

DREAMING CONSCIOUSNESS EXPLORED  
ONEIROMANTICS™—THE IMPLICATE ORDER—GALEN'S  
OPTICS  
AND COMPLEX SYSTEMS

Judy. B. Gardiner

ABSTRACT: Oneiromantics™—the symbolic language of dreams—involves a process of decoding and classifying dream imagery appearing in an entangled state. Oneiromantics, generated in a dream series, enfolded a body of scientific data which exceeded the dreamer's waking knowledge. The series of dreams spanning over two decades of study and translation were based on *Intuitive Logic*, the author's practice for unifying conceptual representations of mind and matter.

Formed within the subconscious structure of visual associative recognition memory, the practice of *Intuitive Logic* yields a web of interrelated associations germane to aspects of David Bohm's Implicate Order. From the perspective of Bohm's quantum interconnectedness, this study consists of synergistic aspects of dreams and waking relevant to constructing the "whole." Bohm's implicate order of wholeness, illustrated in this study as a Collective Unconscious network, includes geological insights and Claudius Galen's pneumatic theory on visual perception.

The hard problem of consciousness emerges, concluding in Complex Systems that integrate mental and physical functions within dreaming and waking consciousness.

The following study explores the nature of consciousness as derived from the application of *intuitive logic*—which I suggest is an aspect of quantum cognition. The quantum implications of multiple symbols in the overall dream series transcended this author's waking knowledge. The precision of certain images and their correlation to actual scientifically recorded events may serve as a catalyst to experts in those areas.

KEYWORDS: Ancestral memory; Bohm; Collective unconscious; Complex systems; Dreaming consciousness; Claudius Galen; Intuitive logic; Oneiromantics; Optics; Phenomenology; Qualia; Quantum cognition; Quantum paradigm; Retrocausality; Visual associative recognition memory

## INTRODUCTION

A sequence modeled from Maslow's hierarchy of needs is analogous to the different levels of dreaming. Dreams take an evolutionary pathway transitioning from concerns of survival of self in the personal realm to concerns of species survival in the transpersonal realm pointing toward the attainment of self-actualization.

Insights into the collective unconscious embody a consciousness network with science as the foundation. Questions of retrocausal effects in precognitive and retrocognitive dreams as well as mind and matter are applied. Nonequilibrium matter, in the form of relic particles, may, through geologically based dreams, yield a deeper understanding of the capacity of *intuitive logic*. Subjects of vision, light and memory join intuition to explore the optic disc—the so-called “blind spot”—through dreams of the pneumatic doctrine of Claudius Galen.

The depth, detail and frequency of the underlying experience grew exponentially, as did the capacity to see across time, historically and into the future. This spontaneous surge of dreaming consciousness and newfound knowledge self-organized into a totality illuminating the question of a continuum—from ancestral memory—to the present—to post-existence.

## ONEIROMANTICS™

Oneiromantics combines “*oneiromancy*” (dreams by divination) and “*semantics*,” a method for unraveling the symbolic language of dreams. A similar process occurs in the deciphering of hieroglyphics, the religious symbol-drawings that told the stories and ideas of the ancient Egyptians. Similarly, oneiroglyphics may contribute to research in quantum cognition [1] by translating the pictographic language of dreaming to tell the story of modern civilization. Patterns leading to an emergent language of dreaming include a network of scientific disciplines, infinity theorems, primeval myths, and anomalous computer coding.

## THE ORIGIN OF WRITING

A dream (7/22/96) and the concept that “we never forget anything”[2] inspired the consolidation of seemingly random dream fragments into a nonrandom theme, i.e., Oneiromantics. Archeologist Denise Schmandt-Besserat's delineation of the

---

<sup>1</sup> Bruza, Peter D., Kitto, Kirsty, McEvoy, Nelson, Douglas and McEvoy, Cathy. ‘Entangling words and meaning’, *Second Quantum Interaction Symposium*, March 26-28, 2008, Oxford University. <http://eprints.qut.edu.au/11193/>

<sup>2</sup> Taylor, Gordon Rattray, *The Natural History of the Mind*, Dutton, 1979, pp. 255-6.

---

development stages that led to writing systems augments our understanding of the evolution of spoken language.<sup>[3]</sup> Working in archaeological sites in the Middle East, she frequently encountered small clay objects. Each object represented a token that appeared in a variety of shapes, representing different animals or measures of grain. The token system emulated the human brain's ability to collect, manipulate, store and retrieve data. Cognitive processing of increasing volumes of data over the millennia brought people to think in greater abstraction.<sup>[4]</sup>

Akin to Schmandt-Bessarat's seemingly insignificant bits of clay, disparate fragments or particles of dreams—words, codes and images—offer a visual language to facilitate dream interpretation in the context of our emotional landscape, reflecting the world's place within us.

#### AN EVOLUTIONARY PATH

I begin by sharing the self-actualization process, a byproduct of this study which, consistent with the theory of wholeness, transcends self into a realm of cosmic connection.

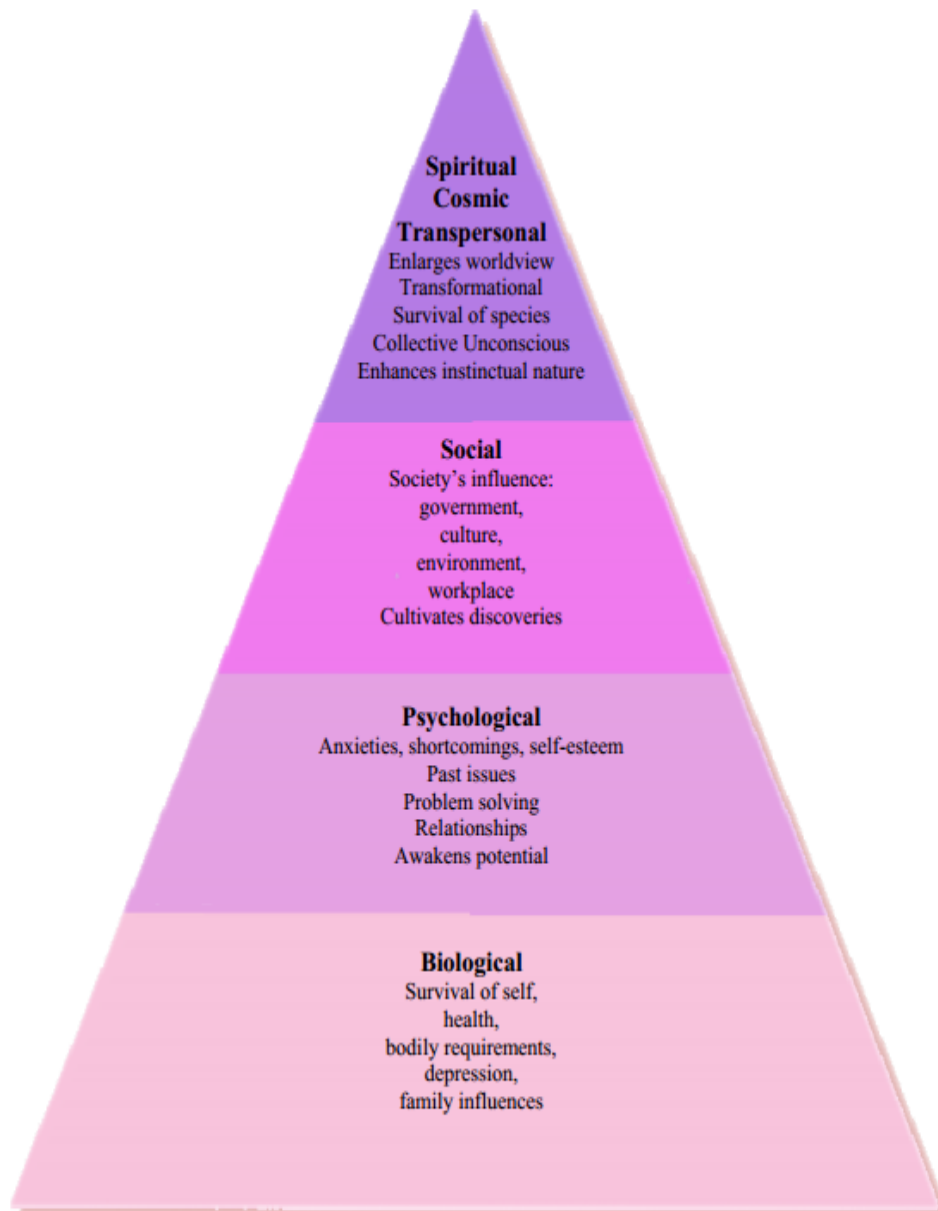
Analogous to Maslow's hierarchy of needs, dream content reveals biological, psychological, social and transpersonal information. To attain fluency in translating the language of dreams, one should be cognizant of a dream hierarchy which addresses universal human needs, as depicted in the following graphic, *A Dream Hierarchy to Self-Actualization*.

---

<sup>3</sup> Falk, Dean, *Braindance*, Henry Holt, 1992, pp. 184-187.

<sup>4</sup> Schmandt Besseroff, Denise, *How Writing Came About*, University of Texas Press, 1996.

## A DREAM HIERARCHY TO SELF-ACTUALIZATION



---

## ENTANGLED STATES OF DREAMING

### *Personal vs. Transpersonal Dreams*

Personal dreams are subjective, emotionally oriented, and focus on insights affecting our private lives and relationships. The transpersonal or cosmic dream is objective, a metaphorical prism of the personal dream. In emphasizing matter over emotion, it presents concrete material that conveys information. Insights appearing in the transpersonal dream can access a higher level of consciousness. This expanded perception may reveal previously obscured facets of the physical world. For example, the symbol of my mother in a personal dream translated into “Mother Earth,” and her geological processes, in the transpersonal realm.

### DREAMING IN THE IMPLICATE ORDER

Dr. Montague Ullman conducted decades of research which led to groundbreaking contributions, as he incorporated findings in the physiology and neuroscience of dreaming into the practice of working with dreams. Ullman analogized the nature of dreaming consciousness to David Bohm’s theory of a seamless whole, in which Ullman included features of quantum theory:

- Complementarity and uncertainty; the dual nature of consciousness
- Interconnectedness
- Observer and observed
- Nonlocality

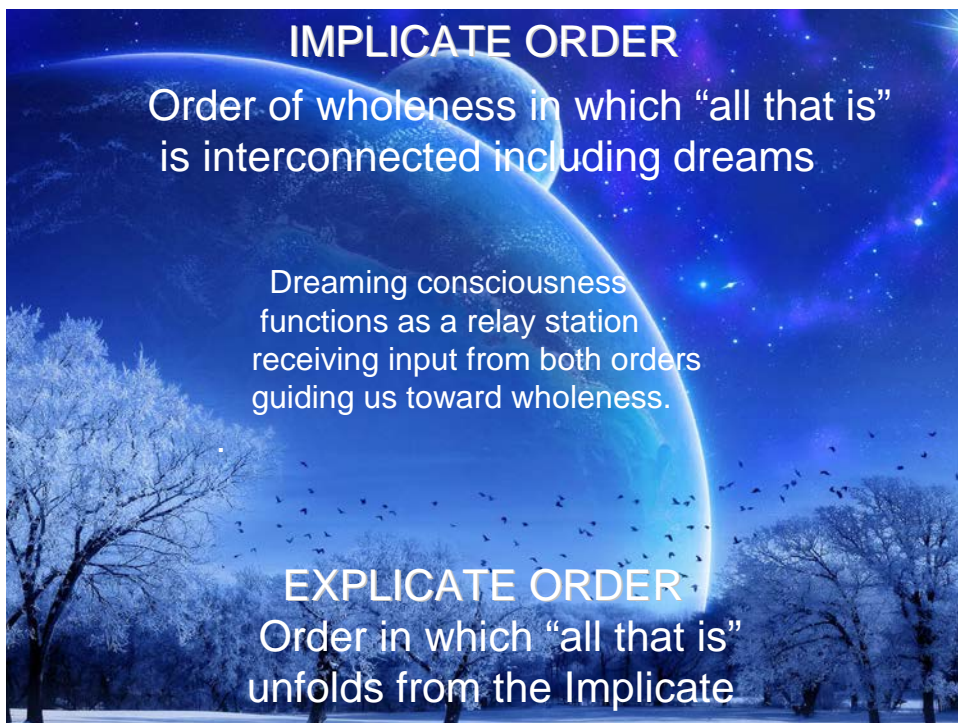
Ullman wrote, “Bohm set forth a fundamental order, the implicate order, an order of wholeness that included all that exists, and does so in a state of interconnectedness. It is structured holographically, the entirety manifest at every point. Bohm preferred the term *holomovement* to emphasize that it is a generative order in flux. This order of what he refers to as ‘enfolding wholeness’ is not only the source, but also the maintenance of all that exists. All matter unfolds out of the implicate order to form the explicate or unfolded order in a continuous equilibrium of enfoldment and unfoldment.

“The contents of the implicate order no longer exist as discrete elements. They retain their individuality, but not in the form experienced in waking life. They exist in a form that reflects their intimate contact with the whole.”<sup>[5]</sup>

---

<sup>5</sup> Ullman, Montague, ‘The Dream in Search of a New Abode’, 2006.

Our dreams, as messengers of the night, open our remote memory bank, which is unfettered by time and space. In the explicate order, dream content is triggered by unresolved feelings rising to the surface which enfold in the implicate. Dreaming consciousness functions as a relay station, receiving input from both the implicate and the explicate—one reflecting the other. The explicate order of waking consciousness unfolds from the implicate order of dreaming consciousness, as shown in the image below



#### A CONSCIOUSNESS NETWORK: ANCESTRAL MEMORY — NOT KNOWING, YET KNOWING

Integrating the Bohmian principle of wholeness with the collective unconscious, the next diagram depicts four esteemed mentors of science who symbolically combined to produce a central theme which formed a consciousness network. These precedent-

setting scientists were represented in the symbolic language of the dream by their related fields of study.

As though acting in harmony, they conveyed dire concern for the earth and its species. The oneiric symbols contained messages reflecting expertise in their respective fields while simultaneously educating the dreamer in the nuances of their particular sciences.

In this study of dreaming consciousness, “entanglement” may be described as a massive, universal-scale neural network—a collective consciousness of sorts,<sup>[6]</sup> which exhibits a self-organizing capacity to integrate dream images, verbal prompts, numbers, and electronic coding. Self-organization of the dreamer’s conscious system evolves into an expanding network of conscious systems in Science, Mathematics, Myths and Legends. Under the Mathematics category, Infinity Theorems may invoke values in infinity which are implicit in a physical network of the sciences illustrated in the following Collective Unconscious diagram. Mathematical values deal in finite terms, but today’s mind-matter research is considering the infinite nature of consciousness. This summons forth a new paradigm which may form a bridge between the finite and the infinite.

Yeats was intrigued by “contributions made to the pattern of change by the persons and events of the drama which is history; their meaning in endless recurrence, the proliferation of mythical materials and the mingling of periods and consciousnesses; that it is sometimes difficult to locate the persona and to ascertain the source of the myth.”<sup>[7]</sup>

The universality of dreams also reflects the Jungian concept of the *collective unconscious* referring to ubiquitous structures of the unconscious mind from which archaic patterns and images derive instincts and archetypes. According to Jung, the “big dream” has significance for the destiny of entire communities, and “uses collective figures, because it has to express an eternal human problem that repeats itself endlessly, and not just a disturbance of personal balance.”<sup>[8]</sup>

An incidence of such archetypal imagery representing the Great Mother–Mother Earth occurred in a dream on 9/18/98 which showed a girl in a greenish-brown wedding dress. I see a beautiful full-bodied rose not yet opened, with intertwining branches growing out of it.

---

<sup>6</sup> Quantum Gravity Research, ‘Emergence Theory’, *A Theory of Pixelated Spacetime and of Reality as a Quasicrystalline Point Space Projected From the E8 Crystal*, as at 27 Nov, 2016. [www.quantumgravityresearch.org/emergence-theory-overview#](http://www.quantumgravityresearch.org/emergence-theory-overview#)

<sup>7</sup> Yeats, William Butler, *The European*, ed. Alexander Norman Jeffares, Monaco, Princess Grace Irish Library, 1989, p. 287.

<sup>8</sup> Jung, C.G., *Dreams, essays from The Collected Works*. Princeton University Press, 1974, p.78.

Unscrambling the symbols in this dream, the *greenish-brown wedding dress* characterized the earth being wedded to geology. The *intertwining branches* represent the four mentors and their entwined sciences:

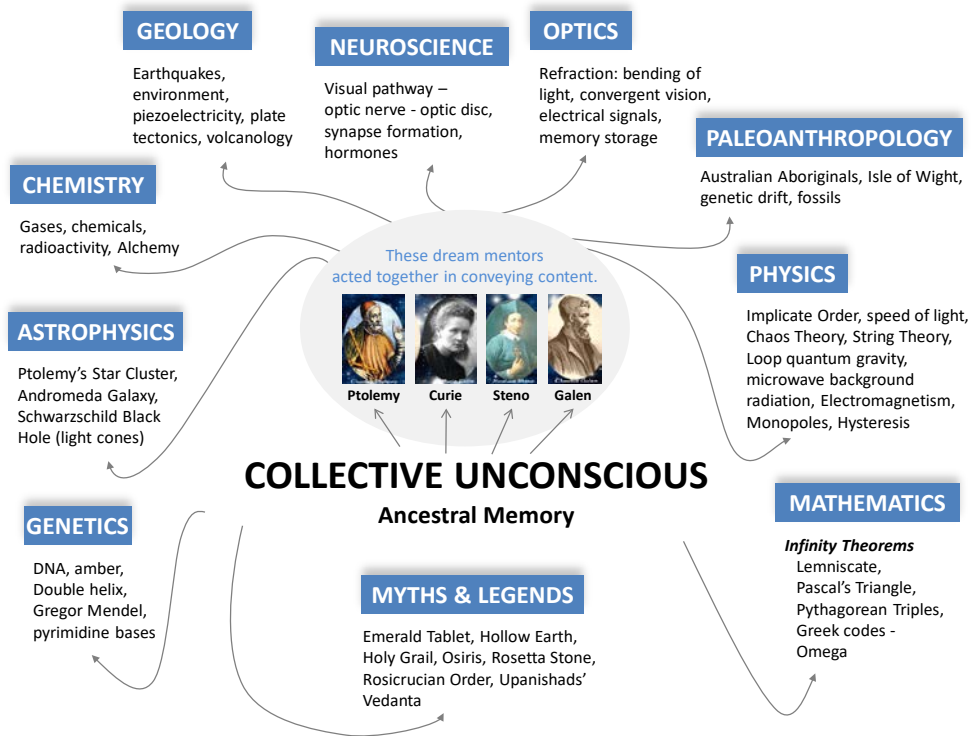
Marie Curie–Chemistry, Physics

Claudius Galen–Vision

Claudius Ptolemy–Astronomy

Nicolaus Steno–Geology

The *full-bodied rose* of the dream is now evident in the following Collective Unconscious Ancestral Memory chart.



Extensive study of these symbols revealed that seemingly random fragments became nonrandom patterns in replication and connectivity. Physical events corresponding to the continuous flow of dream data occurred for more than twenty



years. Given that my scientific background is limited to a course in zoology, I propose that the dreams were a manifestation of an *ancestral memory erg grounded in science* and evolved to spirit, in the form of the collective unconscious, a cosmological “One Mind.” Further, might the collective unconscious be present in all states of consciousness: waking, dreaming, and post-existence?

### CLAUDIUS GALEN

The theories of revered second-century Greek physician, and philosopher, Claudius Galen, dominated European medicine for 1,500 years. His quest to discover the ancient mystery of cerebral or psychic pneuma presaged today’s discussions of consciousness among physicists. Galen theorized a direct path of light rays to the optic nerve, and postulated that the action of psychic pneuma and sunlight on the air transforms into an “instrument of the soul” residing in the brain.

The year 1992 heralded a proliferation of dreams symbolizing visual, cortical and cognitive referents which introduced Galen’s (c. 130–201) pneumatic doctrine of vision<sup>[9]</sup>,<sup>[10]</sup>. The volume and variety of disordered fragments hinted at an indefinable purpose prompting deeper investigation of the experience.

By 1994, intuitive logic and research began to focus on visual, emotional and cortical pathways in the brain concluding with premises stemming from neuroscientific and spiritual insights.<sup>[11]</sup> In 2005, cutting-edge discoveries in light and brain research revitalized my two decades of dream research leading to a re-examination of the effect of light on the brain.

It began with a dream image (11/11/94) of a key ring with five keys with a message that the same key fit all six apartments, but no one knows it. There are five keys but six apartments.

The metaphor of the keys represented the five senses, echoing Galen’s theory that one cerebral pneuma acts for each sense organ. A day later, a dream message asserted that *the optic nerve was a breakthrough for mankind*.

The following excerpts from my paper, “A Scientific Inquiry: Galen’s Optics in Dreams of Vision, Light & Pre-Natal Memory”<sup>[12]</sup> summarize various dream

---

<sup>9</sup> *Galen on the Usefulness of the Parts of the Body* vol.1, trans., intro. and comm. Margaret Tallmadge May, Cornell University Press, Ithaca, N.Y. 1968, pp. 392-93, 399-401, 418-19.

<sup>10</sup> *Ptolemy’s Theory of Visual Perception*, trans., intro. and comm. A. Mark Smith, Philadelphia: American Philosophical Society 86 (2), 1996, pp.20-29.

<sup>11</sup> Gardiner, Judy B., *A Dream Odyssey of Visual–Emotional–Cortical Connections*, Unpublished study, Library of Congress, 1997.

<sup>12</sup> Gardiner, Judy B., ‘A Scientific Inquiry: Galen’s Optics In Dreams Of Vision, Light & Pre-Natal Memory’, *JednakKsiazki*, Nr.4, 2015, pp. 191-212.

connections found in the fields of optics and neuroscience research.

“This inquiry rests on the concept that Galen’s cerebral pneuma is today’s basis for consciousness which flows through a collective, universal mind and is the arbiter of all personal and universal energies.

(...) Under the nocturnal cover of dreams and their symbols slept truths that surpass reason and thought. Light appearing as sunlight, yet hidden, illuminated its speed, bending, and refraction. The symbolic *X* (chiasm), the *optic nerve key ring* (sixth sense) the *old disc–CD player* (optic disc), repeating clues pointing to ‘*something under*’ (hypothalamus) plus *funnels, recessed lighting, and cones led to that which is unseen* – the infundibular recess.”

Arriving in November 1997, not in a dream, but in the pneuma was this communiqué:

*“A SINGLE BURST OF LIGHT!*

*The refraction of light traveling through the fibers of the optic nerve 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 nerve.”*

Historic opinion juxtaposed with research led to this hypothesis:

“The introduction of photons of light in the optic nerve fibers may stimulate electrical signals that rotate the optic disc aka the *blind spot*, momentarily opening the visual field where prenatal memories may be activated.”

Full explication of the above mentioned paper [<sup>13</sup>] provides linkage of *the Adrenal Gland–the HPA Axis–the Third Ventricle* suggesting a synaptic function via retinal projections to the central nervous system, and the adrenal gland, via HPA axis pathways.

## QUANTUM COGNITION, THE HUMAN MENTAL LEXICON

Science writer Lisa Zyga observed, “The classical, intuitive view is that every thought,

---

cwf.ug.edu.pl/ojs/index.php/JednakKsiazki/article/view/281/186

<sup>13</sup> Gardiner, ‘A Scientific Inquiry: Galen’s Optics, pp. 191-212

or ‘cognitive variable’ that we’ve ever had can be assigned a specific, well-defined value at all times of our lives. But psychologists are challenging that view by applying quantum probability theory to how memories change over time in our brains.”<sup>[14]</sup>

Zyga has also suggested, “In trying to understand these connections, scientists visualize a map of links among words called the mental lexicon that shows how words in a vocabulary are interconnected through other words...Does word association spread like a wave through a fixed network, weakening with conceptual distance, as suggested by the ‘Spreading Activation’ model?”<sup>[15]</sup>

### VISUAL ASSOCIATIVE RECOGNITION MEMORY

The act of dreaming a symbol, and then observing it in physical reality, stimulates consciousness and a broadening of memory through cross-connections. The faculty of conscious awareness and inquisitive thinking were instrumental in validating dream content and clarifying its circuitry to arrive at new insights.

In connecting thoughts and images, we intuitively practice recognition memory, which emerges from entangled quantum states of mind. An aspect of this long-term study demonstrates how the cue word *Mother* persistently activated the entire associative structure of geologically based dreams. Similarly, a surge of cue words shaped the Galen study on vision, light and memory with symbolic repetition of *visual, cortical and cognitive components*.

From material physics to dreaming consciousness, it appears that

“quantum systems—atomic spins, perhaps are being driven by oscillating electromagnetic fields(...) ‘Neural network’ models of associative memory were developed originally in conjunction with studies of the properties of spin glasses, with different kinds of couplings between the spins. It seems likely that this deep and subtle field of research will continue to generate new concepts of far-reaching impact.”<sup>[16]</sup>

The Visual Associative Recognition Memory chart shown below summarizes the steps involved in this dream translation process.

---

<sup>14</sup> Zyga, Lisa, ‘In quantum theory of cognition, memories are created by the act of remembering’, March 17, 2014. [phys.org/news/2014-03-quantum-theory-cognition-memories.html](http://phys.org/news/2014-03-quantum-theory-cognition-memories.html)

<sup>15</sup> Zyga, Lisa, ‘Scientists Model Words as Entangled Quantum States in our Minds’, 2009. [www.physorg.com/news154180635.html](http://www.physorg.com/news154180635.html)

<sup>16</sup> *Condensed-Matter and Materials Physics: Basic Research for Tomorrow's Technology*, Ch 4, ‘Nonequilibrium Physics’, 1999, pp.168,181. [www.nap.edu/read/6407/chapter/7](http://www.nap.edu/read/6407/chapter/7)

## VISUAL ASSOCIATIVE RECOGNITION MEMORY

- Visual memory stores cue words and images
- Recognition associates new with previous cues
- Memory network retrieves previous cues automatically encoding them when activated by a corresponding word or image
- Entangled state occurs when two words or images become associated within a new context
- Cue words or images organize into non-separable entities or themes simultaneously activating the entire associative structure
- Memory forms an interrelated web of relationships

Copyright ©2014 Judy B. Gardiner

### RETROCAUSALITY TIME LOOPS

The time elapsed during a dream experience, the breadth or expansion of awareness, and the depth of arcane science in areas unknown to this author, exhibit possible retrocausal occurrences. Consider dreams with their many details as entangled particles. A *cracked toenail* in a dream may focus on one detail or particle—not mentioning a volcanic eruption.<sup>[17]</sup> Once decoded and researched, the volcanic eruption of Krakatoa in 1883 is discovered, when two particles or parts of the dream were entangled, i.e., the *cracked toenail*, and another part (Krakatoa) unknown at the time to the dreamer.

This may be described as retrocognition in dreams or retrocausality in physics, in that a volcanic eruption had occurred more than 100 years ago, but was dreamt about in the present. This resonates with quantum theory, in that entangled particles travel in both *space* and *time*—within which exists consciousness, or what Galen referred to as cerebral pneuma.

---

<sup>17</sup> Gardiner, Judy B., *Lavender: An Entwined Adventure in Science & Spirit*, BookSurge Publishing, July 28, 2011, p. 413.

[Emergence Theory] “views spacetime in a way that builds on Einstein’s spacetime model, in which the future and past exist simultaneously in one geometric object. We view this object as a system in which all frames of spacetime interact with all other frames all the time. In other words, there is a constant, dynamic, causality loop relationship between all moments in time, where the past influences the future and the future influences the past.” [18]

Following is one transpersonal and one personal dream experience that reflect the backward-and-forward question of spacetime and information processing.

#### CORUNDUM IN A CONUNDRUM: A QUANTUM PARADIGM:

Corundum  $Al_2O_3$ —Canadian Shield—Precambrian Rock—Relic Particles  
Stream of consciousness connects mind and matter, illustrating a geological dream sequence from the present to an actual finding from the deep past.

An early dream (4/13/94) messaged that *corundum meant a “new order or paradigm.”* Corundum, an aluminum oxide, indirectly revealed a puzzling theme. It was the first mineral among many to teach the nomenclature of the transpersonal variety of dream experience. That was its primary function, but as I would discover, not its only one. The similarly spelled and pronounced conundrum was a riddle with a pun in its answer, but the word in the dream was clearly corundum.

An actual conundrum was evidenced in thousands of dream fragments, in which corundum was a mere particle, but when connected to a blizzard of other particles, it led to a quantum paradigm, a new order of dreaming-waking consciousness.

In a dream five years later, *a chemist upstairs redelivered corundum—this time identified by chemical formula:  $Al_2O_3$ .*

#### Transpersonal Dream (Present to Deep Past)

Dream (1999): *I explain to someone that certain rocks attract the rainwater, which has acid in it, and how the CFCs in the rain are attracted to hydrocarbons—carboniferous rocks.*

Research: “Hydrocarbon gases have been found in deep rocks and ground waters throughout the Canadian Shield. Geologically they are Precambrian rocks which are billions of years old. The gases usually trapped in fracture systems throughout the rock are released when mine drilling penetrates their ancient layering. In recent years, Earth scientists have discovered that life on Earth extends far deeper

---

<sup>18</sup> Quantum Gravity Research, ‘Emergence Theory’.  
[www.quantumgravityresearch.org/emergence-theory-overview](http://www.quantumgravityresearch.org/emergence-theory-overview)

than ever thought possible. Evidence of these gases may be similar to those that may have played a part in the formation of the earliest life on the planet.”<sup>[19]</sup>

## A KEY TO THE GEOLOGIC PAST

### *A piece of Africa attached to Newfoundland?*

Information processing does not always move forward in time. This chronology begins in the mind of the dreamer in the present (1999), moves into the past (250 mya) and, into the future as evidenced in precognitive dreams ranging from the minutiae of geologic symbols to persons, places, events, etc.

Multiple dream cues, e.g. *Newfoundland, Africa, shield, diamond, marabou and Tanzania*, directed this author to the Canadian Shield, a large geological area of exposed Precambrian rock.<sup>[20]</sup> Analogous dreams motivated a trip to the [Avalon](#) and [Burin Peninsulas](#) on the eastern part of Newfoundland, an ancient part of Northern Africa about 250 million years old.

## RELIC PARTICLES

Antony Valentini observed:

“It is suggested that 'non-quantum' or nonequilibrium matter might exist today in the form of relic particles from the early universe. We describe how such matter could be detected and put to practical use. Nonequilibrium matter could be used to send instantaneous signals, to violate the uncertainty principle...Experiments are under way searching for cosmological dark matter, which is often assumed to be made of relic particles from early times. If such particles are found, they or their decay products could be tested to see if they obey the Born rule  $\rho = \psi \psi^\dagger$ .”<sup>[21]</sup>

Precambrian rock in the Avalon Peninsula, a possible relic?

The Precambrian is the earliest period of Earth’s history<sup>[22]</sup>, suggesting that a large area of Precambrian rock may contain relic particles. A plausible history of the Precambrian indicates that time is subdivided into two vast eons—the Archean and the Proterozoic—the latter estimated to have begun 2.5 billion years ago.

---

<sup>19</sup> Lollar, B. Sherwood, Westgate, T., Ward, J., Slater, G.F and Lacrampe-Couloume, G. ‘Abiogenic formation of alkanes in the Earth’s crust as a minor source for global hydrocarbon reservoirs’, *Nature*, Vol. 416:522-524 (2002) bsl@quartz.geology.utoronto.ca

<sup>20</sup> [en.wikipedia.org/wiki/Geography\\_of\\_Newfoundland\\_and\\_Labrador](http://en.wikipedia.org/wiki/Geography_of_Newfoundland_and_Labrador), as at 1999.

<sup>21</sup> Valentini, Antony, *Subquantum Information and Computation*, Cornell Univ. Library, 12 Apr 2002. [arxiv.org/abs/quant-ph/0203049](http://arxiv.org/abs/quant-ph/0203049)

<sup>22</sup> [en.wikipedia.org/wiki/Geography\\_of\\_Newfoundland\\_and\\_Labrador](http://en.wikipedia.org/wiki/Geography_of_Newfoundland_and_Labrador), as at 1999.

~~~~~

Emerging theories apply quantum physics principles to psychology. In this study of geologic events in time and space, powerful analogs between human psychology and geophysics suggest cumulative memory.

## HUMAN & EARTH MEMORY

### Small Events – Large Events

#### *Behavioral Psychology – Transpersonal to personal dreaming*

Guthrie's law of contiguity is based on human behavior and stimulus-response associations. The law of contiguity may also describe repeatable patterns of geologic history pointing to activity within the Earth. *Movements are small stimulus-response combinations that create an action.* A learned behavior is a series of movements. We don't learn complete behaviors. If Mother Earth's safety is threatened, her stability compromised, she may remember the initial movement—and revolt. This is Mother Earth's learned behavior. Geologic reactions in earth behavior suggest an iteration of human behavior and panpsychism, the view that the Universe itself is an organism that possesses a mind.

Bohm observed, "It is implied that (...) a rudimentary consciousness is present even at the level of particle physics."

#### *Earthquake Dynamics*

One interdisciplinary research topic—stick-slip friction plus fracture—refers to earthquake dynamics. Physicists and seismologists have recently discovered that models of earthquake faults consisting of elastically coupled stick-slip slider blocks are deterministically chaotic systems that exhibit some of the characteristic behavior of actual faults. The qualitative picture that they provide, in which *large events occur intermittently as cascades of small events*, is an intriguing caricature of many kinds of self-organized phenomena that might prove to be useful in seismology.<sup>[23]</sup>

---

<sup>23</sup> Condensed-Matter and Materials Physics: Basic Research for Tomorrow's Technology, Ch: 4 Nonequilibrium Physics, 1999, p.186. <https://www.nap.edu/read/6407/chapter/7>

*Earth's Magnetic Memory*

Hysteresis ((3/23/97 dream) describes the dependence of the state of a system on its history, and the basis of memory and residual magnetism that retains a record of the [earth's magnetic field](#). If a given input alternately increases and decreases, the output tends to form a loop. Loops may also result from a dynamic lag between input and output. Magnetic hysteresis loops, being mainly *rate-independent*, make possible a durable memory.

Remanence or remanent magnetization or residual magnetism is the magnetization left in a ferromagnetic material such as iron, after an external magnetic field is removed. It is also the measure of that magnetization. Colloquially, when a magnet is "magnetized," it has remanence. Remanence in magnetic storage devices is used as a source of information on the past Earth's magnetic field in paleomagnetism.<sup>[24]</sup>

## SUMMARY: Corundum in a Conundrum

Corundum  $Al_2O_3$ —Canadian Shield—Precambrian Rock—Relic Particles

This virtual *conundrum*—a riddle with a pun in its answer—led to more research, and the following inquiries:

- Might corundum be found in ancient Precambrian rock in the Canadian Shield; specifically, the Avalon and Burin Peninsulas?
- If particles of corundum were found and analyzed in igneous rock, would they contain magnetic remanence?

Corundum, a crystalline form of aluminum oxide ( $Al_2O_3$ ), was the model underlying the *conundrum* of quantum dreams. As a rock-forming mineral, corundum requires only its base materials, aluminum and oxygen, to come into contact with heat and pressure in sufficient amounts. When an igneous rock develops from cooling magma, crystals of corundum may form inside. As the Canadian Shield is a large geological area of exposed Precambrian rock, paleomagnetic data measured from Precambrian rocks are fundamental in deciphering the early history of our planet. This may assist in the search for relic particles.

Personal Dream – Past to Present  
Prenatal Consciousness

---

<sup>24</sup> en.wikipedia.org/wiki/Remanence as at 11 Jan. 2017.



(1996) Dream entitled *Yip Yip Yaphank*

(1940) Song my father sang in the 1940s; *Oh How I Hate To Get Up in the Morning* was the lead song in *Yip, Yip, Yaphank*, a 1918 Broadway play. I had no waking knowledge of this play.

This dream described the choreography and performance of the dance number in a 1918 New York Times theatrical review in uncanny detail. Had the illumination of an original memory matrix in the amygdala retrieved a current life memory (the song) and encoded a pre-birth event (the Broadway play). Consolidation of the remembered song and an unremembered play is notable. Dream images symbolizing a conscious waking state paired with the song: an *alarm clock* (circadian clock), a *computer* (neural processing), and a *shower cap* (worn upon waking).

Neurobiologists contend that the strength of memory is controlled by the number of cells in the auditory cortex that process a sound.<sup>[25]</sup> The *Yip Yip Yaphank* dream may conjure an auditory memory of a song, referred backwards in time. The theory of transsaccadic memory within the conceptual framework for object perception contains four levels of representation, one being an abstract long-term recognition network,<sup>[26]</sup> which may apply to prenatal memory.<sup>[27]</sup>

## COMPLEX SYSTEMS THEORY

Basic principles of systems thinking explore complex relationships between human beings and technology, to determine how humans develop meaningful and satisfying roles, and interact with their mechanical and electronic counterparts.

Learning about cybernetics and the word “kybernetes” (**Greek:** “to steer”), as well as the study of mechanisms in machine systems, immediately evoked my experience of a series of anomalistic computer occurrences. For years, Greek and other electronic codes had been inserted on my computer in areas significant to my writings. Such codes triggered associations steering me toward something larger; i.e., the collective unconscious and an ability to access it. The all-encompassing message, a combination of dream content and computer code, was one of “wholeness” related to a range of scientific disciplines. Inserted computer codes or ciphers pointed to dream content

---

<sup>25</sup> Kim, Dongbeom, Pare, Denis, Nair, Satish S. 2013. “Assignment of Model Amygdala Neurons to the Fear Memory Trace Depends on Competitive Synaptic Interactions”. *Journal of Neuroscience* 33 (36): 14354. DOI: 10.1523/JNEUROSCI.2430-13.2013

<sup>26</sup> Irwin, David E., ‘Integrating Information across Saccadic Eye’, *Current Directions in Psychological Science*, 5(3), 1996, pp. 94-100.

<sup>27</sup> Gardiner, Judy B., ‘A Scientific Inquiry’, 2015, pp. 206-8.

initially framed in dreams of **vision and light** and later explicated to include dire concerns about planetary health repeatedly expressed in dreams of **geology**.

The most striking dream (12/3/98) in this category concerned *a breathing pea pod and a split pod*; i.e. a computer workstation. The acronym “POD” stands for point of demarcation, the physical point at which the public network of a telecommunications company ends and the private network of a customer begins.

Like the subsystems and layers built into the operating system of a computer, an open source of communication, I suggest that dreaming consciousness as a biological function may also be a vehicle for communication from the collective unconscious.

Dreams develop a vocabulary for distinguishing different sorts of data. A trait common to data compression and the Dream is that data in both electronic and dream coding is conducted through an invisible and unanticipated method of insertion. The unpredictability of content in dreaming consciousness is analogous in waking consciousness to the sudden insertion of a computer code. This suggests the possibility of a neural signaling system.

#### PHENOMENOLOGY OF CODE—MIND-MATTER—QUALIA<sup>[28]</sup>

*“Either there are two miracles that have to be admired together in the same way, or there are none.”<sup>[29]</sup>*

Computer insertions or ciphers using numbers, fonts, punctuation, bolding, color changes and repeating encoded messages began in 2000 continuing for nearly ten years. Ciphers were inserted in manuscript text while I was typing. This activity continued after the computer and hard drive were replaced in 2004.

A systematic logic in relation to the overarching message of “wholeness” triggered a sense of advancing toward something not yet known. Computer behavior in immediate response to typewritten text evoked a simultaneous mind-matter **action-reaction**, unlike in physics where for every *action*, there is an equal and opposite *reaction*.

This action-reaction loop suggesting integration of mind and matter sparked an instantaneous surge of energy, eliciting an unidentified sense of purpose, feelings of validation, and beatific waves of connectedness to *all that exists*. Such phenomena may be considered a development of *intuitive logic* combined with visual associative

---

<sup>28</sup> Gardiner, Judy B. ‘The Illusion of Fragmentation, the Architecture of Wholeness and the Collective Unconscious’ in Editor(s) *Dreams, Phantasms and Memories*, trans. Wojciech Owczarski and Zofia Ziemann, Gdansk, Wydawnictwo Uniwersytetu Gdanskiego, 2015, pp. 83-85.

<sup>29</sup> Latour, Bruno, *The Pasteurization of France* ‘Irreduction of “the Sciences”’, 4.5.7.2, Harvard University Press, 1993, pp. 226-7.

recognition memory.

*An example of mind–matter simultaneity:*

*The words subduction and zone were inserted separately. Connecting them pointed to a “subduction zone,” a region of the earth’s crust where tectonic plates are moving together and one plate is forced to dive below the other. This was a principal geologic behavior in the study.*

Mind: Thinking of subduction zones in my work

Matter: Observing computer insertion

Enlarged font in caps    S U B D U C T I O N

Decreased font            zone

Here the faculty of consciousness exists in both mind and matter unifying the two. The interval of time between mental and visual is non-existent, thereby suggesting simultaneity. This experience is reminiscent of Bohm’s reference: “Quantum interconnectedness as the intimate interconnection of different systems that are not in spatial contact.”

The simultaneous reaction may correspond to the **hard problem of consciousness**, a key element of the mind-body problem:

“• Mental waves are not generally conscious, they do not have “qualia” unless the matter they act on reacts directly back on them.

• This “two-way” street of direct action-reaction between mental quantum information waves and their matter “beables” is the elan-vital essential signature of life.”<sup>[30]</sup>

An anomalistic sampling:

• A direct transcription: *expanded letters imitating copy and the message of “oneness” in my manuscript:*

if you on Earth can compress many dreams into one why can’t we do the r e v e r s e  
e a n d s p r e a d o u t t h e c l u e s . A f t e r a l l , f r o m o u r v a n t a g e p o i n t t h

---

<sup>30</sup> Sarfatti, Jack,

[www.academia.edu/31066709/Post-](http://www.academia.edu/31066709/Post-Quantum_Physics_Solution_of_the_Consciousness_Hard_Problem_Jack_Sarfatti)

[Quantum\\_Physics\\_Solution\\_of\\_the\\_Consciousness\\_Hard\\_Problem\\_Jack\\_Sarfatti](http://www.academia.edu/31066709/Post-Quantum_Physics_Solution_of_the_Consciousness_Hard_Problem_Jack_Sarfatti), as at 17

February 2017.

ere is no differentiation between neighborhoods . . . . . even continents blur.

- *Bolded words:*

**geology, radioactivity, Word of God, electronic, Grail, Omega, Speed of Light**

- *Color Changes*

(corresponding to words in text)

Blue/Lavender – Illusion

Gray – Past life

Green – Earth

I investigated the origins of codes and noted that “steganography” tracing back to 440 B.C. was first used by the Greek historian, Herodotus. Derived from two Greek words—*steganos*, meaning “covered”; and *graphein*, which means “to write,” or translate into “secret writing.”

Second century thinkers, Galen and Ptolemy, two of the science mentors in the dreams, were of Greek descent. Galen wrote on sense perception, elaborating on vision; Ptolemy studied optical phenomena and the law of refraction. Their life works, commingled in optics, became a guiding force in this inquiry in consciousness and the integration of waking and dreaming. The synchronicity was eye-opening.

- *Greek codes*

Greek characters below replaced “On the Function of the Parts of the Body,” Galen’s description of the structure of the eyes and process of vision.

(6/23/00)

In his treatise  $\chi\phi\ \acute{\theta}\Omega\ \acute{\omega}\ \phi\Upsilon\ \chi\omega\phi\ \tau\acute{\omega}\ \acute{\theta}\Omega\ ;\Upsilon\prime\prime$ ,  $\tau\acute{\omega}\ \acute{\theta}\Omega\ \acute{\upsilon}\tau\acute{\omega}\acute{\upsilon}$ , Galen (129-200 A. D.) presented a detailed anatomical description of ...

(10/17/09) [<sup>3†</sup>]

---

<sup>3†</sup> Gardiner, *Lavender*, 439.

Two sets of the same pair of Greek characters matched those inserted in earlier text, which translated to the phrase “of Theos” (God), followed by the Greek uppercase omega, the last letter of the Greek alphabet—meaning the end, the conclusion, the ultimate limit.

ΘΩ      ΘΩ  
 ΘΩ      ΘΩ

- A dream (9/11/00) of a *WORD-KEY* cryptogram emerged: *It all centers on a hole. “WORD” is code for the key.* This was decoded to: the Word is in the Whole.

Decoded:      Hole = Whole  
 Word =      key to creation =  
 Whole =      the whole of creation.

While researching craters this dream initially decoded to the Word is in the hole. The hole translated to Whole. Word is the key to creation, which decodes to Whole, i.e. the whole of creation.

The following excerpt captures the foregoing experience, representational contents of inner states and external relations between this author and the experiential dream-wake environment being one of intuitive collaboration.

“Qualia are not intrinsic qualities of inner ideas of which their subjects are directly aware, qualities that are necessarily shared by internal duplicates however different their environments may be. Rather, they are representational contents certain inner states possess, contents whose nature is fixed at least in part by certain external relations between individuals and their environments.”<sup>[32]</sup>



This paper is dedicated to Dr. Montague Ullman, my late partner, acclaimed for his

<sup>32</sup> *Stanford Encyclopedia of Philosophy*, 1997, substantive revision, 2015. [plato.stanford.edu/entries/qualia/](http://plato.stanford.edu/entries/qualia/)

work in REM sleep, ESP and pioneering an experiential dream group process. Inspired by Bohm's Implicate Order, Ullman conceived of the relationship of quantum physics to dreaming. Our collaboration led to the discovery of a bidirectional potential for all dreamers: the ability to observe and connect personal concerns and cosmic events.

Frequently contemplating the human need for species connectedness, Ullman wrote: "I regard dreaming consciousness as concerned with the state of our connection to our past and to others in the interest of our survival as a species (Ullman, 1990). Congenial to this, with regard to consciousness generally, is the view of the biologist Barlow (1980) who notes:

"Consciousness is not a property of a brain in isolation but is a property of a brain that is and has been in communication with 'other brains'...I shall suggest that consciousness...is Nature's method of making humans behave cooperatively." [33]



## SUMMARY

The quantum nature of the transpersonal dream as a reflection of David Bohm's Implicate Order suggests:

- A serious inquiry into the development of *intuitive logic* as a bridge to unified consciousness in waking and dreaming.
- A broadening of perspective of the transpersonal or spiritual dream.
- Dreaming consciousness as a vehicle for communication from the collective unconscious.

## CONCLUSION

In discussions of qualia—the phenomenal aspects of our mental lives—"the term 'explanatory gap' infers that there is a gap of coherent meaningful information describing and accounting for qualities and characteristics of consciousness contents (*from birth to close of life*), states, and processes that is explainable to a logical level of understanding." The explanatory gap argument doesn't demonstrate a gap in nature,

---

<sup>33</sup> Ullman, Montague, 'On the Relevance of Quantum Concepts to Dreaming Consciousness', 2005. [siivola.org/monte/papers\\_grouped/uncopyrighted/Dreams/on\\_the\\_relevance\\_of\\_quantum\\_concepts\\_to\\_dreaming\\_consciousness.htm](http://siivola.org/monte/papers_grouped/uncopyrighted/Dreams/on_the_relevance_of_quantum_concepts_to_dreaming_consciousness.htm)

but a gap in our understanding of nature.” *Attributed to Joseph Levine* [34]

By bridging the gap of understanding that our mental functions are a part of the underlying interconnectivity in the universe, we learn that conscious experience is as much a part of the physical world as breathing.

Absent prior institutional learning or advanced study in science, this experience of order hiding within chaos reflects the subject of consciousness from a purely naturalistic point of view—that of *intuitive logic*—which may lead to mathematical logic. Through the language of dreams and visual associative recognition, connections came to me as naturally as dreaming about my own mother—the archetypal Mother Earth. From this perspective, we may “span the finite-infinite divide”<sup>35</sup> in the evolutionary spirit of expanding our worldview.

Copyright ©2016 Judy B. Gardiner

Judy B. Gardiner [judy.cosmicdreaming@gmail.com](mailto:judy.cosmicdreaming@gmail.com)  
<http://www.cosmicdreaming.com>

## REFERENCES

- Bohm, David, ‘Fragmentation and Wholeness’, *The American Academy of Psychoanalysis*, Vol. 17, No. 1, 1973, 18–24.
- Bohm, David, *Wholeness and The Implicate Order*, London, Routledge & Kegan Paul, 1980.
- Bohm, David and Peat, F. David, *Science, Order, and Creativity* 2<sup>nd</sup> ed., London and New York: Routledge, 2000.
- Bohm, David, Hiley, Basil, *The Undivided Universe: An Ontological Interpretation of Quantum Theory* London, Routledge, 1995.
- Deisseroth, Karl, ‘Optogenetics: Controlling the Brain with Light [Extended Version]’, *Scientific American*, 2014.

---

<sup>34</sup> Explanatory Gap of Brain, Mind and...Consciousness [www.explanatorygap.com/Pages/default.aspx](http://www.explanatorygap.com/Pages/default.aspx)  
 Levine, Joseph, ‘Materialism and Qualia: The Explanatory Gap’, *Pacific Philosophical Quarterly*, 1983  
<http://course.sdu.edu.cn/G2S/eWebEditor/uploadfile/20140227112822014.pdf>

<sup>35</sup> Beckert, Wylie, ‘Mathematicians Bridge the Divide Between Infinity and the Physical World’, *Quanta Magazine*, 2016. [www.wired.com/2016/05/mathematicians-bridge-divide-infinity-physical-world/](http://www.wired.com/2016/05/mathematicians-bridge-divide-infinity-physical-world/)

- Galen on the Usefulness of *the Parts of the Body*, trans., intro. and comm. Margaret Tallmadge May, vols: 2, Ithaca, N.Y., Cornell University Press, vol. 1, pp. 399-439, vol. 2, pp. 472, 480, 491-499, 686, 1968.
- Gardiner, Judy B., 'An Entangled Dream Series: Fragmentation, Wholeness And The Collective Unconscious', *Cosmos and History*, vol. 11, no. 2, 2015, 28-46.
- Gardiner, Judy B., 'Consciousness Without Constraint-Open String Theory—One Loose End', *Cosmos and History*, vol.12, no. 2, 2016, pp. 83-98.
- Gardiner, Judy B., 'A Scientific Inquiry: Galen's Optics In Dreams Of Vision, Light & Pre-Natal Memory', *JednakKsiazki*, Nr.4, 2015, pp. 191-212. [cwf.ug.edu.pl/ojs/index.php/JednakKsiazki/article/view/281/186](http://cwf.ug.edu.pl/ojs/index.php/JednakKsiazki/article/view/281/186)
- Helson, Harry, 'The Effects of Direct Stimulation of the Blind-Spot', *The American Journal of Psychology*, vol. 41, No. 3, 1929, 345-397. [www.jstor.org/stable/1414679](http://www.jstor.org/stable/1414679)
- Jaynes, Julian, *The Origin of Consciousness in the Breakdown of the Bicameral Mind*, Houghton Mifflin Co., Boston, 1977.
- Jung, C. G., *Collected Works 8, The Structure of the Psyche*, trans. [Gerhard Adler](#), [R. F.C. Hull](#), 2<sup>nd</sup> ed., Princeton University Press, 1970, para 342.
- Lindberg, David C. *Theories of Vision from Al-Kūndī to Kepler*. Chicago, The University of Chicago Press, 1996.
- Milner, A. David and Goodale, Melvyn A. Goodale, *The Visual Brain in Action*, Oxford Psychology Series No. 27, Oxford University Press, 1995,
- Parsifal-Charles, Nancy, *The Dream. 4,000 Years of Theory and Practice*, Locust Hill Press, 1986, p. 169.
- Poincaré, Henri, 'New Methods of Celestial Mechanics', in (ed.) D. L. Goroff, American Institute of Physics, 1992 ed., New York 1993. Reprinted from Les méthodes nouvelles de la mécanique céleste, Gauthier-Villars, Paris (1892---99).
- Project Gutenberg. [www.self.gutenberg.org/articles/Third\\_ventricle](http://www.self.gutenberg.org/articles/Third_ventricle)
- Reeves, Carole, Taylor, D. 'A history of the optic nerve and its diseases', *Scientific American*, Cambridge Ophthalmological Symposium, Eye 18: 1096–1109. doi:10.1038/sj.eye.6701578, 2004.
- Rosen, Steven M., *Science, Paradox, and the Moebius Principle*, in (ed) Sal Restivo, SUNY Series in Science, Technology, and Society, New York, State University of New York Press, Albany, 1994.
- Sheldrake, Rupert, *Part I: Mind, Memory, and Archetype: Morphic Resonance and the Collective Unconscious, Psychological Perspectives*, 1987, 18(1) 9-25.
- Siegel, Rudolph E. M.D., *Galen on Sense Perception*, Basel: S. Karger, 1970, pp 71-89, 107-113, 116-117, 118-122.



- 
- Stanford Alumni. 'New Light on the Brain', 2010.  
[https://alumni.stanford.edu/get/page/magazine/article/?article\\_id=28287](https://alumni.stanford.edu/get/page/magazine/article/?article_id=28287)
- Ullman, Montague, 'On the Relevance of Quantum Concepts to Dreaming Consciousness', 2005.  
[siivola.org/monte/papers\\_grouped/uncopyrighted/Dreams/on\\_the\\_relevance\\_of\\_quantum\\_concepts\\_to\\_dreaming\\_consciousness.htm](http://siivola.org/monte/papers_grouped/uncopyrighted/Dreams/on_the_relevance_of_quantum_concepts_to_dreaming_consciousness.htm)
- Ullman, Montague, 'The Dream in Search of a New Abode', 2006.  
[siivola.org/monte/papers\\_grouped/copyrighted/Dreams/The\\_Dream\\_-\\_In\\_Search\\_of\\_a\\_New\\_Abode.htm](http://siivola.org/monte/papers_grouped/copyrighted/Dreams/The_Dream_-_In_Search_of_a_New_Abode.htm)
- Ullman, Montague. 'Wholeness and dreaming.' In *Quantum Implications. Essays in honour of David Bohm*, in (ed) B.J. Hiley and F. David Peat, London: Routledge & Kegan Paul, 1987, pp. 386-95.  
[www.siivola.org/monte/papers\\_grouped/copyrighted/Dreams/Wholeness\\_and\\_dreaming.htm](http://www.siivola.org/monte/papers_grouped/copyrighted/Dreams/Wholeness_and_dreaming.htm)
- von Franz, Marie-Louise, *Psyche and Matter*, Shambhala, 2001.
- Zajonc, Arthur. *Catching the Light*. New York: Oxford University Press, 1993.