

CONSCIOUSNESS WITHOUT CONSTRAINT OPEN STRING THEORY — ONE LOOSE END

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*“We can make the particles sing in unison.
The one behaves like the totality and the totality can be seen in the one.”
~ Albert Einstein*

ABSTRACT: Utilizing string and chaos theory as a template, dreaming-waking consciousness opens to the collective unconscious where dreams access universal information in a metaphorical black hole of the psyche. This experiential study of crossover theories, scientific disciplines, and unified consciousness illustrates how insights unconstrained by preconceptions are developed at the most basic levels of awareness. Physics overlaps with concepts of immortality and infinity. Insights emerge in a fluid, unconstrained dimension of consciousness.

An *Alice in Wonderland* allegory analogizes the process of discovering truths from other planes. *Alice's* curiosity impels her to decode scientific metaphors and clues, spinning and unfolding them into a quantum realm of branes and brains. As an investigative tool, vignettes illustrate Visual Associative Recognition Memory based on entangled quantum consciousness. In this dream-science narrative, logic and insight combine to pursue the proverbial “one loose end,” while surface research produces applications that may help trigger insights relevant to theories of string and consciousness.

KEYWORDS: Chaos theory; Collective unconscious; Consciousness; Dreams; Electromagnetism; Fractals; Infinity; Loop quantum gravity; Monopole; Optics; Phase space; Quantum cognition; String theory

INTRODUCTION

A spectacular discovery in February of 2016 reawakened my dream connections to black holes and string theory when scientists confirmed an unparalleled detection of gravitational waves as predicted by Einstein a century ago. Presented are facets of my study in long-term dream coherence revealing quantum aspects far beyond my ken.

This paper examines three dreams as a portal to a direct experience of unconstrained, unbounded consciousness, in contrast to conventional structures generally applied to fields of

study and theoretical disciplines. The concept of infinity as it relates to quantum theory explores the intuitive nature of dreaming-waking consciousness.

In encountering the metaphoric, we observe how dream symbols emerge not from within sharp or known boundaries, but possibly from unassociated, unrecognized memories stored in the collective unconscious. By acknowledging a field of information that transcends normal conscious perception, research methods may then be processed and appraised in the light of scientific, psychological and metaphysical frameworks.

BACKGROUND

Historic figures of science expressing profound concern for the earth populated my dreams for over two decades. Uneducated in the sciences, a succession of dreams introduced me to the visual system via the optic nerve. Intertwining vision and neuroscience, dreams branched into geology and environmental concerns using tools from chemistry and physics. This odyssey of discovery revealed deeply held secrets of the universe and its infinite realms.

Unusual dream images related to my birth mother became archetype for mother earth. Synthesis of mother–Mother Earth transitioned from individual to global awareness in a dimension I refer to as Cosmic Dreaming.

This personal-transpersonal aspect of dreaming was realized in collaboration with Dr. Montague Ullman, the late psychiatrist, neurologist, researcher and pioneer of the experiential dream group movement. Physicist David Bohm’s implicate order of wholeness led Ullman to a theory based on the relationship of quantum physics to dreaming. Ullman centered on the personal aspects in dreaming, whereas my dreams merged the personal with the transpersonal [1] demonstrating that the theoretical and experiential were complementary.

Dreams serve four functions: biological, psychological, social, and spiritual. In the spiritual, cosmic, or transpersonal dimension, dreams awaken us to species connectedness and profound oneness with the universe.

THE DREAM AS PORTAL TO THE COLLECTIVE UNCONSCIOUS

This oneiric study exemplifies the Jungian collective unconscious. While many streams derive from the collective, they all belong to the unbroken flow which Bohm referred to as the holomovement. It marries the holistic principle of undivided wholeness with the idea that everything is in a state of process or becoming; what he calls the “universal flux.”

Ullman referred to the dream as a black hole of the psyche, stating, “The dream contains an enormously condensed information mass. We are forced to let it expand [...] or to unfold, and then deal with it in bits and pieces, ordered as best we can in time and place.” [2]

This intuitive study may generate ideas for those fluent in the subject areas.
Decoding of dream symbology is based upon my empirical research.

Italicized dreams are generally drawn from material pending publication.

Dreams with their multidimensional access to condensed memories and data facilitate reordering and reintegrating particles of our life experience. As a vivid example, following is a transcript of my first black hole–past life dream.

Dream #1: BLACK HOLE OF THE PSYCHE (8/23/96)

I am carrying a parasol, walking through a heavy mist. There is turbulence, the air is thick. The winds are strong and I'm being thrown about but not minding it because it's part of that life—part of that costume. I am walking along. There is a black cloth under my feet. Suddenly, there is no ground beneath me. I begin to fall. I fall into a black hole—a void—there is nothing. I am falling and falling and tumbling and can't breathe. I am gasping for air. I think "This is it!" I struggle in the pitch-black hole. Suddenly there's a slab I can grab onto. I struggle and struggle and finally the unknowable slab brings me up.

As seen in this and recurring dreams, tectonic plates or slabs of the inner earth surfaced, reflecting geological functions, processes and chemical interactions. My geological-dream course pointed to an alchemical transmutation within the earth.

Etched in this blueprint of consciousness was the Emerald Tablet which appeared in a dream soon after the death of a loved one. A version of the sacred legend begins with a translation:

"True, without error, certain and most true. That which is above is as that which is below, and that which is below is as that which is above, to perform the miracles of the One Thing."

"The Emerald Tablet is the cryptic epitome of the alchemical opus," noted Jungian analyst Dr. Edward Edinger, "a recipe for the second creation of the world." Ethnobotanist and philosopher Terence McKenna described the Tablet as "a formula for a holographic matrix" that is mirrored in the human mind and offers hope for future survival. [3]

As disordered dream fragments repeated, interweaving a multitude of sciences, they self-organized into strands of individual sciences. The result was a systematic unfolding from fragmentation into wholeness. This mounting body of science generated new patterns with new images; e.g., string theory, chaos theory, continuously creating infinite possibilities. Through association and connection, patterns integrated, embodying the totality of Man and Nature; Mother Earth and the Universe.

BOHM'S IMPLICATE AND EXPLICATE ORDERS

Paraphrased from Dr. Ullman's final paper: *The Dream: In Search of a New Abode* (2006). [4]

Dreaming and waking consciousness

"This order of what Bohm refers to as enfolded wholeness is not only the source but also the maintenance of all that exists. All matter [and mind] unfolds out of the implicate order

[dreaming] to form the explicate [waking] in a continuous equilibrium of enfoldment and unfoldment.

“The contents of the implicate order no longer exist as discrete elements but in a form that reflects their intimate contact with the whole. An analogy of a flowing stream where the fundamental elements of the stream are in contact with all others exemplifies a continuous and sustaining exchange between these two orders. All matter in this sense is regarded by Bohm as temporary abstractions from the implicate order. He cites a standing wave as an example of this. In a sense we are all standing waves existing as apparent entities that ultimately fall back into the underlying matrix, the implicate order from which we came.

“From the viewpoint of dreaming in the implicate order all matter, inorganic, organic, sentient, exist in their interconnectivity. If we consider the implicate order as a Universal Unconscious (including the collective unconscious) it would broaden the unconscious and extend dreaming to a much wider range of content. Dreams point outward as well as inward. This would include events usually considered outside the range of dreaming; e.g., cataclysms of nature, telepathic and precognitive dreams.”

The dream as relay station

“Bohm’s approach to wholeness in the framework of the implicate and explicate orders suggests a greater appreciation of the role our dreams play in our life. Dreaming consciousness is situated between the two orders [implicate and explicate], and could be considered a relay-station with input from both orders. The contributions from the implicate order would include the capacity to open up our remote memory bank, freedom from space and time, range of memory, truthfulness and the creative energy of the implicate order—which Bohm refers to as ‘generativity.’

“As a relay station receiving input between the two orders, dreaming enriches both Bohmian orders. The relay station makes its own contribution to the implicate order by presenting a fresh supply of authentic feelings, the true source of our connective tissue.”

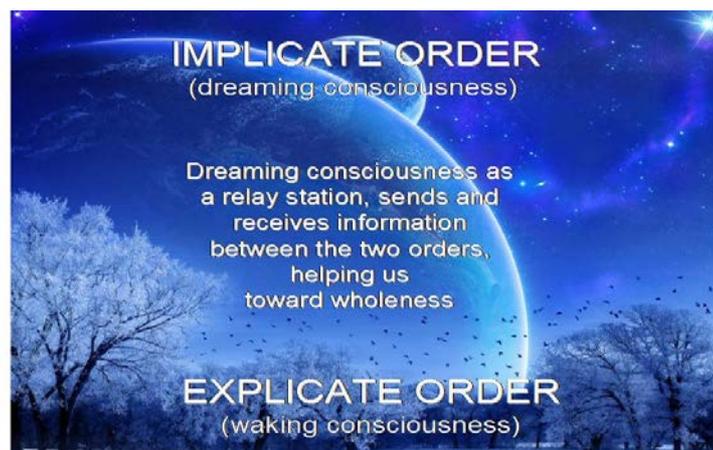


Image 1

Looping 'round the lemniscate

Based on Bohm's implicate and explicate orders in which mind-matter interaction unfolds and enfolds, illustrated below is the lemniscate curve, the mathematical symbol for infinity. This image and its associations evolved from a dream of a two-way loop forming a lemniscate, thus suggesting an indelible infinity in consciousness.

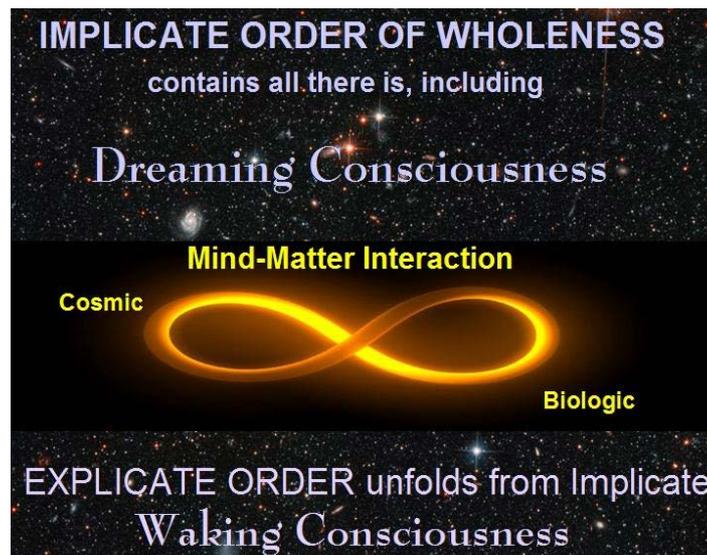


Image 2

Analogous to quantum entanglement, where particles interacting with each other lose their individuality and behave as a single entity, the flow between implicate and explicate in dreaming-waking consciousness demonstrates how fragments of thought and matter seek connection.

Within this non-local network are two fields:
 the biologic field uncovers dream content relevant to personal and social aspects;
 the cosmic field unlocks collective dreams often revealing universal truths; e.g., string theory

A second dream reveals loops made of strings, informing that magnetism occurs at the loop's midpoint, thereby suggesting the one unique point in a phase space of a dynamical system.

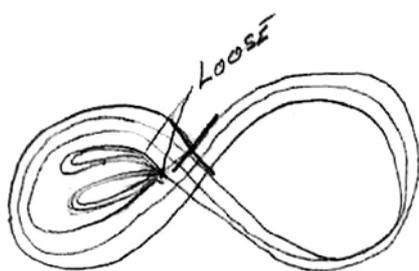
Dream #2: STRING THEORY, THE LEMNISCATE, THE STRANGE ATTRACTOR and LOOP QUANTUM GRAVITY (8/30/04)

*I am telling a friend about strange attractors. I say I don't understand the math, but I know how it works—it is like strings. I have some white string I am demonstrating with and I show my friend how it loops around in the shape of a lemniscate. One or two strings are looser than the others. All the strings are closed, like loops, except for one which is open on one end. I say the midpoint where they cross is where the strange attractor is, and it is from there that we get drawn in. Somehow, I know that **the midpoint** is where the magnetism occurs.*

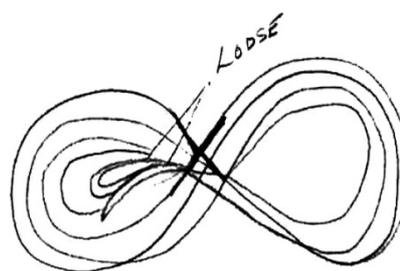
At dream's end, a "Monopoly" card appeared with the theta symbol, θ , in a two-dimensional image. In math, the theta symbol typically represents the angular position of a vector.

One string "open on one end" presents curious possibilities in terms of string theory's endpoint; e.g., a loose end pointing to a monopole. The lemniscate images in the dream are shown below.

LEMNISCATE DREAM DRAWINGS



Pair of closed strings



One string open on one end

NOTE: X may mark the midpoint in phase space

Image 3

POINCARÉ AND A HOMOCLINIC FIXED POINT

Henri Poincaré, the 19th century French mathematician and theoretical physicist, developed a geometric approach called a homoclinic fixed point—a saddle point where stable and unstable trajectories intersect in phase space. While studying the solutions, he discovered that the trajectories would cross an infinite number of times [5] emphasizing an infinite number of intersections forming a kind of latticework, a weave, a chain-link network of infinitely fine mesh.

There is an uncanny correspondence between Poincaré's description of homoclinic topologies, and the lemniscate dream image of intersecting strings forming a trajectory, crossing an infinite number of times to create a kind of weave. The intersecting strings comprise a dense region of homoclinic points called a homoclinic tangle. Creation of this entangled structure is emblematic of the so-called "sensitive dependence on initial conditions" at the very heart of chaos theory. Poincaré postulated a fundamentally new aspect of dynamical motion with his discovery of this topologically tangled structure. [6]

THE DREAM AND PHASE SPACE

Such tangles may be consistent with fluctuating memory recall in dreaming consciousness, illustrating a mind-entangled chaos. Similar to Poincaré's "point of intersection" in phase

space the dream suggests an equivalency to the midpoint between mind and matter where the magnetism occurs. Consider dreaming consciousness akin to phase space in which all possible states of a dynamical system are represented, with each possible state corresponding to one unique point in the phase space: where mind and matter interact.

LORENZ STRANGE ATTRACTOR DIAGRAM

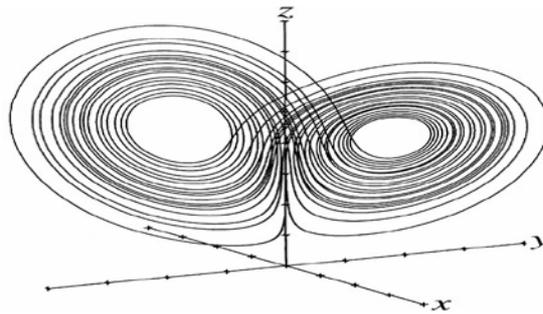


Image 4

Strange attractors are bounded chaotic systems with a long-term pattern. In the Lorenz or butterfly strange attractor diagram [7] the system irregularly switches from one side to the other, much as consciousness shifts between the cosmic and biologic in mind-matter interactions. In a strange attractor, as in dreams, we see recognizable shapes in space, but the system never follows exactly the same trajectory through the phase space.

These interactions may also bear relevance to the Broglie-Bohm theory and the pilot wave model, in terms of the mind-matter relationship. [8]

IF YOU DON'T KNOW WHERE YOU ARE GOING, ANY THEORY CAN TAKE YOU THERE [9]

The following explication draws on an *Alice in Wonderland* parable so as to capture the essence of visual associative recognition memory. Here *Alice*, Observer and author researcher, become one, visualizing the mystery of the Observed; the Dream. To illustrate inner monologue, a naive but inquisitive *Alice* tumbles down the figurative rabbit hole to research and decipher, in metaphorical narrative, scientific findings in her *Wonderland* of dreams. Her curious nature gradually transforms to more serious questions of Physics, Consciousness and Vision.

Might her *Wonderland* be represented by the wave function that contains information about the cosmos at large? Could her dream-loop of past and present memories possibly loop forward in time?

“... so begins my research mission in deep space where I discovered that Loop Quantum Gravity is the fabric of spacetime, a network of interacting loops called spin networks. It is said that any attempt to divide a loop would, if successful, cause it to divide into two loops.”

A pair of loops within one of the lemniscate dream drawings was curious: might the pattern of a *strange attractor* in spacetime initiate the *magnetism* by means of some hidden gravitational force?

Jungian concepts of the psyche “are being reformulated within the framework of dynamic systems theory (DST). The basic elements are illustrated by a pendulum, the range of swing through which the pendulum moves is called phase space [defining] a basin of attraction for the pendulum’s movement. An attractor, in this case gravity, is a hidden global force that shapes the overall behaviour of a system. It is the pattern of behaviour to which the system ‘settles down’ or is attracted. Disturbing the pendulum causes it to go through a phase transition before it settles in a new phase space, defining a new attractor.”[10]

Chaotic dynamical systems theory employing the strange attractor and lemniscate curve illuminated emerging patterns of interrelated sciences modeling a blueprint of infinite iterations. Like the Mandelbrot set, multiple magnifications of the pattern revealed ever-more-elaborate layers composed of shapes, codes and clues representing a succession of sciences unknown to the dreamer.

In connecting thoughts and images, we intuitively practice visual associative recognition memory, based on entangled quantum states of mind. The chart below summarizes the steps involved in this process. [11] [12]

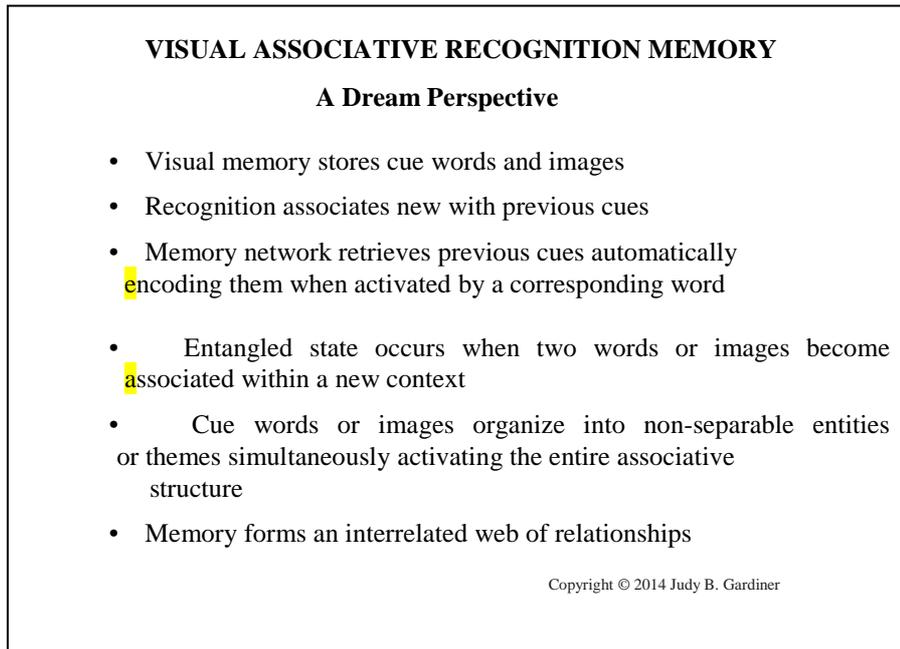


Image 5

Might these emerging patterns represent a reality of dreaming consciousness yet to unfold?
Might a fractal dimension be calculable?

BOSONIC STRING THEORY ENTERS IN A NEW DREAM

Alice narrates her dream discoveries of string and superstring theory:

“I mustn’t have fallen far enough to reach absolute bottom, when suddenly a gigantic book appeared, called *The Theory of Everything*. It said that the theory of superstrings means that everything in the universe—all particles and forces and perhaps spacetime itself—consists of fantastically small strings under immense tension, vibrating and spinning in a multidimensional superspace. So the dream string in the shape of a lemniscate must mean that everything in the universe exists infinitely—that all mind and matter, all unconscious and conscious thought, is forever.”

String Theory introduced in the dream opened to Bosonic String Theory. I learned about open string and closed string theories. It was curious that the *lemniscate made of string had all closed strings shaped like loops except for one string that came out of the large loop and was open on one end*.

Exploration of the dream’s metaphors unfolded these associations:

- In open Bosonic String Theory there is a midpoint and endpoint interaction [13]. *Midpoint where they cross and one (string) open on one end* are featured in dream #2.
- Strings could be non-orientable, meaning you cannot tell in which direction you’re traveling. Since your direction is unknown, and the lemniscate travels infinitely in two directions, I again pondered the concept of the reversal of time.
- Closed string oscillations are sometimes called left movers and right movers. My drawing showed that as it looped around to the left and made the turn, it changed direction and started moving toward the right. Depending on how you look at it, the open end could be on either side.

Next, I discovered Type IIA superstring theory which involves closed strings and resembled my drawing below. The vibrational patterns are symmetrical regardless of whether they travel left or right along the closed string. Type IIA open strings are attached to structures called D-branes.

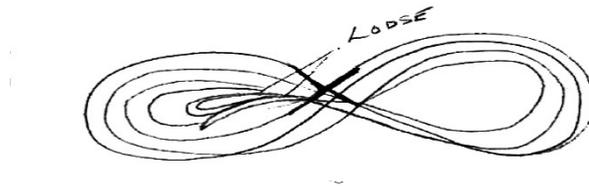


Image 6

Behind a cloud of virtual particles was Heterotic Superstring Theory, a hybrid of superstring and bosonic string. If that combination corresponded with my dream it would mean that bosonic was moving in one direction along the string, and supersymmetric was moving in the opposite direction, exactly as I drew it.

OPEN STRINGS, D-BRANES, ENDPOINTS: A DREAM PERSPECTIVE

The image of one string open on one end prompted me to delve further into researching two endpoints. I determined that a string may be open, thus forming a segment with two endpoints; or closed, forming a closed loop. Further, “D-branes” describes a boundary condition that arises when one considers open strings. As I tried to imagine a boundary condition, I learned that all open strings must have their endpoints attached to these D-branes, which have dynamics of their own. For example, an open string loops back to form a single endpoint, which is attached to a D-brane—a dynamical object which moves and fluctuates. [14]

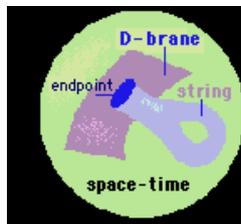


Image 7

Even more curious in the dream was a connection of D-branes and monopoles to M-theory’s eleven-dimensional universe to which all the string theories belong. Recurrent dreams referencing the game of *Monopoly* and *single poles* evoked “*monopoles*.”

Tossed in spacetime between mind and matter, I stumbled upon inconsistencies in physics; how answers to closed loops are found to be finite and how resulting infinities were removed through mathematical renormalization. I knew dreams told the truth; that the lemniscate symbolized infinity and the dream picture showed strings of closed loops—except for that *one string that was open on one end*. Lost in an excited spin of loops and strings a third dream burst in offering *all the answers to my puzzle in an instant*.

Dream #3: A BRAIN–BRANE REVELATION (3/13/98)

Someone shakes something and I hear a lot of loose pieces rattling around. I think of a big round rattle. I see ALL THE ANSWERS TO MY PUZZLE IN AN INSTANT! There are words inside of other words like ThMELby -- MEL meant something. I am saying them out loud. I am licking strips of paper, like stamps, onto a sheet. I see a small square inside of which a wing is placed over a pin shaped like a horizontal LOOP; a figure 8 on its side. I say something about matter being liquid and solid. Everything is gray and white.

ANATOMY OF A DREAM: IMAGE BY IMAGE

The *big round rattle*. Characterizes the perpetual pieces of thought rattling around within the holographic brain; i.e., the collective unconscious.

Stamps. Represent time-stamps signaling memory processed in a space-time continuum.

Licking **strips** of paper like **stamps** onto a **sheet**.

- *Strips, like stamps* correspond to the Mobius strip on which the *lemniscate* is based;

- In string theory, gluing of strips in surface states is known as the gluing theorem;
- The *sheet* corresponds to a string *worldsheet* reflecting a two-dimensional surface with one dimension of space and one dimension of time.

The horizontal LOOP repeats the infinite nature of the lemniscate. The closed loop also calls to mind closed timelike curves in which “time line travel speculation theories contain no prohibitions of traveling backward through time. [...] An extremely powerful gravitational field, such as that produced by a spinning black hole, could in principle profoundly warp the fabric of existence so that spacetime bends back on itself. This would create a "closed timelike curve," or CTC, a loop that could be traversed to travel back in time.” [15]

Wing: Correlates to string field theory’s multi D-brane states which can be built of butterfly states. The butterfly form, also the *strange attractor*, when plotted in a chaotic systems diagram, resembles *a figure 8 on its side*.

Matter: Liquid and solid, gray and white, relates to underlying constituents of brain-brane vibrations, e.g., an electromagnetic field in both the human brain, and string theory’s brane.

The *square* may relate to numerical results for the *square* of the butterfly, one paper stating that the generalized butterfly *squares* to itself. [16]

MEL: Describes the tiny hidden dimensions in brain-brane worlds that contain Matter–Electromagnetism–Light. As humans, our brains are matter controlled by electricity and light. In brane-land it is most likely the same.

Highly energized from my time in *Wonderland*, I excitedly strung together dream images relevant to string theory:

Dream to String Correlations	
Dream	String
• Lorenz Strange Attractor	Chaotic system: can irregularly switch sides; e.g., mind-matter interactions
• Lemniscate	Bosonic: non-orientable – traveling in two directions
• String opened on one end	Open and closed strings
• Closed strings	
• Magnetism occurs at midpoint: (locus of strange attractor)	Midpoint, end-point interactions
	Type IIA Superstring: closed, oriented left movers, right movers
• Interacting loops (lemniscate)	Loop Quantum Gravity: spin networks

Image 8



As *Alice* the dreamer-researcher, observer and observed, I now ascend from the metaphorical rabbit hole, where brain-brane connections and strange attractors shone the light.

THE MONOPOLE AND D-BRANES

Since 1994, I had experienced several dreams of *a single pole*, some with *a pole or object with a string on either side*, among repeated references to *light, magnetism, cone-shaped funnels, cylinders, etc.* I would later learn about a hypothetical one-dimensional curve in space—a Dirac string stretching between two magnetic monopoles with opposite magnetic charges, or from one magnetic monopole out to infinity. I was astonished to discover that a magnetic monopole is the magnetic version of a charged particle like an electron. Though nearly every grand unified theory predicts them, one has never been observed. It is said that to find a magnetic monopole is the Holy Grail of physics.

The D₃-brane is both an electrically charged brane and a magnetic monopole, which separates it from the other branes. [17] This might indicate that the D₃-brane is the midpoint where the magnetism occurs.

Under certain conditions a string can end on a monopole. [18]

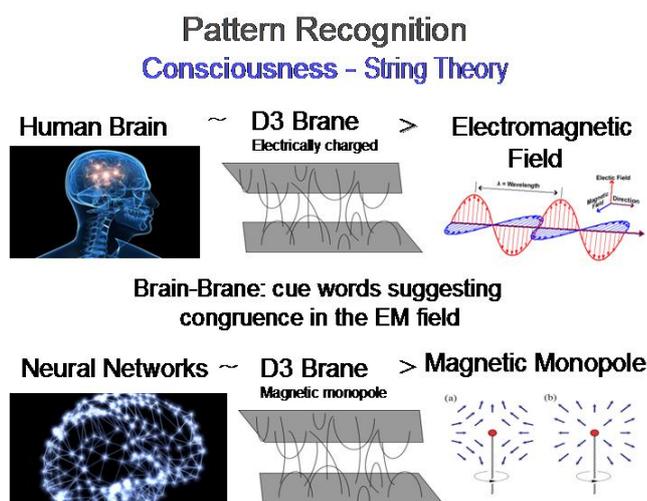


Image 9

INTO THE INNER LIGHT

A 2003 experiment in freezing light contributed to my ongoing studies in the field of optics:

“...the light pulse obviously comes to a grinding halt and turns off. But the information that was in the light is not lost because it was already imprinted on the atoms' states. When the pulse halts, that imprint is simply frozen in place, somewhat like a sound recorded on a magnetic tape.” [19]

Dream symbolism pointing to magnetism and compact disk recordings together with cutting edge research re-centered my focus on the relationship of light in the brain to the faculties of vision and memory.

Optogenetics (Greek, *optikós*; "seen, visible") is a biological technique which involves the use of light to control cells in living tissue, typically neurons that have been genetically modified to express light-sensitive ion channels.

Optical concepts related to the bending of light, electrical signals, and memory storage inspired by dreaming consciousness, are discussed in my recent paper. [20] Following are excerpts:

“A series of thirty-eight interlocking dreams revealed Claudius Galen’s (c.130–201) pneumatic doctrine of vision. His theory of a direct path of light rays to the optic nerve is the focal point. This stimulated my interest in the optic disc. Also known as the optic nerve head, it is the point in the eye where the optic nerve fibers leave the retina. Commonly referred to as the ‘blind spot,’ for centuries it has been assumed to have no photoreceptor cells to respond to light stimuli [...]

- “A Single Burst of Light

“Affirmation of the bending of light relating to the optic disc occurred in November 1997 when I awakened, not from a dream, but with words arriving in the pneuma as from a distant voice:

“The refraction of light traveling through the fibers of the optic nerves rotates the optic disc (blind spot) and the prismatic bending of light opens the visual field so that we can see all the facets of our lives in a single rotation or burst of light. The optic disc acts as the CD storing all the recorded information and is opened by the bending of light flowing through the fibers of the optic nerves.

“Applying optogenetics research using light responsive proteins, the ‘burst of light’ metaphorically describes the sequence of light striking the retina, a retinal molecule absorbing a photon, thus promoting it into an excited electronic state. An electrical impulse or ‘information’ is then sent to the brain for processing. In theory, when the molecule rhodopsin is reconstituted, consider that it opens the visual field to pre-natal memory for mere fractions of a second.

“Using different wavelengths of light, delivered via fiber optic cable, scientists can control the activity of the cells that send to and receive information in the brain. Blue light activates targeted neurons; yellow light quiets them.

“Most revelatory was the dream (8/28/96), *instructing the dreamer to play an old, very thin disc, like a CD in blue and yellow. She hears music from a long time ago. Heavy with an old world feeling, it was musty as though it had been kept in a closet for a long time.*”

Current quantum consciousness research at the Planck Institute if combined with optogenetics may serve as a blueprint to examine functionality of the blind spot.

Dr. Hans-Peter Dürr, former director of the Max Planck Institute for Physics in Munich, theorizes that, “just as a particle ‘writes’ all of its information on its wave function, the brain is the tangible ‘floppy disk’ on which we save our data, and this data is then ‘uploaded’ into the spiritual quantum field. Continuing with this analogy, when we die the body, or the physical disk, is gone, but our consciousness, or the data on the computer, lives on.” [21]

DNA

Persistent dreams of puzzling symbols like *one loose end* may be powerful catalysts for further exploration. A recent dream (3/6/16) centered on *strings and triple strands of coral and turquoise intertwined*. I Googled triple-stranded DNA and found this image remarkably similar to the string-woven lemniscate—that elusive one loose end, perhaps?

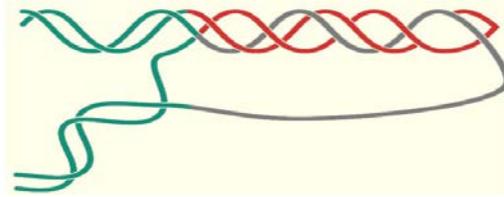


Image 10

Interest in triple-stranded DNA followed the recent discovery that DNA triplexes could also be intramolecular; i.e., the third strand associates to the double-stranded DNA fragment, donated by the same DNA molecule.

SUMMARY

With great deference to the dedicated minds of math and science, I respectfully surmise that my dream experience in consciousness is not that of a finite dimensional system with orbits subject to constraint. Thus, a new paradigm of relational dynamics may be required. In search of the understanding of cognition, perhaps consciousness without constraint will help to bridge intuitive knowledge and critical thinking. In multidimensions of consciousness and superspace, self-similar patterns in science repeat the process in an ongoing feedback loop as evidenced in string and chaos theories. Particulars of open string, a single endpoint and a monopole suggest a recurring pattern in which Matter, the EM field, and Light offer unexpected insights into infinity.

I arrived at these truths because I trusted Consciousness—that nonlocal transcendent field not bound to the space-time continuum. Although I was the observer, and the dream the observed, I could not see the field. I knew it was real, yet neither concrete nor abstract.

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