* with its zero point holes dug in space as the foundations for the laws of nature.

The conjunction of an anti-de Sitter spacetime to accommodate string theory and black holes and to produce the phenomena of gravity, and the de Sitter spacetime to accommodate the three other quantum forces of nature—produces a profound model of higher dimensional holographic physics. It certainly seems that it is a strange universe we live in, wherein such vast amounts of information might be available at sub-atomic or zero point levels, which might surround a mini-black hole or spinning *holes dug in space*. Further, there exists an alternative higher dimensional Space, whether or a 5-dimensional anti-de Sitter space—or some other formulation, such as a 7 dimensional Eternal Parent Space. This is exactly what Blavatsky was articulating, that the laws of physics evident within the material world are

the end products of a higher dimensional metaphysics in an underlying hyperspace and this includes gravity.

The authors of these scientific articles do not really elaborate upon the implications and applications of their theories as they might apply to understanding our familiar reality—although they use human examples to depict the themes. The physics within the interior of this realm of the anti-de Sitter space has other “strange properties” according to Maldacena, depicted in Figure 7. If you were freely floating anywhere in anti-de Sitter space, you would feel as though you were at the bottom of a gravitational well. Any object that you threw out would come back like a boomerang. Surprisingly, the time required for an object to come back would be independent of how hard you threw it. The difference would just be that the harder you threw it, the farther away it would get on its round-trip back to you. If you sent a flash of light, which consists of photons moving at the speed of light, it would reach infinity and return within a finite time. This can happen because the object experiences a time contraction of ever greater magnitude as it gets farther from you.³⁷



Figure 7

Within the anti-de Sitter space, the person is at the *centre of a gravitational well* and anything thrown out eventually returns to the source within a finite period of time. The negative space-time curvature in the anti-de Sitter space creates a gravitational field that pulls objects to the center, whether or not

there is anything there. If a mass is displaced towards the boundary, it is eventually drawn back.

Certainly, since the outward physics on the holographic boundaries reflect that of the hidden inner metaphysics, then we would predict that any effects produced in the physical world would similarly return to their source, as occurs within the interior space. As above, so below. This might indeed lead us to hypothesize that the universe similarly will follow this boomerang principle and return to its source or gravitational well. In *The Secret Doctrine*, it is the “Breath of the Mother” or a movement in hyperspace which ingathers the Kosmos to the Divine Bosom at the end of time. A Stanza of Dzyan notes: “IT EXPANDS WHEN THE BREATH OF FIRE IS UPON IT; IT CONTRACTS WHEN THE BREATH OF THE MOTHER TOUCHES IT.” (III, 11) This same logic might actually support another fundamental teaching of *The Secret Doctrine*, the law of Karma. Karma is just such an inevitable cosmic law, whereby the results of actions and inactions come back upon us. It is only a matter of time.

All of these concepts from modern holographic theory are helpful in trying to understand Blavatsky’s archaic teachings about invisible zero point centers, circumgyrating holes dug in an Eternal Parent Space, information emerging from zero point levels and the principle of Karma as an intrinsic cosmic law, a metaphysical principle of higher dimensions.

Comparative Comments

According to Blavatsky, the influx of formative forces manifests from within the higher realms into the lower through *holes dug in Space –invisible points or zero-points*. The Seven Builders or Divine Workmen *dig holes in Space* to channel their intelligence/influences into the material realm. Thus, seven invisible zero points holes dug in space are established as a foundation for physical manifestation and the laws of nature.

In terms of the holographic paradigm, a seven white hole—black hole zero point elements is established within a seven-dimensional Eternal Parent Space. The whirlwind activities emanating from this center might appear as a radiant sun on the surfaces of the boundary spaces and give rise to energetic and material particles of different densities on different holographic shells. The modern physical concepts of mini-black holes as having mass and spin properties, and spewing out information, are all quite consistent with Blavatsky's archaic teachings. Divine Mind acts through such zero point centers and dynamics, which might manifest as hot radiations and materials on successive holographic shells, the ethers of space. A web of interrelationship is spun of Spirit and Matter through levels of a multi-dimensional holographic universe. Each Star, each Universe, each Son or Monad, embodies such a higher dimensional geometry and metaphysics emerging within-without from zero point centers.

Such zero point centers might be nested one within another and act as portals between worlds established within different levels of the Aether, as illustrated in figure 8. Each of these levels corresponds to a different holographic shell, as they surround the seventh element.

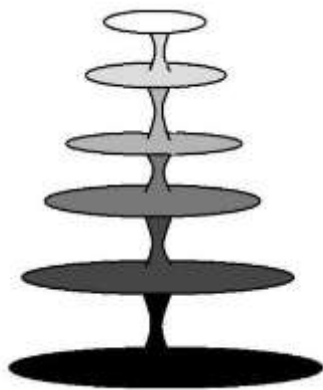


Figure 8³⁸

Modern physical concepts actually illustrate such fantastic possibilities and make them more intelligible, rather than discrediting them as invented or exaggerated. In fact, *The*

Secret Doctrine postulates a holographic universe with a higher seven dimensional *Eternal Parent Space* underlying familiar reality, instead of the 5 dimensional *anti-de Sitter space* postulated within contemporary science. Further, instead of there being a singular black hole processor, there are seven interrelated processors and seven surfaces or shells surrounding the central element—as layers of the Aether. Actually, we might consider there to be six surrounding surfaces while the seventh layer is the foundation of the central element. These dynamics are multiplied within without through various levels of higher dimensional space within the hierarchies of creation.

The newest physical models of seven dimensional Calabi-Yau elements with multiple interior holes,³⁹ of quantum information theory and the baffling holism of quantum theory, the manner in which “It” comes from “Q-bit” (a unit of quantum information), the physics of black hole information processors—all of these concepts combined with those of singularities and vacuum genesis, illustrate the profound secret doctrines explained by Blavatsky. While the scientists of her day conceived of solid material particles bouncing around in empty space and influencing each other through only local effects, Blavatsky was elaborating a holographic model of holes dug in higher dimensional Space as the basis for the manifestation of Kosmos, Atoms and Man. In Blavatsky's view, there are no phenomena due simply to ‘local effects’ because all manifest phenomena are produced by this inner hierarchy of effects reiterated through higher space dimensions.

Remarkably, modern physics is arriving at such zero point levels of creation and now posits just such a new “metaphysics” to supplement the familiar physics of matter and energy within time and space. Of course, scientists would declare that there is nothing “mystical” about holographic theory, information theory, black holes in alternative space dimensions, singularities, hyperspace or the quantum ether, or any of their theories and concepts, but that assessment is simply

an expression of their assumptions and biases and not based upon any factual evidence and considered argument.

Varied concepts from *The Secret Doctrine* are illustrated by modern physical theories and speculations. Consider for instance how physicists suggest that a string might be expanded from essentially a point size at Planckian levels into any possible size according to the amount of energy added which expands the string structure. L. Susskind notes:

Strings that are highly excited are bigger on average than their ground state counterparts; the additional energy whips them around and stretches them to a longer length. If you could bombard a string with enough energy, it would spread out and become as big as a violently jittering, tangled ball of yarn. And there is no limit; with even more energy, the string could be excited to any size. ... black holes—even those giants at the centers of galaxies—are enormously large, tangled “monster strings.”⁴⁰



Figure 9

Might similar dynamics occurring through zero point centers lead to expanding structures within both hyperspace and then physical space dimensions within human beings as well as within a Kosmos? Multidimensional holes dug in space could be the basis of expanding structures through dimensions of hyperspace and these dynamics could produce an expanding Kosmos with different materialized dimensions of existence—upon

varied holographic shells or boundaries, the veils of nature. As theosophist L. Maurer maintains:

... the essentially circular spin momentum of the zero-point ... contains the holographic information for the evolutionary construction of the entire Universe⁴¹

An equivalence is established between *the spinergy of a Monad in hyperspace* with various levels of the physics of M-theory (Matrix or Membrane), string theory and quantum field theory, on increasingly material dimensions of existence. The holographic boundaries are the seven-fold ethers of an expanding or contracting spherical spacetime. On these boundary conditions, the electro-weak-strong forces are unified and can account for the material-energetic processes but “without gravity.” Gravity, in this case, involves the interior dynamics of the zero point centers within the Eternal Parent Space, through which the inner influences and Fohat serve to bind it all together. The Cosmos contracts when the “Breath of the Mother,” a modification of the “Ceaseless Breath,” touches it. This suggests that a movement within hyperspace will bring about the eventual dissolution of the Kosmos and not simply gravity acting upon blind matter. Through generations of causes and effects, the Breath of the Mother, adheres in all things. It is as if the love of the Divine Mother holds everything in Creation together as gravity and at the end of time, ingathers the Sons or Kosmos to her Bosom.

A human being in the material body is a quantum system based primarily upon the electrodynamics of a multidimensional heart. The heart functions essentially as a quantum computer and exists within invisible quantized information and zero point fields. Ultimately, there is an underlying Unified Intelligence—or Omniscience which “thrills throughout every atom and infinitesimal point of the whole finite Cosmos.”⁴² Human consciousness emerges through the dimensions of the heart as the living entity is expanding and withdraws back into the heart at moments of death when it is contracting. The

Dalai Lama describes life as entering and withdrawing from the planetary body through the “indestructible drop within the heart.” From the heart, according to Tibetan and yogic teachings, the vital and consciousness principles circulate through a system of three channels and seven centers or chakras—each with zero-point centers and dynamics. According to the Dalai Lama, as consciousness and the vital principle withdraw into the heart at death, this induces memories of all of the events of one's life, as if one's life is a unified quantum field at some lower level of articulation within the zero point fields of the heart.

The process of life review which can occur at death follows the same dynamic as that conceived in black-hole computer physics—wherein immense amounts of quantum field information is available within inconceivably small spaces—at zero point or Planckian levels. The multidimensional heart essentially functions as a white hole computer in its role in life generation and a mini-black hole computer at death. The withdrawal of human consciousness into the mini black hole computer of the heart at death is followed by the reawakening within further virtual realities, as the living entity is already clothed in other bodies within other projected virtual realms involving other holographic shells and shifts in the angle of the light. Alternatively, an individual might pass through a seeming tunnel and emerge into a super-symmetrical realm of being—a spiritual world within higher dimensions of space related to the Sun, the central quantum computer within the Solar system, or beyond.

Similarly, might the ingathering of the light of consciousness and vitality to the heart at death serve to illuminate the complex pat-

terns and webs, plots and tales of one's life adventures, all maintaining some wholeness through the superstring and membrane structures of higher dimensional space? Perhaps all the details of one's life still adhere together within the vast zero point information realms of this holographic quantum system,

and so can be reviewed and re-experienced through death and after-life states by such a Mind of Clear Light—illuminating such a gravitational well at the Heart of being with its seven hole mini-processor within the Parent Space!

Complex virtual realities are spun around a central “I” creating varied planes of being and life dramas that the “I” might experience as the Web or matrix of life. The Monad is more and more seemingly removed and obscured as consciousness is stepped down through interior dimensions of being and

conditioned within varied subtle and material bodies. The metaphysical dynamics of the monadic essence within hyperspace underlie the electrodynamics of the heart and the influx of the breath and oxygenation which ensoul the living being. There is a body, soul and spirit and ultimately a divine element within higher dimensional Space.

Concluding Remarks

Esoteric elements within *The Secret Doctrine* provide a way of interpreting modern scientific theories and applying them to develop a physics and metaphysics of consciousness and the heart. Certainly, such a model of higher dimensions, Monads and such, provides an intriguing alternative view of the origins and nature of human existence and it raises many questions and issues which

The Ceaseless Breath or Universal Motion “digs holes in Space” to channel intelligence and influences into the material realm. Any Cosmos, Universe, Monad, atom or quantum is thus “worked and guided from within outwards” through the dynamics of such zero point centers. Life within a living being thus originates within/without, out of higher space dimensions through the dynamics of a multidimensional heart.

might be explored. The vast evidences for psychical and spiritual phenomena, life after death and such, all suggest a need to consider what higher dimensional processes could enable and account for such phenomena. The aim of this concluding article has merely been to offer some speculative concepts of how such things might work.

This perspective is not intended to suggest that the Monad, with its interior holes dug in space, actually causes the formation of the physical body. The chakra system involves a sevenfold zero-point dynamic, as Blavatsky describes, and this organization underlies or interpenetrates the physical and subtle bodies. However, Blavatsky regards the “lunar pritis” or intelligences as fashioning the material body, while the “solar pritis” participate in the formation of the inner man. The inner living entity “inhabits” the material body but can also exist independently of it.

When physicists arrive at the holographic paradigm, higher dimensions, mini-black hole processors, and holographic boundaries, they do not provide a philosophy or perspective on what such concepts might mean to us in regards to the phenomena of life and our own existence. In contrast, a mystical perspective allows us to understand that such ideas of higher dimensional metaphysics might not simply be a matter of interest for the physicists but also for us as beings living within a multidimensional universe. Science has yet to begin to explain the many states of afterlife existence, the mechanisms of coincidences, the vast evidences for paranormal phenomena, reincarnation, other worlds and the like. Modern science has few if any models to allow us to understand the mysteries of such things.

Blavatsky’s doctrines provide a legitimate scientific model and theory as regards the existence of such LIFE centers and the mechanisms by which Universes might expand and contract through such zero point dynamics. She provides an alternative model of the fate of the universe, the mechanism of cosmic dissolution and a valuable perspective on the illusions of gravity, space and location. Certainly this comparative study does not

allow us to prove or document such peculiar claims of esotericism, but we have simply tried to draw these analogies in a speculative manner.

These teachings provide an esoteric holographic model of the Microcosm and Macrocosm. Perhaps human beings have such higher dimensional origins emerging within/without from point sources, to eventually withdraw at the end of time without/within into other dimensions supported by hyper-space dynamics and zero point metaphysics. Human beings could have white hole origins and black hole disappearances through varied realms of existence. The Monadic essence spins another tale and the heart functions as a black hole computer remembering everything that happens since an “I” emerged out of the nothingness at the Heart of Being.

¹ Helena P. Blavatsky, *The Secret Doctrine: The Synthesis of Science, Religion and Philosophy* (Pasadena, California: Theosophical University Press, 1888), 489 & 632.

² Capitals are used when quoting from the *Stanzas*, as this practice is used within the *Secret Doctrine*.

³ Chaim Kramer, *Anatomy of the Soul*, (Jerusalem: Breslov Research Institute, 1998).

⁴ Aleister Crowley states that the first principle of *magick* is that: “*Every man and every woman is a star.*” In a similar vein, Shirley MacLaine comments in *Going Within*, 1989, p. 108, that “*we each contain and hold the God-spark within us.*” To suggest that an individual *is a Star* is to reference such a divine source emanation or God-spark within.

⁵ This article is the concluding section of a four part series. To some extent, it presupposes reader familiarity with concepts previously introduced: including the argument that human consciousness and the “I” experience originate out of the depths of the heart; that living beings have dynamic “zero point” centers rooted into the grounds of Being/Non-Being; and that there is reason to explore the possibility of a higher dimensional holographic metaphysics to the heart, as the possible basis for states of Samadhi and Cosmic Consciousness. This concluding article is the most speculative in nature, proposing a higher dimensional model of human

- existence based on archaic elements from *The Secret Doctrine* and emerging concepts in holographic physics.
- 6 Alice A. Bailey (and Tibetan Master Djwhal Khul) provides a detailed study of the Stanzas in—*A Treatise on Cosmic Fire*. (New York: Lucis Trust Publishing Company, 1951.)
- 7 *Ibid.*, xliii.
- 8 “Kosmos” (spelt with a K) was used by Blavatsky in the sense of Manvantaric manifestation as a whole. She often uses “Cosmic” (with a C) to refer to a Solar Systems and speaks of that system as a Cosmos and the Universe.
- 9 Alice A. Bailey, *A Treatise on Cosmic Fire*, 45.
- 10 These parallels are spelt out in detail in *God, Science & The Secret Doctrine* by Christopher Holmes (Canada: Zero Point Publications, 2010.)
- 11 *Ibid.*, 138-9.
- 12 *Ibid.*, 147-8.
- 13 *Ibid.*, 16.
- 14 *Ibid.*, 85.
- 15 *Ibid.*, 139.
- 16 *Ibid.*, 673.
- 17 Before creation occurs and the universe is absorbed in Non-Being, there is a state of “perfect symmetry.” The initiation of creation with the emergence of a first point is the first act of symmetry breaking, which leads to the sequential symmetry breaking within higher dimensional space and the differentiation of the laws of nature and the precipitation of varied quanta or matter/energetic elements on different vibratory levels, all out of the seeming void. The modern concept of symmetry breaking in physics is aptly depicted by the descent of the Line of Light through the *Tree of Life* of the Kabbalist. As symmetries are broken, different worlds are made manifest. In the Vedas, before creation occurs, the three modes of nature, *sattva, rajas and tamas* representing intelligence, energy and matter are in a state of perfect symmetry, hence are unmanifest and described as “signless.” When the Light of Brahma penetrates the void and breaks the symmetry, each of the three modes of nature manifests at three levels of vibratory existence; just as in physics, each class of particles (hadrons, leptons and gluons) is described as having three generations.
- 18 Paul Davis, *Superforce: The Search for a Grand Unified Theory of Nature* (New York: Touchstone Book, 1984), 160.
- 19 This is explained in Part Three of this series, (*Esoteric Quarterly*, Spring 2011), 56-58.
- 20 Jacob Bekenstein, Information in the Holographic Universe (*Scientific American*, August, 2003), 59.
- 21 Seth Lloyd & Y. Jack Ng, Black Hole Computers (*Scientific American*, November, 2004). Seth Lloyd is a professor at MIT and Y. Jack Ng a physics and astronomy professor at the University of North Carolina at Chapel Hill.
- 22 Bekenstein, *Information in the Holographic Universe*, 62.
- 23 Illustrations 2, through 7 were created by graphic designer Zeljka Zupanic of Croatia, based upon similar illustrations from the *Scientific American* articles referenced.
- 24 Lloyd and Ng, *Black Hole Computers*, 54.
- 25 Leonard Susskind, *The Black Hole War: My Battle with Stephen Hawking to Make the World Safe for Quantum Mechanics* (New York: Little, Brown & Co., 2008) 155.
- 26 Bekenstein, *Information in the Holographic Universe*, 62-3.
- 27 Lee Smolin, *Three Roads to Quantum Gravity* (Great Britain: Basic Books, Perseus, 2001), 178.
- 28 Bekenstein, *Information in the Holographic Universe*, 60.
- 29 *Ibid.*
- 30 Susskind, *The Black Hole War*, 298-299.
- 31 *Ibid.*
- 32 Blavatsky denies the existence of gravity as commonly understood, regarding it as a variant of the electromagnetic force with its seven variants conveyed by Fohat and due to the electromagnetic influences of the sun, earth, moon and planets as propagated through the Aether of Space: “Thus the Occultists are not alone in their beliefs. Nor are they so foolish, after all, in rejecting even the “gravity” of modern Science along with other physical laws, and in accepting instead attraction and repulsion. They see, moreover, in these two opposite Forces only the two aspects of the universal unit, called “MANIFESTING MIND”; in which aspects, Occultism, through its great Seers, perceives an innumerable Host of operative Beings; Cosmic Dhyān-Chohans, Entities, whose essence, in its dual nature, is the Cause of all terrestrial

phenomena. For that essence is cosubstantial with the universal Electric Ocean, which is LIFE” (*Secret Doctrine*, Vol. I, p. 604). These explanations suggest that it is the presence of the “Manifesting Mind” conveyed through Fohat and operative at zero point levels within a universal Electric Ocean, which accounts for the phenomena attributed to the mysterious force of gravity. Blavatsky states: “Occultists ... see in gravity only sympathy and antipathy, or attraction and repulsion, caused by physical polarity on our terrestrial plane, and by spiritual causes outside of its influence” (p. 513). Similar views are also emerging within physics, regarding gravitational effects as due to electromagnetic fluxes within ethers of space.

³³ Juan Maldacena, *The Illusion of Gravity* (*Scientific American*, November, 2005), 57.

³⁴ Note that this author is talking of two and three dimensions, whereas the previous quote referenced 3 and 4 dimensions, as time was included.

³⁵ Ibid, 59.

³⁶ Ibid., 62.

³⁷ Ibid., 60-61.

³⁸ Illustrator, Sharon Field.

³⁹ Wikipedia: “A Calabi-Yau space is a mathematical construction used by physicists to describe parts of nature that are too small to see with the human eye. Most people know that there are three space directions and one time direction in the universe – these directions are called dimensions. Physicists use Calabi-Yau spaces in studying high energy physics of which string theory is a part, to add 6 or 7 or other numbers to build up more dimensions to the universe.” The most advanced M-theory posits eleven dimensions, with a seven dimensional hyperspace existing at every point underlying the four large dimensions of space-time. Scientist P. Atkins explains: “there are seven dimensions compacted ... at each point ... Calabi-Yau spaces ... in seven dimensions ... the strings wind round them and through their holes...” Part Two of this series, *Esoteric Quarterly*, Winter 2011, elaborates in more detail on these concepts, pp. 30-31.

⁴⁰ Susskind, *The Black Hole War*, 337-8.

⁴¹ Leon Maurer’s work has been available through Internet discussion groups at theos-talk@yahogroups.com, MindBrain@yahoo-groups.com and www.blavatsky.net.

⁴² Blavatsky, *The Secret Doctrine*, 277.