

The Origins and Nature of Human Consciousness, Part Three: Towards a Holographic Metaphysics of the Human Heart

Christopher P. Holmes

*I cognized the center of the empyrean as a point of intuitive perception
in my heart. Irradiating splendor issued from my nucleus
to every part of the universal structure. Yogananda¹*

*In some sense man is a microcosm of the universe; therefore, what man is,
is a clue to the universe. We are enfolded in the universe. Physicist David Bohm²*

THE SONS EXPAND AND CONTRACT THROUGH THEIR OWN SELVES
AND HEARTS; THEY EMBRACE INFINITUDE. ...
EACH IS PART OF THE WEB.
REFLECTING THE "SELF-EXISTING LORD" LIKE A MIRROR,
EACH BECOMES IN TURN A WORLD.
Stanza of Dzyan, from Blavatsky, The Secret Doctrine, 1888³

Abstract

If there is truth to the possibilities of life after life, psychical phenomena, experiences of other worlds, disembodied mind, spirits and souls, and so on, then a fundamental revision is required in the modern understanding of the nature of human consciousness and the dimensionality of existence. A human being is something completely different from what is currently imagined in those modern psychological and scientific theories which regard humans as simply biological and material animals evolved through happenstance and random processes, and who lack any soul or spiritual nature. The holographic paradigm emerged in modern psychology and science in the 1980s, based upon the work of neuroscientist Karl Pribram and physicist David Bohm and provided a basis for exploring hidden dimensions of consciousness, space and time. Unfortunately, there were fundamental errors made in the approach. Esoteric and mystical studies suggest that the human holography is based not upon neurological processes in the brain, as largely assumed by modern theorists, but rather, upon the physics and metaphysics of a zero point element or center established within

the multi-dimensional Aether of the heart Space. Yogananda's account of cosmic consciousness is used to illustrate an archaic mystical claim concerning the holographic dimensions to the human heart, and then concepts from modern physics and *The Secret Doctrine* of Helena Blavatsky are used in order to elaborate a holographic model of consciousness and the human heart.

Esoteric Dimensions of Self

One of the most unusual dimensions ascribed to Self or "I" is that of an infinitely small source at zero point levels. An invisible and

About the Author

Christopher P. Holmes was born in England and raised in Ontario, Canada. He earned a PhD in clinical psychology from the University of Waterloo in 1978, taught at York University, Toronto for eleven years and then worked as a forensic psychologist. Christopher currently directs the *Zero Point* Institute for Mystical and Spiritual Science, Kemptville, Ontario. Christopher maintains a website at: www.zeropoint.ca and hosts a bimonthly radio show on www.bbsradio.com.

indivisible, sub-atomic element, a divine element or God spark, exists within the sacred heart space. In the terminology of modern physics, the Self is a quantum, a particle/wave or element existing beyond the atomic level of material organization. The divine spark can be regarded as a “quantum of consciousness” or a “quantum Self.” Alternatively, it can be conceived of as a singularity condition, a first point source of supernal *lux*, minute with no extension in external space/time. This zero point element does not exist within external four dimensional space as such, but underlies this while established within a seven dimensional hyperspace. Modern scientists hypothesize that the vast universe emerged from such an infinitely small singularity at the beginning of time, out of the apparent nothingness of the quantum vacuum, now considered as a seven dimensional hyperspace. The singularities and hyperspace of modern physics bear a profound relationship to the divine sparks described by mystics as emanating out of the mystical void and plenum, the *seven skins of the Mother Deep*, as described by Blavatsky. At the singularity point, the finite merges into the infinite, as the individual Self merges with That Self.⁴

Swami Yogeshwaranand Saraswati notes: “... it is instinctually recognized that Jivatman denoted by the pure form of ‘I’ has its abode in the heart, and in Samadhi there is direct realization of this.”⁵ Both the Jivatma (the Individual Self) that is subtle and minute, and Ishwara (or Paramatman, the Supreme Self) the greatest of all, dwell within the cave of the heart. The jivatma is likened to “an infinitesimal poppy seed,” which has no form or color. This atomic or indivisible entity is embodied *within* the Bliss Sheath, itself a “mass of light filled with bliss.”

A first mystical dimension ascribed to the Self involves such descriptions of a spiritual or divine spark as the smallest of elements. Another mystical dimension ascribed to Self is that of the universe. An ancient Vedic saying declares: “*Thou art that*,” meaning you are the world. As a microcosm of the macrocosm, the individual self, in blending with the larger SELF, reflects or contains all things within Self. The individual spirit soul is a seed or atom of the Supreme Supersoul and can experience the deeper realities

and the larger structures of the universe. In this way, one might *know thy Self, the universe and the Gods*, as suggested by an ancient Greek axiom. Various Upanishads suggest this holographic possibility of the heart as being a microcosm of the larger macrocosm:

Self-luminous is Brahman (God), ever present in the hearts of all. ... In him exists all that moves and breathes. In him exists all that is. ... This Self, who understands all, who knows all, and whose glory is manifest in the universe, lives within the lotus of the heart, the bright throne of Brahman.⁶

As large as the universe outside, even so large is the universe within the lotus of the heart. Within it are heaven and earth, the sun, the moon, the lightening, and all the stars. What is in the macrocosm is in this microcosm ... All things that exist ... are in the city of Brahman.⁷

These are the most paradoxical and unusual claims. How could the “heart” contain the universe within itself and could consciousness somehow expand into such subtle realms of the inner cosmos? This ancient mystical claim illustrates the idea of a part embodying the whole as within the modern holographic paradigm. Similarly, a point source element within the Heart Space might unfold into the larger universe.

Yogananda’s Experience of Cosmic Consciousness

There are reports within the mystical literature of individual experiences which illustrate these paradoxical ideas about the spirit soul being a microcosm of the macrocosm. Paramahansa Yogananda, a twentieth century Indian saint and master of kriya yoga, in his classic work *Autobiography of a Yogi*, provides an extraordinary account of the fantastic possibilities inherent to Self. Yogananda describes his experience of “cosmic consciousness” as initiated by his Master striking him gently over the heart—to awaken it. Yogananda receives grace from his Master in order to “*fulfill his heart’s desire*.” He then experiences these extraordinary states of enlightenment and cosmic consciousness:

My body became immovably rooted; breath was drawn out of my lungs as if by some huge magnet. Soul and mind instantly lost their physical bondage and streamed out like a fluid piercing light from my every pore. The flesh was as though dead; yet in my intense awareness I knew that never before had I been fully alive. My sense of identity was no longer narrowly confined to a body but embraced the circumambient atoms. People on distant streets seemed to be moving gently over my own remote periphery. The roots of plants and trees appeared through a dim transparency of the soil; I discerned the inward flow of their sap.

The whole vicinity lay bare before me. My ordinary frontal vision was now changed to a vast spherical sight, simultaneously all-perceptive. Through the back of my head I saw men strolling far down Rai Ghat Lane, and noticed also a white cow that was leisurely approaching. ... After she had passed behind the brick wall of the courtyard, I saw her clearly still.

It is instructive to review Yogananda's experiences in order to have a clearer account. Yogananda firstly feels his soul and mind stream out of his body *like light*, so that his awareness is interpenetrating the entire volume of space around his body and the ashram. He senses the inner activity of the plants, the soil and the ashram, while experiencing a "*vast spherical sight, simultaneously all-perceptive.*" This description is of a level of *samadhi*, wherein consciousness interpenetrates material nature and larger volume of space/time.

All objects within my panoramic gaze trembled and vibrated like quick motion pictures. My body, Master's, the pillared courtyard, the furniture and floor, the trees and sunshine, occasionally became violently agitated, until all melted into a luminescent sea; even as sugar crystals, thrown into a glass of water, dissolve after being shaken. The unifying light alternated with materializations of form, the metamorphoses revealing the law of cause and effect in creation.

Yogananda experiences the objects and scene surrounding him melting into a luminescent sea,

with materializations of forms alternating with experiences of the unifying light. He experiences the inner dimensions of things as they crystallize out of an underlying realm of light into material forms and then dissolve back into the underlying light realm. Yogananda has united the light within himself with the unifying light of Brahman, which he describes as "*the structural essence of creation.*" In doing so, he witnesses the cosmic dance of the involution and evolution of elements within an infinite Sea of Light.

An oceanic joy broke upon calm endless shores of my soul. The Spirit of God, I realized, is exhaustless Bliss; His body is countless tissues of light. A swelling glory within me began to envelop towns, continents, the earth, solar and stellar systems, tenuous nebulae, and floating universes. The entire cosmos, gently luminous, like a city seen afar at night, glimmered within the infinitude of my being. ...

The divine dispersion of rays poured from an Eternal Source, blazing into galaxies, transfigured with ineffable auras. Again and again I saw the creative beams condense into constellations, then resolve into sheets of transparent flame. By rhythmic reversion, sextillion worlds passed into diaphanous luster, then fire became firmament.

Yogananda's awareness then enveloped larger and larger realms passing from towns, to continents, the earth, the solar system, the galaxy and floating universes! Creation is revealed to involve the "*dispersion of rays poured from an Eternal source,*" which condenses or crystallizes into galaxies and constellations, which again resolve back into sheets of transparent flame. As before, Yogananda experiences the process of inward creation and dissolution, although this time at the level of the universe.

I cognized the center of the empyrean as a point of intuitive perception in my heart. Irradiating splendor issued from my nucleus to every part of the universal structure. ...

Suddenly the breath returned to my lungs. With a disappointment almost unbearable, I realized that my infinite immensity was lost. Once more I was limited to the humiliating

cage of a body, not easily accommodative to the Spirit. Like a prodigal child, I had run away from my macrocosm home and had imprisoned myself in a narrow microcosm...

“It is the Spirit of God that actively sustains every form and force in the universe; yet He is transcendental and aloof in the blissful uncreated void beyond the worlds of vibratory phenomenon,” Master explained.⁸



Figure 1

Finally, Yogananda cognized the “*center of the empyrean*.” The term empyrean from ancient and medieval cosmology refers to the highest seventh heavenly sphere consisting of fire and light. The center of the empyrean and of the universe was “*a point of intuitive perception in his heart*”! From this point or nucleus, Yogananda experienced an “*irradiating splendor*” issuing to every part of the universal structure. Somehow, the universe as it were, concentrates itself into a point.

Yogananda offers an awe-inspiring glimpse into the hidden dimensions of consciousness, life and the universe. Figure 1 illustrates this idea of the heart embodying the cosmos.⁹ If this is an objectively valid account of an awakening of consciousness within the heart and its expansion into the dimensions of the universe, then somehow there is something fundamentally mistaken with the entire approach to consciousness found within the mainstream of western psychology, science, cosmology and education.

Yogananda’s experiences illustrate the most unusual dimensions ascribed to the spiritual soul or divine spark—that it is a point source of “*omnipresent Spirit*” emerging from the unifying

Light and which is interconnected to the Whole. Yogananda’s experience illustrates the statements of the Chandogya Upanishad: “*As large as the universe outside is the universe within the lotus of the heart. ... All things that exist... are in the city of Brahman.*”¹⁰

Yogananda explains the principles behind this cosmic experience, the “*law of miracles*:”

The consciousness of a perfected yogi is effortlessly identified not with a narrow body but with the universal structure. ... He who knows himself as the omnipresent Spirit is subject no longer to the rigidities of a body in time and space. The imprisoning “rings-pass-not” have yielded to the solvent: *I am He....* “If therefore thine eye be single, thy whole body shall be *full of light*.” (Matthew 6:22) ... the liberating spiritual eye has enabled the yogi to destroy all delusions concerning matter and its gravitational weight; he sees the universe as the Lord created it: an essentially undifferentiated mass of light.

*The law of miracles is operable by any man who has realized that the essence of creation is light. A master is able to employ his divine knowledge of light phenomena ... a yogi rearranges the light atoms of the universe ... The colorful universal drama is ... issuing from the single white light of a Cosmic Source. ... “My sons are children of light; they will not sleep forever in delusion.”... The so-called miraculous powers of a great master are a natural accompaniment to his exact understanding of subtle laws that operate in the inner cosmos of consciousness.*¹¹

The mystical heart doctrine provides an intriguing holographic model of the Self (and Super Self). The Self is a point source of coherent light consciousness emanating from a realm of Eternal Light, higher dimensional Space and the uncreated Void. A point of intuitive perception within the heart can thus be related to the larger dimensions of the macrocosmic universe!

Mystical teachings suggest that light has a deep, hidden, supernal nature, unrecognized within science. When Yogananda’s consciousness expands to embrace the universe, it does so at speeds greater than the speed of light! It must as

the universe is billions of light years across and yet his experience lasts only minutes. However, Yogananda consciousness is not really travelling anywhere, as the whole universe is embodied within the point of intuitive perception within his heart. The usual notions of time and space simply do not apply within the subtle implicate and super-implicate orders of a holographic universe, wherein information about the whole is present everywhere instantaneously in omnipresent Spirit. The universe within is as vast as the universe without.

The Emergence of the Holographic Paradigm

The brain is a hologram perceiving and participating in a holographic universe. ... the new science demands spirit; at least, it makes ample room for spirit. Either way, modern science is no longer *denying* spirit.
12

In *The Doors of Perception*, Aldous Huxley described the possible relationship of individual mind to "*Mind at Large*."

... each one of us is potentially Mind at Large. But insofar as we are animals our business at all costs is to survive. To make biological survival possible, Mind at Large has to be funnelled through the reducing valve of the brain and nervous system. What comes out at the other end is a measly trickle of the kind of consciousness, which will help us to stay alive on the surface of this particular planet. ... The various "other worlds" with which human beings erratically make contact are so many elements in the totality of awareness belonging to Mind at Large.¹³

Several philosophers have speculated upon this idea that the human brain acts as a reducing valve for *Mind at Large*.

The holographic paradigm emerged in modern psychology in the 1980s when Karl Pribram, a distinguished neuroscientist, applied the principles of holography to the functioning of consciousness, the brain and mind. The holographic paradigm derived from Pribram in conjunction with the ideas of physicist David Bohm. Essen-

tially, the mind/brain is taken to exist in relationship to an underlying "*frequency domain*," which consists of hidden dimensions containing information. The mind/brain then acts as a lens or filter which focuses one particular space/time reality out of the underlying Mind at Large.

The principles of holography, a form of lens-less photography, were outlined in 1947 by Dennis Gabor. Holographs yield remarkable three-dimensional images of objects by using no lens, which contrasts with the usual flat two-dimensional photographs produced through the use of a lens. The creation of a hologram requires a source of coherent light derived from a point source, usually provided by a laser, as illustrated in Figure 2.¹⁴ In holographic photography, the coherent light beam is split into two beams by a partially coated mirror. The *reference beam* impinges directly upon a holographic plate; while the *object beam* reflects off an object before impinging on the plate. The two light beams interact on the holographic plate to produce a wave interference pattern (determined by the phase shifts of the interacting waves and their mutual enhancement or reductive effects).

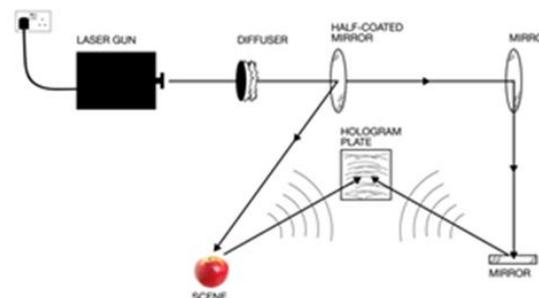


Figure 2

To visual inspection, a holographic plate bears no resemblance to the object "*holographed*" until the plate is again illuminated by a coherent light source. In this event, a three dimensional image of the object is projected out from the holographic plate into space. In the reconstruction of the image, the interference pattern stored on the plate acts as a grating to bend the light by diffraction to re-establish the image. A holographic image produced with modern technology can be so similar to the original that it is im-

possible to tell the two apart. The projected *virtual image* can be viewed from various angles and appears quite substantial and three dimensional—apparently real like our apparently real world.

The most unusual property of a holograph is that any portion of the holographic plate illuminated by a light source will recreate an image of the “whole” object: The term holography means literally “to write the whole.” Whereas a camera has a lens which focuses the light from an outside source to establish a point-to-point correspondence between any part of the scene photographed and a portion of the recording film; by contrast in holography, no lens is used and so light from the whole of the object impacts upon every point on the holographic film. The whole is thus *implicated* in any part, enfolded into each point. This unusual property of holographs suggests mechanisms for mystical states and knowledge, where the microcosm (the individual) embodies at some deep level the macrocosm (the larger world), or as an individual mind might implicate Mind at Large.

This unusual property of holographs led Pribram, to apply this model to the study of the brain/mind. Initially, Pribram was attempting to explain why “memory engrams,” the supposed site and substance of memory, did not appear to be localized within the brain. The traditional mechanistic model of memory predicted that memories are established by specific microcircuits or cell assemblies (an atomistic approach) localized in particular areas of the brain. However, experimental evidence demonstrated that learning and memory were maintained in laboratory animals despite the removal or destruction of large brain areas. The expected one-to-one correspondence between brain sites and particular memories did not seem to exist. This fact has historically posed a fundamental enigma in the study of the brain: how and where are memories stored?

In *Languages of the Brain* (1971), Pribram explained how various psychological processes could be based on holographic principles. The neuro-circuitry of the brain with its own standing wave patterns could serve as a referent beam and interact with environmental stimuli (other

wave patterns) to produce complex wave interference patterns spread over areas of the brain. Neurological processes store the resultant wave interference patterns holographically over both small and large volumes of the brain, with different interaction patterns superimposed upon one another. This could explain why attempts to isolate particular memory engrams have been unsuccessful. A holographic model of memory and the brain would allow for the storage of immense amounts of information. Scientists have developed ways of taking “multiple holograms” which can record billions of bits of information within a cubic centimeter of a thick holographic plate. In multiple holograms, successive wave fronts are superimposed in infinitesimal layers upon each other by varying the angles of the projecting light beams. Layers of neurons provide the *holographic film* necessary to record successive interacting wave patterns. This would be a highly efficient way to encode, analyze and synthesize immense amounts of information.

On one level, Pribram suggests that the whole brain might operate holographically, while at another level, this holograph would be composed of innumerable small “*patch holograms*.”

The holograms within the visual system are patch holograms. The total image is composed much as it is in an insect’s eye that has hundreds of little lenses instead of one big lens. ... In each patch, the activity of the cells creates a wave front; I believe that the interaction of these wave fronts is what you experience. You get the total picture all woven together as a unified piece by the time you experience it.¹⁵

An essential feature of Pribram’s model was the proposal that the same mathematics used by Gabor to develop holography (Fourier transforms) are used within the brain to process and analyze sensory, perceptual, imaging and memory data. Fourier transforms provide methods of breaking any complex wave interference pattern into its component frequencies. Laboratory data confirmed Pribram’s prediction: in effect, the brain/mind performs mathematical Fourier transforms on wave patterns established in the neuro-circuitry of the brain. This was a radically dif-

ferent perspective on the functioning of the brain and mind.

Although Pribram regards the brain as operating holographically, he does not believe that there is any “*laser beam in the brain*”—that is, any source of coherent *inner light*, equivalent to the point source of laser light used to produce an actual holograph. In an *Omni* interview, Pribram was asked about this:

Omni: I’m a little puzzled by one thing. When I first read about the holographic brain, I thought of it as a metaphor. Then I began to think you meant it as an actual model. Which is correct?

Pribram: Both. First it was a metaphor. Then ... a model developed, because the mathematics fitted the data gathered in several laboratories around the world. *There are no laser beams in the brain*. I’m simply saying that the brain performs certain operations, which can be described by Gabor’s mathematics, to code, decode, and recode sensory input.¹⁶

Despite its revolutionary account of the dynamics of the brain, Dr. Pribram’s theory remained in essence an “*under the hat theory*” of holographic mind. He assumed that the holographs are produced by the brain’s physiological mechanisms and processes, and further, he did not consider there to be an *inner source of light* to illuminate the holographs of human experience. There is no laser beam, no coherent light source within the inner world. Further, the heart is not recognized as the source of any “*standing wave patterns*” or as the main source of electromagnetic influence within the human being. Instead, Dr. Pribram assumes that the brain produces consciousness and the holographs are within the head where the mind is assumed to be.

The Self is a point source of coherent light consciousness emanating from a realm of Eternal Light, higher dimensional Space and the un-created Void. A point of intuitive perception within the heart can thus be related to the larger dimensions of the macrocosmic universe!

However, it was the combination of Pribram’s model of the holographic mind/brain with David Bohm’s model of *wholeness and the implicate order* which created the basis for holographic paradigm. We will explore the more detailed

physical theories of Bohm currently. Most importantly, Bohm suggested that there are incredible amounts of information present within the frequency domain which the mind/brain can access—because “*the entire Universe ... (is) ... a single undivided whole.*” The holographic theory and Bohm’s model suggest that a human being is a microcosm of the macrocosm rooted into interior dimensions of being and the plenum, and connected to the larger universe! Paranormal researcher, Stanislav Grof noted: “*If this (holographic paradigm) is true, then we each hold the*

potential for having direct and immediate experiential access to virtually every aspect of the universe....”¹⁷ Certainly, a holographic universe provides an unimaginable playground for a similarly holographic mind, consciousness and Self.

If the whole of the universe is implicated in any (apparently) localized region (or point) in space/time, then the brain/mind could potentially have unlimited access to this underlying storehouse of information in the implicate orders—the *Mind at Large*. Pribram viewed the brain as mathematically extracting information out of the underlying frequency domain. Now it seemed that this frequency domain could indeed contain vast amounts of the information potentially available for analysis by the mind and brain. Dr. Pribram described the possibilities of a holographic mind/brain in a holographic universe:

... if you penetrate through and look at the universe with a nonlens system (holographically), you arrive at a different view, a different reality ... that can explain things that have hitherto remained inexplicable scientifically. ... the mystical experiences people have described for millennia begin to make

some scientific sense. They bespeak the possibility of tapping into that order of reality that is behind the world of appearances. ... I wonder if somehow (the mystics) haven't hit upon a mechanism that lets them tap into the implicate order. ... In terms of holographic theory, all those events (paranormal and transcendental states) are plausible if the brain can somehow abrogate its ordinary constraints and gain access to the implicate order.

... Leibnitz talked about "monads," and ... (an) indivisible entity that is the basic unit of the universe and a microcosm of it. God, said Leibnitz, was a monad. ... In a monadic organization, the part contains the whole—as in a hologram. "Man was made in the image of God." Spiritual insights fit the descriptions of this domain. They are perfectly plausible by the invention of the hologram.¹⁸

Unfortunately, although Pribram speaks of Leibnitz's Monads, he does not consider such an idea seriously in his own holographic theorizing, to argue that an individual might have such a zero point Monadic essence or some inner point source of supernal light to illuminate the inner holographic world. Instead, he maintains a view of the brain as the site of his holographic model with no light of its own.

Pribram contrasted two fundamentally different assumptions "about the brain." The first traditional materialist viewpoint regards the brain as organizing input from the physical world and constructing mental properties. Scientists assumed that mental properties are derived from physical processes. The second viewpoint is that: "Mental properties are the pervasive organizing principles of the universe, which includes the brain." Many influential physicists and mathematicians have subscribed to the second viewpoint. Sir James Jeans, a prominent physicist of the early part of the twentieth century, famously asserted that the more we penetrate into the nature of matter, the more it appears as "a great thought, rather than as a vast machine."

A critical idea linking the holographic theory of consciousness to holographic views of the world

is that the mind is *isomorphic* to the world. Isomorphism suggests "a one-to-one correspondence between the form (morphology) of the world around us and the form in the brain representing that world." In this case, mind is not simply an emergent property of the brain's material organization, but instead it "reflects the basic organization of the Universe (including the organism's brain)."¹⁹ Similarly, Bohm explains:

The mind may have a structure similar to the universe. ... The particular forms which appear in the mind may be analogous to the particles, and getting to the ground of the mind might be felt as light. ... (a) free, penetrating movement of the whole.²⁰

Thus, a human might be a microcosm of the macrocosm, having an inner form which isomorphically corresponds to the inner structures of the universe. This isomorphic concept is illustrated by the point source origins of both the Cosmos and human self-existence.

The holographic paradigm attracted wide interest within the New Age movement and among those interested in the personal and scientific issues of consciousness. Shirley MacLaine gave this popular account of the emerging paradigm of wholeness:

... the seeds of all things, ourselves included, were present at the birth of creation, and every scrap of matter and energy and blood and bones and thought present in the cosmos today could be traced back to the origins of the universe from one small subatomic particle of light. That makes us each sparks of the same light. It also makes each of us a hologram of the entire event. The energies that fragmented and separated and multiplied as the young universe expanded and cooled continue to operate in the beating of our hearts and the movement of our bodies, as well as in the alignment and behavior of the stars. We and they—all things and everything are a connected whole. That is the meaning of "We are all one." The evolution of the Universe then is continuing not only around us but within us. Our thoughts, our dreams, and our awareness are part of that

universe, the physical and the spiritual inextricably bound together.²¹

Bohm's theory, the holographic paradigm and quantum theory (with its non-local effects and quantum interconnectedness) collectively paint a picture of the ultimate interconnectedness of things. Everything did originate from a singularity or zero point state, out of a state of perfect symmetry as an original point source of light. Further, quantum theory suggests that all quanta are ultimately interrelated in higher dimensional spaces, the active information fields, zero point fields or the frequency domain of holographic theory.

Unfortunately, the holographic paradigm has lacked *key elements*—which meant that the full implications and applications of this model have not been substantiated as a model of consciousness. In this regard, Pribram's comment—“*There are no laser beams in the brain*”—is most telling. Firstly, it indicates that the idea of a laser beam or of a “point source of coherent light” to light the inner world is not seriously considered. Further, consciousness needs to be considered as light itself. Further, his comments indicate that scientists have primarily looked for such holographic dynamics within “*the brain*” Once again, we encounter the limits of the *head doctrine* and the neglect of mystical, spiritual and occult views concerning the deepest levels of Self and the higher dimensional physics and metaphysics of the Heart.

In 2003, the *Scientific American* published an issue with the question “*Are you a Hologram?*” on the front cover. The illustration is of a bubble like sphere surrounding a brain and head. This illustrates the assumptions of the modern psychology and science, that the head would be the basis for the human holographic system. Of course, the mind may function in terms of holographic principles, but it certainly is not the only basis of our experience of life.²² From an occult perspective, the holographic paradigm needs to include the whole human being as a quantum system of electromagnetic influences centered upon the higher dimensional physics and metaphysics of the heart. A *point source of supernal light* is established within the higher dimensional Aether of the heart space. The addition of

such elements to a holographic model would provide a source of coherent light, even of *divine lux*, to illuminate the holograms of our lives.

Figure 3 from the *Heart/Math Institute* is a more apt depiction of the human holograph. In *The Heart's Code*, psychologist Paul Pearsall maintains that, energetically speaking, the heart rather than the brain is clearly the center of the psychological universe:

The heart's EMF (electro-magnetic field) is five thousand times more powerful than the electromagnetic field created by the brain and, in addition to its immense power, has subtle, non-local effects that travel within these forms of energy. ... the heart generates over fifty thousand femtoteslas (a measure of EMF) compared to less than ten femtoteslas recorded from the brain.²³

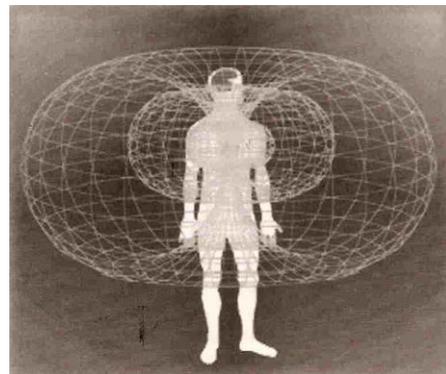


Figure 3

Ervin Laszlo²⁴ provides valuable and more contemporary commentary on the possible holographic nature of a human being. Laszlo describes us as living within the information fields of the ether or *Akasha*, and memory is regarded as inherent within all structures within the *Akasha* based upon interfering vacuum vortices. He states: “*the Akashic Field (is) a cosmic hologfield*”²⁵ Laszlo's answer to the neurological issues of where and how memories are stored is that “... *long-term memory is not stored within the brain: it is extra-somatic.*” (p. 57) Memories are available within the zero point fields and the *Akasha* and there are no discrete memory engrams within the brain.

Laszlo reports a curious case study which illustrates the potential information latent within the *Akasha*. He describes the talents of an *idiot sa-*

vant, an individual who is supposed to be below normal functioning in intelligence and adjustment, but who can speak seven languages, compute cube roots as fast as a calculator and recall the constant *pi* to 22,514 decimal places! There is no known mechanism within a materialist and reductionist viewpoint to explain such unusual talents, clearly not the result of education or the usual faculties of mind. Such case studies suggest that individuals can tap information fields latent within space or the Akasha itself. Laszlo notes: "... the vacuum is ... the seat of the consciousness that infuses my body and brain the same as the rest of the universe" Laszlo describes the experiences of seekers and mystics which illustrate his basic concepts:

The field of cosmic consciousness they experience is a cosmic emptiness—a void. Yet, paradoxically, it is also an essential fullness. ... it contains all of existence in potential. The void they experience is fullness; the vacuum is a plenum. It is the ultimate source of existence, the cradle of all being.²⁶

Laszlo considers that human beings can so experience within various levels of the aether as described for centuries throughout the mystical literature: Interfering vacuum-vortices are nature's holograms and the Akashic Field (is) a cosmic holofield.

David Bohm on Wholeness and the Implicate Orders

Ultimately, the entire universe (with all its 'particles,' including those constituting human beings, their laboratories, observing instruments, etc.) has to be understood as a single undivided whole, in which analysis into separately and independently existent parts has no fundamental status.²⁷

David Bohm was an associate of Albert Einstein and author of the acclaimed *Wholeness and the Implicate Order* (1980). One of the world's foremost theoretical physicists, Bohm published classic works on quantum and relativity theory and was an important contributor to the debate

concerning *hidden variables* in quantum theory. Because of his eminence as a physicist, Bohm was in the privileged position of being able to espouse his radical theoretical model—one that postulated the undivided wholeness of reality. Bohm's ideas generated widespread interest not only amongst scientists but also within philosophical, religious and New Age circles.

Bohm's model arose from his attempt to reconcile relativity and quantum theory while accounting for non-local effects and other quantum paradoxes. He distinguished between the outward, manifest physical reality—the "*explicate order*" and an underlying un-manifest realm—the "*implicate order*." Within Bohm's framework, all manifest phenomena of the explicate order (the manifest physical world) must be understood as particular cases of the unfolding of a more general set of implicate orders (the unmanifest underlying realm). The fundamental relationships are between the implicated structures, which interpenetrate each other throughout the whole of space and time. The explicate order flows out of the laws and processes of a multi-dimensional implicate order—as apparent differentiations of an undivided whole! Bohm explains:

... the central underlying theme (is) the unbroken wholeness of the totality of existence as an undivided flowing movement without borders. ... in the implicate order the totality of existence is enfolded within each region of space (and time). So, whatever part, element, or aspect we may abstract in thought, this still enfolds the whole and is therefore intrinsically related to the totality from which it has been abstracted. Thus, wholeness permeates all that is being discussed, from the very outset.²⁸

Bohm's basic thesis is that even the whole of the Universe is implicated within any point. Such a view is remarkable—a profound revision of centuries of fragmentary little-bit scientific thought. Manifest reality is but a shadow of the deeper underlying realities.

Bohm emphasized that a quantum is a real particle plus a real wave, but it is linked to a new field composed of the *pilot wave* which guides the movement of the particle.²⁹ Bohm viewed

the electron or quantum as an ordinary particle but it is guided by a very non-ordinary wave. The “pilot wave” is instantaneously affected whenever a change occurs within the whole environment and it communicates this change to the particle altering its position and momentum. Thus, Bohm put forth a non-local causal model accepting the implications of quantum theory’s baffling holism and non-local effects.

Bohm uses various analogies to explain his non-ordinary waves—the *pilot waves* that carry the *quantum potential*. These pilot waves carry *information* rather than energy or mass and serve to guide the particle. The quantum potential is the information content. Thus, we have a triad of *matter, energy and information*—in contrast with the traditional matter-energy duality:

By way of illustration, think of a ship that sails on automatic pilot, guided by radio waves. The overall effect of the radio waves is independent of their strength and depends only on their form. The essential point is that the ship moves with its own energy but that the *information* within the radio waves is taken up and used to direct the much greater energy of the ship. In the causal interpretation, the electron moves under its own energy, but the information in the *form* of the quantum wave directs the energy of the electron.³⁰

The external direction of the matter of the ship is determined by the energy expenditure of the engines informed by information content within the quantum potential. The quantum potential or pilot wave embodies “*active information*” with little (if any) energy. The equation for the quantum potential is highly unusual in that its strength is independent of distance and not limited by the speed of light. Instead, it is instantaneously present throughout the field. Bohm explains the profound implications of this view:

The quantum field contains information about the whole environment and about the whole past, which regulates the present activity of the electron in much the same way that information about the whole past and our whole environment regulates our own activity as human beings, through consciousness. ... what is going on in the full

depth of that one moment of time contains information about all of it. ... In non-manifest reality, it’s all interpenetrating, interconnected, one.³¹

Bohm takes quantum interconnectedness to the extreme by suggesting that any particular quanta (element, particle) is ultimately interconnected through the implicate and super-implicate orders to the whole of the universe! Certainly, such a concept of the universe as an undivided whole provided an ideal physics for a holographic model of consciousness and the mind. Bohm hypothesizes:

... a super-information field of the whole universe, a super-implicate order which organizes the first level (of the implicate orders) into various structures and is capable of tremendous development of structure. The point about the super-implicate order is that if we take the holographic theory, though we have an implicate order, nothing organizes it. It is what’s called “linear” ... but it does not have an intrinsic capacity to unfold an order. The super-implicate order, which is the so-called higher field ... makes the implicate order non-linear and organizes it into relatively stable forms with complex structures.³²

According to this scheme, the physical world is the external manifestation of multidimensional hidden dimensions. Reality as it appears to our senses—the everyday world of matter and energy in time and space—is essentially a holographic image projected out of vast interconnected hidden dimensions.

The implicate orders underlie the explicate orders and material reality in a sense *unfolds* from WITHIN/WITHOUT.

... a new notion of order is involved here, which we called the *implicate order* (from a Latin root meaning “to enfold” or ‘to fold inward’). In terms of the implicate order one may say that everything is enfolded into everything. This contrasts with the *explicate order* now dominant in physics in which things are *unfolded* in the sense that each thing lies only in its own particular region of space

(and time) and outside the regions belonging to other things.³³

Bohm's model of the implicate orders suggest that there is indeed a more fundamental hidden reality, worlds beyond the level of the quanta and material organization. Since all things are interconnected in informational fields that inform material/energetic processes, then there must be inner dimensions of being capable of responding to this active information, some kind of receiver or resonator system. Bohm uses a radio analogy to explain this. The radio wave carries information or a signal which might be considered to be potentially available everywhere. However, for this potential information to have an active informational influence there has to be a radio set with electrical energy capable of responding to this information field. In this case, we might hear singing (molecular sound vibration) propagated from a radio. We require the material harmonic resonator (the radio set), the information and the energy (electrical power) to manifest within the explicate order (sound). This analogy with a radio set has startling implications for the necessity of other deep levels of reality. Bohm and Peat note:

The quantum wave carries "information" and is therefore *potentially* active everywhere, but it is *actually* active only when and where this energy enters into the energy of a particle. But this implies that an electron, or any other elementary particle, has a complex and subtle inner structure that is at least comparable with that of a radio. Clearly this notion goes against the whole tradition of modern physics, which assumes that as matter is analyzed into smaller and smaller parts, its behavior grows more elementary. By contrast, the causal interpretation suggests that nature may be far more subtle and strange than was previously thought.

But this inner complexity of elementary matter is not as implausible as it may appear at first sight. For example, a large crowd of

people can be treated by statistical laws, whereas individually their behavior is immensely subtler and more complex. Similarly, large masses of matter reduce to simple Newtonian behavior whereas atoms and

molecules have a more complex inner structure. And what of the sub-atomic particles themselves? It is interesting to note that between the shortest distance now measurable in physics (10^{-16} cm) and the shortest distance in which current notions of space/time probably have meaning, (10^{-33} cm); there is a vast range of scale in which an immense amount of yet undiscovered structure could be contained.

Indeed this range is roughly equal to that which exists between our own size and that of the elementary particles.³⁴

It seems that the world within is potentially as complex as the world without. Only such inner dimensions of being could allow for a quantum to be responsive to the active information of the quantum potential containing information about the larger whole. Bohm predicted new levels of complexity as suggested now in the 21st century within superstring and M-theories, and by the holographic paradigm. The seven dimensional Calabi Yau Spaces of the physicists, considered to be existent at every point within four dimensional space/time, along with multidimensional "branes," extended within hyperspace dimensions, certainly fulfill Bohm's predictions of there being additional levels of inner complexity. Such elements and dynamics could provide resonator systems with structures far more complex than those of a radio.

Bohm came to regard so-called *empty space* as full of an incredible range of energies and potentials:

What is implied by this proposal is that what we call empty space contains an immense background of energy ... space ... is *full* rather than empty. ... the plenum ... the ground for the existence of everything, including ourselves. The things that appear to

It is the conjunction of the self-illuminating zero point element within higher seven dimensional space that lies behind the creation of the human holographic experience originating out of the depths of the Heart.

our senses are derivative forms and their true meaning can be seen only when we consider the plenum, in which they are generated and sustained, and into which they must ultimately vanish.³⁵

All of creation is folded out of an immense underlying realm of the plenum and of Undivided Wholeness—as tiny ripples on a vast Sea. Bohm's model suggests that ultimately, any quantum exists in relationship to information about the whole, even the past: "... *what is going on in the full depth of that one moment of time contains information about all of it. ... In non-manifest reality it's all interpenetrating, interconnected, one.*"³⁶

Summing up, Bohm suggests a progression from the explicate order of manifest existence to multi-dimensional implicate and super-implicate orders—all of which are part of an immense sea of information/energy sensed as empty space.

The space *without* (the *explicate order*) is unfolded from the space *within* (the *implicate order* and plenum). Bohm suggests that there might be various extensions of the implicate order beyond the critical limit of 10^{-33} cm. into "*unknown depths of inwardness.*" Certainly, Bohm's ideas suggest the existence of rich playground for a holographic mind, heart or human being.

Blavatsky's Holographic Space and Zero Point Dynamics

Blavatsky articulated a holographic model of creation—of physics and metaphysics, a century before science arrived at such concepts and possibilities. However, *The Secret Doctrine* suggested a more differentiated view of holographic dynamics than even that of contemporary science. Further, it applies the same perspective to understanding ourselves as holographic beings—microcosms of the macrocosm.

Blavatsky states: "*The first and Fundamental dogma of Occultism is Universal Unity (or Homogeneity)....*"³⁷ A holographic view is thus implicit in Occultism which generally espouses

the unity and interrelatedness of creation. Further, Blavatsky notes:

There is but one indivisible and absolute Omniscience and Intelligence in the Universe, and this thrills throughout every atom and infinitesimal point of the whole finite Kosmos which hath no bounds, and which people call SPACE, considered independently of anything in it.³⁸

This certainly suggests that there are vast informational and zero point fields within the very fabric of space. Blavatsky states that there is a correlation of all forces within real space or the plenum.

For Blavatsky, the seemingly solid material world is illusory, an outgrowth of causes at zero point levels wherein the forces of nature emerge within without from higher dimensional realms. In her view, the external space/time complex is quite illusory and there are many worlds interpenetrating and sustaining our own space! Blavatsky provides this remarkable passage discussing the presence of other worlds within the same Space as ourselves:

The Secret Doctrine—postulating that conditioned or limited space (location) has no real being except in this world of illusion, or, in other words, in our perceptive faculties—teaches that every one of the higher, as of the lower worlds, is interblended with our own objective world; that millions of things and beings are, in point of localization, around and *in* us, as we are around, with, and in them; it is not metaphysical figure of speech, but a sober fact in Nature, however incomprehensible to our senses.

... the Occultist does not locate *these spheres* either *outside* or *inside* our Earth, as the theologians and the poets do; for their location is nowhere in the space *known* to, and conceived by, the profane. They are, as it were, blended with our world—interpenetrating it and interpenetrated by it.

.... Although as invisible as if they were millions of miles beyond our solar system, they are yet with us, near us, *within* our own world, as objective and material to their respective inhabitants as ours is to us. ... The

inhabitants of these (worlds) ... may be, for all we know, or feel, passing *through* and *around* us as if through empty space, their very habitations and countries being inter-blended with ours, though not disturbing our vision, because we have not yet the faculties necessary for discerning them.

... such invisible worlds do exist. Inhabited as thickly as our own is, they are scattered throughout apparent Space in immense number; some far more material than our own world, others gradually etherealizing until they become formless and are as "Breaths." That our physical eye does not see them, is no reason to disbelieve in them; physicists can see neither their ether, atoms, nor "modes of motion," or Forces. Yet they accept and teach them.³⁹

This is a remarkable conception of the nature of Space—compatible with holographic and quantum information theory in modern physics. Space is not empty. Ordinary four-dimensional space/time is an outward projection from within higher dimensions of real Space. Further, there are all kinds of other intelligences, worlds, dimensions and beings within the same space as us, although invisible to our perceptive faculties. This is analogous to how a scientist can produce multiple holographic images on a holographic plate by shifting the angle of the projecting light sources.

Blavatsky has provided a remarkable description of a holographic universe wherein a whole hierarchy of intelligences is implicated within any element—any living Kosmos.⁴⁰ Further, she describes how such a higher dimensional metaphysics produces a lower four dimensional physics as well as a law conformable cosmic order. She notes in regards to the abstruse and abstract teachings of *The Secret Doctrine*:

These abstractions become more and more concrete as they approach our plane of existence, until they phenomenalise in the form of the material Universe, by process of conversion of metaphysics into physics, analogous to that by which steam can be condensed into water, and the water frozen into ice. (p. 45)

Apparent material realities are projected out of the holographic dynamics of higher dimensional Space, illusory manifestations of nominal realms which underlie and sustain them. Material realities veil the true nature of Deity.

A human being in the material body is a quantum system based primarily upon the electro-dynamics of the heart. The heart functions essentially as a quantum computer (with micro black hole information processors⁴¹) and exists within quantized information and zero point fields; ultimately, within an Omniscience which "*thrills throughout every atom and infinitesimal point of the whole finite Cosmos.*" 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. Blavatsky explains that the "Sons" or the "*Winks in the Eye of Self-Existence*" do so expand and contract through their own Selves and Hearts.

Blavatsky's occult and mystical views of the zero point origin of human consciousness and of the Kosmos, and her metaphysical model of the laws of nature operating through zero point dynamics provide profound insights into modern scientific theories. Cosmoses emerge from zero point sources out of a seven dimensional mystical void/plenum of the Eternal Parent Space, wherein the Ceaseless Eternal Breath modifies its motion on seven invisible points. All of these dynamics can be considered in relation to the newest ideas in modern physics and could bear upon understanding the multidimensional holographic nature of a human being. These concepts provide the basis for a holographic model of human existence, not based upon neuro-networks in the brain but upon a physics and metaphysics of the heart and its zero point dynamics, and an original point source of *lux*.

Most modern neuroscientists and psychologists consider humans as only a *collection of neurons, molecules and particles*. None has been able to discover a human "I." Of course, it is hard to know how one might discover a form of 'nothingness at the heart of being' or a Monad established in hyperspace beyond Planckian depths! The newest theory in modern psychology and neuro-science is that a particular portion of the

prefrontal cortex is the site where the experience of the social self arises. However, from a mystical perspective, these huge errors have arisen because the scientists search for self primarily with the brain instead of awakening to Self within the lotus of the Heart. Blavatsky explains: “*The Mind is the Great Slayer of the Real*” and further, she directs the Initiate to “*slay the slayer*.” The Sons expand and contract through the higher dimensions of the human heart—as winks in the eye of self-existence.

Concluding Remarks

A holographic model of creation is inherent to mystical and occult views which suggest the ultimate unity and interrelatedness of existence, and further, that a human being embodies the cosmos and can even have direct experience of this—as depicted by Yogananda. The holographic paradigm within modern psychology explored these concepts but tended to assume that the Holographic principle applied exclusively to the mind and that there is no coherent light source within a human being. An occult perspective provides an alternative view of human beings as having some type of zero point element, a first point of supernal lux, deriving from within a higher dimensional Heart Space, which allows for the illumination of the inner cosmos. It is the conjunction of the self-illuminating zero point element within higher seven dimensional space that lies behind the creation of the human holographic experience originating out of the depths of the Heart.⁴²

¹ Paramahansa. Yogananda, *Autobiography of a Yogi* (Los Angeles: Self Realization Fellowship, 1988), 46.

² David Bohm, *Creativity: The Signature of Nature*, interview in Rene Weber, *Dialogues with Scientists and Sages: The search for unity* (New York: Routledge & Kegan Paul, 1986).

³ Helena P. Blavatsky, *The Secret Doctrine* (Pasadena: Theosophical Society, 1988), 27.

⁴ These concepts have been previously elaborated through parts 1 and 2 of this series.

⁵ Swami Yogeshwaranand Saraswati, *Science of Soul: A treatise on Higher Yoga* (New Delhi: Yoga Niketan Trust, 1987), 69, 36.

⁶ Swami Nikhilanda, *The Upanishads*, (New York, Harper & Row Publishers: 1963), 161.

⁷ Swami Prabhavananda & F. Manchester (Eds.) *The Upanishads: Breath of the Eternal* (New York: New American Library, 1957.)

⁸ Yogananda, *Autobiography of a Yogi*, 45.

⁹ Artist: Anita J. Mitra by permission.

¹⁰ Nikhilanda, *The Upanishads*, 279.

¹¹ Yogananda, *Autobiography of a Yogi*, 315- 321.

¹² Ken Wilber, (Ed.) *The Holographic Paradigm and other Paradoxes* (Boulder, Shambhala, 1982).

¹³ Aldous Huxley, *The Doors of Perception*, (New York: Harper & Row, 1954).

¹⁴ Graphic by Zeljka Zupanic, with permission.

¹⁵ Karl Pribram, *Psychology Today* Interview (February 1979), 80.

¹⁶ Karl Pribram, *Holographic Brain*, in *The Omni Interviews*,(Ed.) P. Weintraub (New York: Ticknor & Fields, 1982), 33-34.

¹⁷ Stanislav Grof, *The Holotropic Mind; The three levels of human consciousness and how they shape our lives*. (San Francisco: Harper, 1993).

¹⁸ Karl Pribram, *What the Fuss is all About*, in. Ken Wilber (Ed.) *The Holographic Paradigm and other Paradoxes*, (Boulder: Shambhala, 1982), 33-4.

¹⁹ *Ibid.*, 33.

²⁰ Bohm, *Creativity: the Signature of Nature*, 48-49.

²¹ Shirley MacLaine, *Going Within* (New York, New York: Random House, 1989), 259.

²² Recall from part II of this series, that each chakra can be regarded as having a zero point center, as there are seven fundamental differentiations of the original zero point, and each of these would work on holographic principles as portions of the larger whole.

²³ Paul Pearsall, *The Heart's Code: Tapping the Wisdom and Power of Our Heart Energy* (New York: Broadway Books, 1998), 55.

²⁴ Founder of systems philosophy and general evolution theory.

²⁵ Ervin Laszlo, *Science and the Reenchantment of Nature*, (Rochester: Inner Traditions, 2006), 35.

²⁶ *Ibid.*, 88-89.

²⁷ David Bohm, *Wholeness and the Implicate Order* (London: Ark Paperbacks, 1980), 174.

²⁸ *Ibid.*, 172.

²⁹ Nick Herbert, *Reality: Beyond the New Physics* (New York: Anchor Books, 1987).

³⁰ David Bohm & F. David Peat, *Science, Order and Relativity* (Toronto: Bantam Books, 1987), 90.

³¹ Rene Weber, *Dialogues with Scientists and Sages*

(London: Routledge, Kegan & Paul, 1986), 39, 41.

³² Ibid., 33.

³³ Ibid., 177.

³⁴ Bohm & Pea, 93-4.

³⁵ Bohm, *Wholeness and the Implicate Order*, 191-2.

³⁶ David Bohm, in Weber (1986), 41.

³⁷ Helena Blavatsky, *The Secret Doctrine: The Syntheses of Science, Religion and Philosophy* (Pasadena: Theosophical University Press, California, 1888), 58.

³⁸ Ibid., 277.

³⁹ Ibid., 604-6.

⁴⁰ I use the term “Kosmos” when referring to Blavatsky as this is the more archaic spelling

she uses, while otherwise using the more familiar and modern “Cosmos.”

⁴¹ These bizarre concepts will be elaborated within the concluding article of this series and concerns the seven “holes dug in Space” described by Blavatsky as the foundations of the Kosmos, as elaborated in part II of this series.

⁴² A concluding section of this article series will explore the more complex notions of holography to emerge in 21st century physics; dealing with black hole information processors in alternate space dimensions and the relationship of such concepts to Blavatsky’s notion of “seven holes dug in space.”