

Love, Consciousness, Energy, and Matter: The Heart's Vital Role in Coherence and Creation

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ABSTRACT

The focus of this work is the heart's vital role in creation. How the heart, when in a state of unconditional love, generates a coherent field of psychoenergetic connection, which enables mind and spirit to shape reality.

*Of the research I draw on, two are studies of monumental importance—*Margins of Reality* (26) and *Some Science Adventures with Real Magic* (5). These works show, unambiguously, the crucial role unconditional love plays in psychic phenomena, such as intuitive perception and focused intention. Of import, in the latter, William Tiller and his associates (5) document how focused intention can induce change in physical reality, when cocooned in an envelope of heart coherence. This prompts creation of a 'new' dimension of order in the quantum vacuum, and also enables access to its ginormous store of 'free' energy to power the change. Electrophysiological evidence suggests this is a Hyper State of coherence which, in the ECG spectrum, extends as a harmonic series likely, via multiscale entanglement, to the quantum domain.*

To explain the psychoenergetic processes involved in psychic interactions, the principles of classical and quantum holography are used. In essence, attentional/intentional focus, when mediated by sustained heart coherence, creates a phase-conjoined-adaptive-resonant (PCAR) channel of nonlocal communication. Through this channel, holographically encoded information about remote/future events (intuition) is received, or focused intention is transmitted. It is postulated that such will-induced change—psi-formation—occurs by way of oscillatory entrainment. In this process the target's system is frequency-pulled, via sustained intentional focus, to the image of order holographically encoded in the agent's intention. A set of equations delineate the relations among the key factors involved in these psychoenergetic processes of creation. These point to a basic equation expressing the creation relations among the fundamental constituents of reality: Love, Consciousness, Energy, and Matter.

Keywords

Consciousness, Heart coherence, Intuition, Intention, Love, Psi research.

The energetic activity considered in physics is the emotional intensity entertained in life. (Alfred North Whitehead (1934), *Nature and Life*, page 46.)

For in every act of love and will—and in the long run they are both present in each genuine act—we mold ourselves and our world simultaneously. (Rollo May (1969), *Love and Will*, page 283.)

Prologue

In the past half century there has been a veritable revolution in our understanding of the heart's central function in bodily processes (1)—especially the psychophysiological processing of emotions (2). Most “surprising” of all was the discovery of the heart's key role in intuitive perception (3), and the findings in psi research implicating *heart coherence* as the psychoenergetic channel communicating tacit information (4, 5, 6, 7, 8). As we concluded

in *The Coherent Heart*:

... we are only just beginning to understand the fundamental role of a bioenergetic communication system in processing information from sources both within and outside the body to *in-form* physiological function, cognitive processes, emotions, and behavior. In this system, it thus seems clear that the energy field of the heart plays a crucial role (2).¹

Recently, several articles in a “Special Issue” of *Cardiology and Vascular Research* examined the heart’s relationship to consciousness. Among these, were papers on the heart’s axiomatic significance in ancient civilizations (9), its role in synchronizing collective and global consciousness in conjunction with the Earth’s geomagnetic field (10), and the heart’s relationship to the nature of consciousness itself (11). This work aims to contribute to this significant, growing, and timely body of work which highlights the heart’s vital relevance to humanity’s future at this time of looming global peril.

Ervin Laszlo observes that our world stands at the inflection point between two radically different futures: “a path UP to healing and evolution, [or] a path DOWN to crisis and chaos”² (9). The path “UP” he calls ‘The Great Upshift’—the radical *transformation* from an order based on greed, inequality, and environmental degradation, to one in which humanity lives in peace and harmony with itself and with nature. This transformation will require empowerment with *all* human faculties and abilities. These are the powers of Will—intellect, rationality, intention, and organization. But even more critical, the powers of Love—compassion, empathy, creativity, cooperation, and intuitive foresight. This is where the *heart* comes in, for studies show that sustained Will, when cocooned in envelope of *heart coherence* generated by unconditional Love, can induce changes to transform our world.

Introduction

The transition from one paradigm in crisis to a new one is far from a cumulative process. Rather it is a reconstruction [a “scientific revolution”]³ When the transition is complete, the profession will have changed its view of the field, its methods, and its goals. (Thomas S. Kuhn (1970), *The Structure of Scientific Revolutions*, pages 84-85.)

At the turn of this century, William Tiller and his associates published a revolutionary work of monumental importance (5). Based on three decades of pioneering experiments documenting how focused intention can induce change in physical and living systems, both proximate and remote, Tiller’s ground-breaking results are aptly summed up by Murray Gillin (10):

[Tiller’s] experiments show, unambiguously, that humans can tap into this field [the quantum vacuum] through prayer, fasting and meditation, and using ‘human intention’ can access available energy to produce physical change in the selected material objects in D-space [spacetime reality].⁴

¹ Original italics; underling added.

² (12): v.

³ These are Kuhn’s own words, which I have inserted to clarify his meaning in this quote.

⁴ (13): 366.

Tiller distills the study’s conclusions into a general “reaction equation.” Building on Albert Einstein’s equation defining the relationship between Energy and Matter ($E=Mc^2$) and augmenting these concepts with those of Consciousness and Love, Tiller’s equation expresses the *relations of creation* among these four fundamental constituents of reality. Mediating these relations, and, thus, enabling the mind to access higher states of consciousness required to create such will-induced change, Tiller’s research points to a key psychophysiological mechanism: *heart coherence*—viz, the coherent pattern of energy generated by and radiating from the heart during deep states of unconditional love.

In this work, I highlight the heart’s vital role in these relations of creation, as revealed in Tiller’s experiments and other studies of psychic phenomena—particularly intuitive perception and focused intention. For both, maintenance of a coherent, two-way nonlocal channel of energetic communication between the percipient and the object/target of attention/intention is required. Tiller’s experiments and other studies show that such nonlocal communication entails a *sustained* state of heart coherence. Moreover, as the most powerful generator of energetic oscillations in the body, the heart plays a vital role in focused intention—a psychoenergetic process described as *psi*-formation. It is postulated that such will-induced change occurs by way of a process of energetic resonance I call *oscillatory entrainment*. In this process, the target’s system is frequency-pulled, via sustained intentional focus communicated through an envelope of heart coherent energy, to the image of order holographically encoded in the agent’s intention. Following Tiller’s approach, the logic of relations among the basic elements of reality—Love, Consciousness, Energy, and Matter—are expressed as equations to identify the processes involved in the creation process.

We begin with the heart’s role in accessing deeper levels of consciousness, and for this we need to understand how heart coherence can be self-induced by different states of love.

I. Omniscient Love

Traditionally, in mainstream science love is shunned as a serious subject.⁵ Yet, irrespective of how it is referred to, there is little doubt that Love is a fundamental force in Nature.

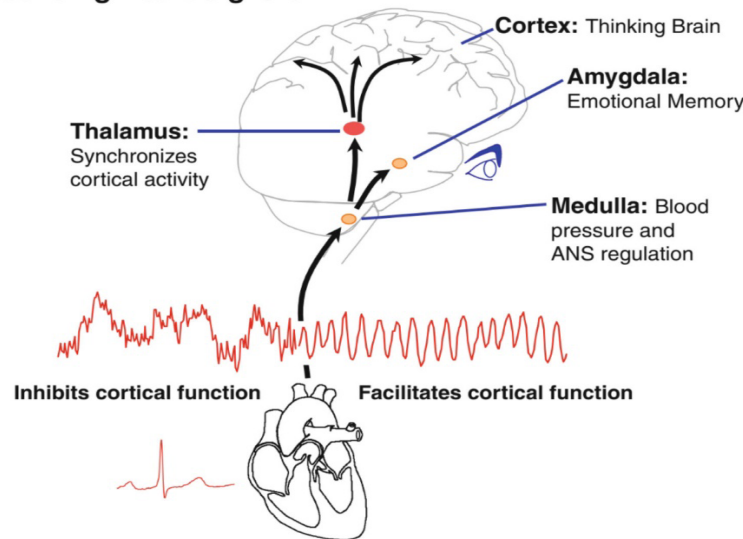
Elsewhere (17, 18), I make a distinction between two fundamental concepts of Love. One is *Omnipotent Love*—the generative bond of bio-socioemotional interdependence which propels and guides the growth and development of our Conscious Awareness as social beings, our participation in social relationships, and in all forms of collective organization. The other, a major focus of this work, is *Omniscient Love*—the ‘all-seeing’ eye of Universal Consciousness.

Omniscient Love is unconditional love in its most self-less, objective mode: “a love that is open to and nonjudgmental about all perceptions, cognitions, and intuitions.”⁶ It is the ‘enlightened’

⁵ There are notable exceptions—e.g. (13, 14, 15, 16).

⁶ (12): 22.

Ascending Heart Signals



Heart activity affects brain function. This diagram illustrates the afferent (ascending) pathways by which neurological signals generated by the heart are transmitted to key centers in the brain. These heart signals not only impact autonomic regulatory centers in the brain (e.g., the medulla), but also cascade up to higher brain centers involved in emotional and cognitive processing, including the thalamus, amygdala, and cortex. Through these pathways, heart activity exerts a continuous impact on numerous aspects of brain function. As shown, when patterns of heart activity are erratic and disordered, such as during emotional stress, the corresponding patterns of neurological signals traveling from the heart to the brain produce an inhibition of higher cognitive and emotional functions. In contrast, the more ordered and stable pattern of the heart's input to the brain during positive emotions has the opposite effect—serving to facilitate cognitive function and reinforcing positive feelings and emotional stability. (Adapted from McCraty et al. (2006), © Institute of HeartMath.)

Figure 1. Heart's Key Role Processing Emotions via Afferent Pathways

state of consciousness sought in the meditative practices entailed in *all* human disciplines—viz, spiritual, artistic, intellectual, therapeutic, corporal, social, and so forth. As the highest state of love, Omniscient Love is present as an inherent potential in all humans. It embodies our ever-present psychoenergetic interconnection with everyone and everything around us—including the Universe itself, and hence, is the access channel to our highest psychic and spiritual proficiencies. In short, Omniscient Love reflects the *totality* of all interactions with our body, mind, and spirit, encompassing those we are consciously aware of and those registered by our unconscious and subconscious perceptual systems.

In what follows, we will see that different modes and levels of love are the psychoenergetic channels to the invisible domain of remote and future potentials. These 'higher' modes of love are marked by self-induced phase transitions in the body's psychophysiological systems which enable access to deeper states of consciousness (19).

Heart Coherence

Based on pioneering research in neurocardiology,⁷ it is now known that the heart is equipped with its own set of neurons (the "little

brain" in the heart—comprised of some 40,000 sensory neurites), and, via the afferent system (Figure 1), plays a key role in processing our emotional experience. The "heart's rhythmic beating patterns not only *reflect* the individual's emotional state, but they also play a direct role in *determining* emotional experience."⁸

A ground-breaking discovery at the Institute of HeartMath, found that when self-induced by adoption of a loving focus the heart entrains the brain, the psychophysiological system, and the other major systems of the body into a state of *system-wide Psychophysiological Coherence* (20) (Figure 2), as Tiller explains:

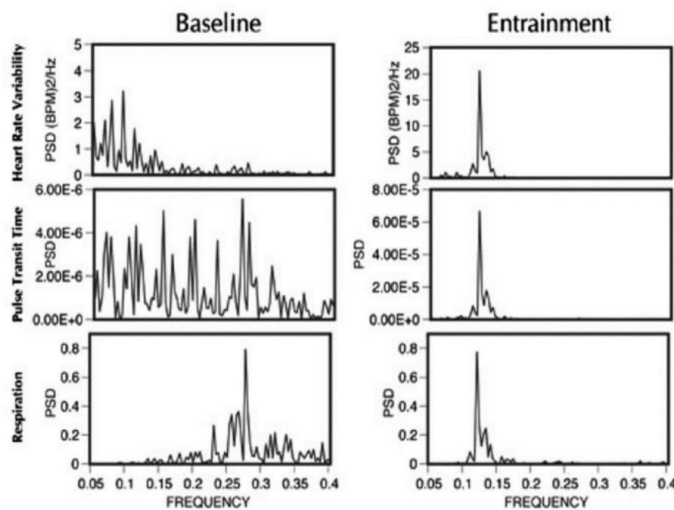
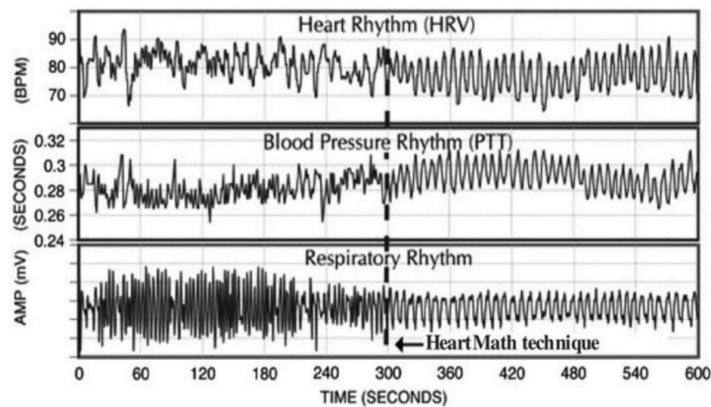
When focusing on the heart with *loving intent*, the human EKG becomes *harmonic* at the baroreflex frequency, [0.12 hertz], where the heart entrains the brain and simultaneously all the other major electrophysiological systems of the body.⁹

Moreover, there is evidence that heart-brain entrainment between non-touching pairs/couples—including with pets—and in groups can be intentionally generated (2, 19), and that certain

⁸ (2): 25; original italics).

⁹ (5): 8-22.

⁷ See the review in (1).



Entrainment During Psychophysiological Coherence. These real-time recordings show an individual's heart rhythm activity (heart rate variability pattern), pulse transit time (a measure of beat-to-beat blood pressure), and respiration rhythms over a 10-min period (**top graph**). At the 300-s mark, the individual used a HeartMath emotion self-regulation technique to activate the *psychophysiological coherence* state, causing these three physiological systems to come into entrainment. The **bottom graphs** show the frequency spectra of the same data on each side of the dotted line in the center of the top graph. Notice the graphs on the right show that all three systems have entrained to the same frequency (~0.12 Hz). (Adapted from Tiller et al. (1996), © Institute of HeartMath).

Figure 2. Self-Induced Shift to System-Wide Coherence

forms of collective rhythmic activity¹⁰ spontaneously induces cardiorespiratory synchronization among *all* individuals. Tiller goes on to make the *all-important* point:

In this *heart entrainment mode* of functioning [heart coherence], body chemical production becomes healthier and *focused intent can psychokinetically influence molecular structures both inside and outside of the body*.¹¹

Given our focus on love's efficacy, it would seem clear that the love-induced shift to *heart coherence is the bioenergetic channel through which intention exerts the effect of will on reality*.

¹⁰ Such as, poetry recitation, praying—including the Buddhist “om” technique (21), group singing, mantra, and chanting (22).

¹¹ (5): 139; italics added.

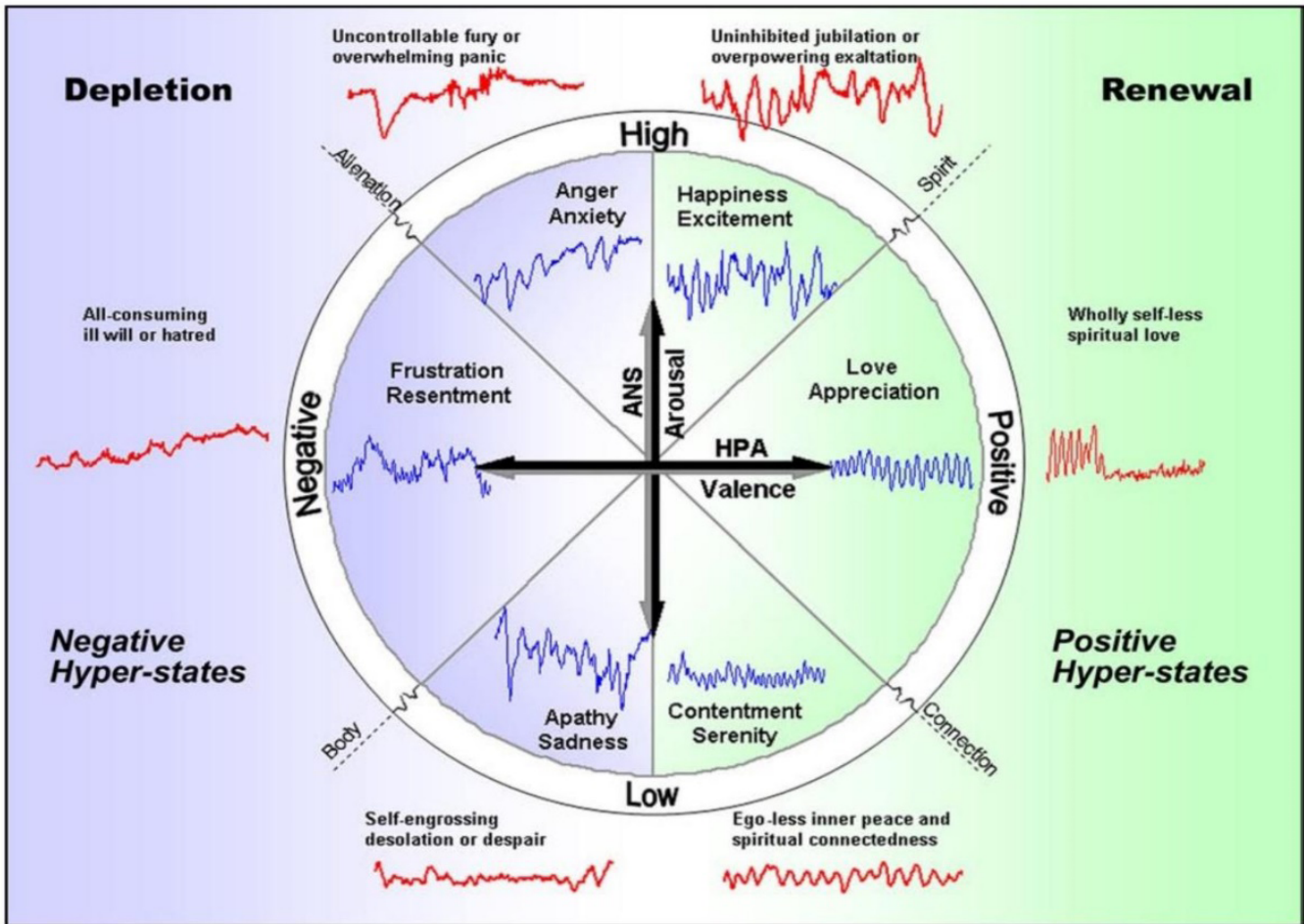
Hyper States of Emotion

In further investigation, HeartMath researchers found different basic emotions were marked by a distinctive HRV signature differentiated along two dimensions—emotional *arousal* and emotional *valence*. Also, that *extreme* emotions were signified by an abrupt HRV phase transition to a *hyper state* “discontinuous” from normal states of daily life. We codified these discoveries in a typology of emotional states in *The Coherent Heart* (see Figure 3).¹²

The discovery of Hyper States¹³ was important because it was clear that along the positive emotion axis, two distinct phase transitions

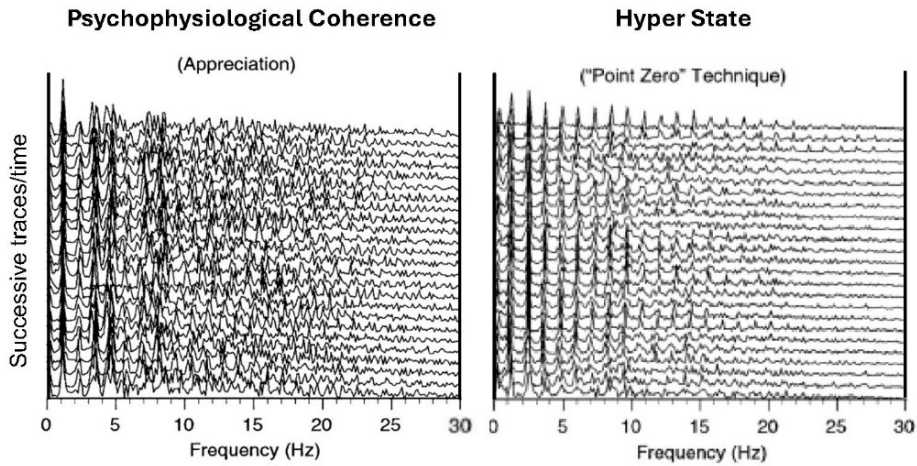
¹² See (2): 18-24 for the details.

¹³ Since there is no mention of these hyper states of emotion in Tiller's work, it appears he was unaware of this discovery.

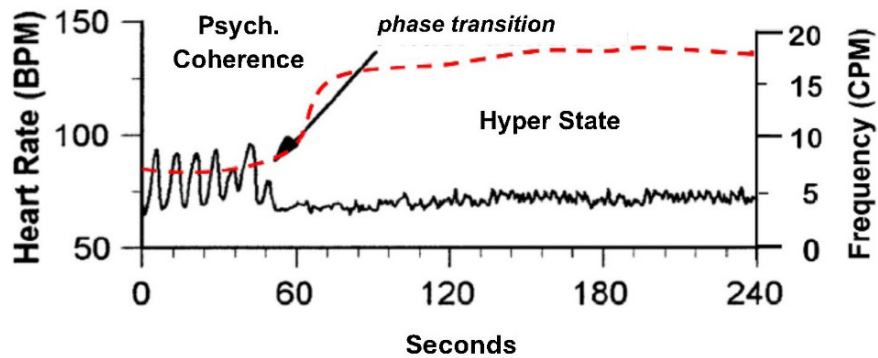


Graphic Depiction of Everyday States and Hyper-States of Psychophysiological Interaction Distinguished by the Typology. Two qualitatively different categories of psychophysiological interaction are depicted—the area within the inner circle represents the range of emotional experience of “normal,” everyday life; the area beyond the outer circle represents psychophysiological hyper-states of extreme emotional experience. The psychophysiological transition from one region to another involves an abrupt phase transition, which is depicted graphically by the white space between the two circles. Two dimensions differentiate the varieties of emotional experience shown; for simplification, the relevant psychological and physiological variables are superimposed on the axis for each dimension. One dimension is the degree of *emotional arousal* (vertical axis, high to low)—known to be covariant with ANS balance. The second dimension is the *valence* of the emotion (horizontal axis, positive or negative)—assumed covariant with the degree of activation of the hypothalamic-pituitary-adrenal (HPA) axis. Different patterns of HRV are predicted from the particular combination of arousal and valence values on the two dimensions. Within the inner circle are six segments, each of which demarcates a range of emotion experienced in everyday life. Typical HRV patterns associated with each emotion are shown. The area beyond the outer circle depicts six hyper-states, in which intense emotional experience drives the activity of physiological systems past normal function into extreme modes. The known and predicted HRV waveform patterns associated with these hyper-states are also shown. The labels “Depletion” and “Renewal,” on the left and right-hand side of the diagram, respectively, highlight the relationship between the valence of feelings and emotions experienced and the psychophysiological consequences for the individual. Negative emotional states can lead to emotional exhaustion and depletion of physiological reserves. By contrast, positive emotional states are associated with increased psychophysiological efficiency and regeneration.

Figure 3. Psychophysiological Typology of Basic Emotions and Hyper States



Waterfall Plots of ECG Spectra: Psych. Coherence & Hyper State

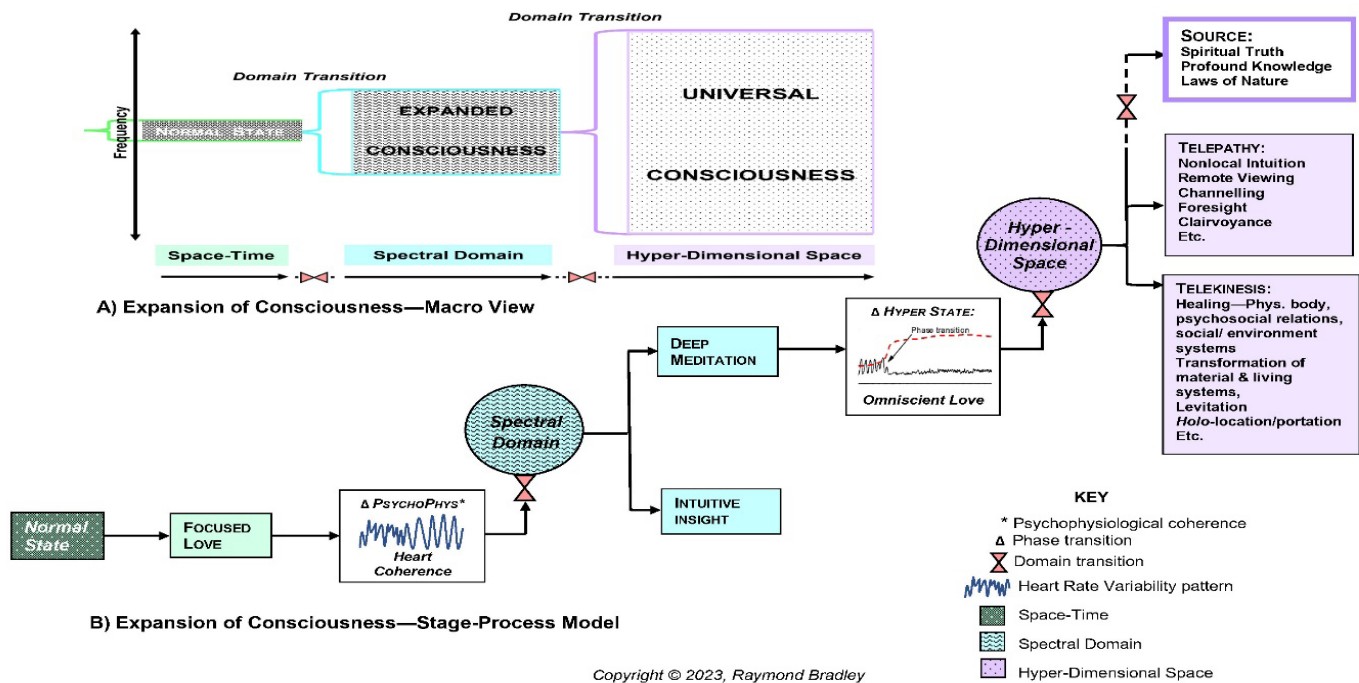


Graph of HRV: Phase Transition from Psych. Coherence to Hyper State

Figure 4. Self-Induced Shift to a Deep Meditative State.

The **bottom graph** shows a typical example of the phase transition measured in a subject self-inducing a shift from Psychophysiological Coherence (recorded while holding a loving feeling of “appreciation”) to a positive emotion hyper-state (HeartMath calls “Emotional Quiescence”), using a “one-pointed” focus meditation technique. Note the abrupt change from the larger-amplitude sine wave–like heart rhythm pattern, signifying the Coherence mode, to the much higher-frequency (red dotted curve: mean Cycles Per Minute) HRV pattern, with a lower amplitude rhythm (black curve: Beats Per Minute), that marks the onset of the Hyper State. The **top graphs** are waterfall plots, displaying the ECG spectra during the experience of Psychophysiological Coherence (left) and during the Hyper State (right). Whereas, for the former, there is little alignment of the standing waves in the traces during Psychophysiological Coherence, a pattern of harmonic progression is seen across the succession of traces recorded in the Hyper State (adapted and redrawn from McCraty et al. (2), Figures 5 & 33: 17 & 54, respectively; reproduced with permission).¹

¹ Each trace in the waterfall plot is the electromagnetic spectrum of the actual electrocardiogram recording of an individual over a 6-second period, covering approximately 2 1/2 minutes for all traces. The traces show the degree of stability in the structure of the waves of electrical activity generated by the heart during this time (see McCraty et al., (2): 53–54).



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Figure 5. Heart Coherence and Shifts to Higher States of Consciousness

could be self-induced and were associated with the experience of successively ‘higher’ states of consciousness. The first is the shift from a normal state to Psychophysiological Coherence, as described above. The second phase shift is accessed by a sustained, *love-held meditation* and entails an intentional shift from Psychophysiological Coherence to a ‘Hyper State’ of heart coherence associated with an even ‘deeper’ state of consciousness (Figure 4).¹⁴

Electrophysiologically, the shift to the Hyper State is signified by a phase transition in heart activity to a higher rhythmic frequency (red dotted curve) but with low amplitude waveforms (black curve). Notably, when viewed in terms of the ECG spectra, the pattern of successive traces during the Hyper State displays a *harmonic progression* of standing waves (Figure 4, Waterfall Plots of ECG Spectra, right graph), signifying a state of *harmonic resonance*.¹⁵ By comparison, the pattern for Psychophysiological Coherence displays little harmonic alignment over the series. Moreover, we found that while some of the other emotions also generated a harmonic series in the ECG spectrum,¹⁶ *none* of these are rooted in ‘selflessness.’ *Only* that for the Hyper State of unconditional love is grounded in selflessness during the experience, and it is this ‘spiritual’ focus that generates a ‘pure’ radiance of resonant energy with infinite reach, which Jahn and Dunne describe as “selfless investment of self.”¹⁷

¹⁴ See (2): 33–34, 37–43) for the details.

¹⁵ I first recognized the significance of this when working on *The Coherent Heart* (2). It became one of the foundations of my quantum holographic theory of nonlocal interaction (see 23, 24, 25).

¹⁶ See (2): 51-54.

¹⁷ (26): 293.

A harmonic series is a pattern of sympathetic resonance among phase-synchronized frequencies across scales of order. Generated during the Hyper State of heart coherence, harmonic resonance creates a two-way channel of communication, likely via multiscale entanglement (per below), to the quantum domain. Moreover, during this state, there is immense information encoding and signal transmission capacity, due to the marked increase in frequency cycles/time—a requisite for the greater bandwidth and amount of information processed during sustained meditative practices of higher states of consciousness.

In short, love is the key element in enabling access to and use of our psychic abilities. Love’s crucial role in facilitating the shift from “normal” to successively higher states of consciousness, can be seen as a series of self-induced *phase transitions* (see Figure 5.A—“Macro View”), shifting from the domain of spacetime to the spectral domain and, ultimately, to the domains of hyper-dimensional space (see “Stage-Process Model” of Figure 5.B). Such development of consciousness is facilitated by Omniscient Love and entails:

1. An *expansion* of consciousness by increasing the access bandwidth to both higher *and* lower frequencies;
2. The ability to *sustain* intentional focus on a specific frequency/bandwidth; and,
3. The ability to *maintain* a state of unconditional love (‘bliss’) continuously, even when performing functions of ‘normal’ day-to-day life.

How this occurs requires describing the psycho-regulatory processes that link the brain’s neural processing with the physics of information communication, as described in a later section.

Synopsis

Two distinct states of heart coherence can be identified. The first, the one that Tiller is referring to, is known as Psychophysiological Coherence (2). The second is the Hyper State of heart coherence, which, as I have done elsewhere (19, 23), I refer to as *Omniscient Love*, since first-hand accounts of the experience characterize it as a ‘higher/deeper’ state of consciousness: love in its most selfless, all-seeing, non-judgmental mode.¹⁸ Thus, it is the *hyper-state of Omniscient Love*, and not Psychophysiological Coherence, that enables access to higher dimensional states of consciousness, and, therefore, constitutes the communication channel for psychic phenomena, as described below.

II. Nonlocal Interaction

Psychoenergetic communication is a well-documented phenomenon within and among all living systems (27) and has been extensively studied and documented in humans for more than a century, initially with card and dice tossing experiments, so-called ‘staring’ studies and so forth, evolving to sophisticated computer-assisted experiments across the full spectrum of human psychic abilities (28). Here we confine the focus to research on intuition and intention.

Nonlocal Intuition

In contrast to the commonly understood cognition-based notion of intuition—involving extrapolations from memory of prior experience, *nonlocal intuition* is the body’s perception of *tacit* information about *remote or future* events (3). Such precognitive perception by the psychophysiological system has been consistently documented in rigorous experiments—including validation in large-scale meta-analyses of hundreds of studies involving millions of trials. The key finding is that individuals can accurately perceive information from a distant or future source, and that this result *cannot* be explained by researcher bias, the different methods used, research artifacts, or by chance (28).

“The Surprising Role of the Heart”¹⁹

Using rigorous experimental protocols and electrophysiological instrumentation, researchers have consistently found that the human autonomic nervous system (ANS) unconsciously responds to randomly selected future *emotional* stimuli (29). In presentiment experiments, which have been repeatedly replicated, using computer generated randomly selected emotionally arousing or calming photographs, Dean Radin found significantly greater change in electrodermal activity about five seconds before an emotional picture was shown to a research subject than before a calm picture (30).

A HeartMath experiment I was involved in augmented Radin’s protocol with electrophysiological measures of both the brain’s and the heart’s response to pre-stimulus information (3, 4). The

¹⁸ See ((2): 33–34, 37–43) for first-person accounts of the experience.

¹⁹ This is the subtitle of our intuition study (3).

study found that not only did *both* the brain and heart receive the pre-stimulus information some 4–5 seconds before a future emotional picture was randomly selected, but also, “surprisingly” and significantly, that the *heart responded* a second or two *before the brain*:

This suggests that the heart is directly coupled to a subtle energetic field of ambient information that surrounds the body which, in turn, is entangled and interacts with the multiplicity of energy fields in which the body is embedded—including that of the quantum vacuum.²⁰

Moreover, there were gender differences pointing to the involvement of *love*, in that the females, when in a self-induced state of heart coherence, displayed a significant difference in the pre-stimulus HRV curves for the Emotional versus Calm pictures, whereas the males did not. These results, showing the heart’s direct involvement in intuitive perception, have been corroborated in subsequent studies (6, 7, 8, 31, 32).

Furthermore, there is evidence of *collective intuition*—viz, shared implicit awareness of remote or future events *jointly* perceived by those in a relationship or by the members of a group or mass aggregation (31, 32, 33). Especially intriguing are the data from the Global Consciousness Project (GCP) which document a pre-stimulus mass consciousness response to *emotionally arousing* global events (34, 11). In commenting on their analysis of 465 world events, Bancel and Nelson point to a collective bioenergetic field inducing “*coherent attention or emotional response*” (35).²¹ This collective dimension of intuitive foresight has been documented in a recent presentiment study by Radin among participants of the social media platform Twitter (36).

The ‘coupling’ of the heart to subtle energies and the quantum domain are consistent with Tiller’s findings, as we will see shortly.

Nonlocal Intention

As for nonlocal intuition, there is incontrovertible evidence from hundreds of rigorous experiments documenting changes in distant/remote targets induced by a willful agent’s intention. Such nonlocal intention has been documented in physical, biological, and human systems (28, 25), and even effects induced by “experienced meditators” on the behavior of subatomic particles (photons) (37). In what follows, the focus is on the role of love, which is powerfully documented in two works of monumental importance.

Jahn and Dunne

In their highly acclaimed book, *Margins of Reality* (26) Robert Jahn and Brenda Dunne report the ground-breaking results of remote viewing (“precognitive remote perception”) and psychokinetic experiments conducted in the 1970’s and 1980’s. Of particular interest, are the psychokinetic studies in which a research subject was tasked to mentally influence the distribution of ¾” polystyrene balls as they trickle downward, under gravity, through a “random

²⁰ (2): 56.

²¹ (35); italics added.

cascade machine.” Reflecting upon what accounted for the small but highly statistically significant nonrandom departures observed, Jahn and Dunne conclude that:

Careful application of scientific knowledge and rigor of method, *within a permeating atmosphere of “love”* in the very general sense ... appears particularly pertinent ... for the realization of the phenomena themselves, for it is precisely through the *bonds of consciousness* established between human operators, or with their technical devices and processes, that the anomalous [nonrandom] data seem to emerge. Thus, the spiritual component participates in a very pragmatic sense: *selfless investment of self can affect physical reality*.²²

Including results from the remote viewing study, the authors condense their conclusions into a basic equation expressing the role of consciousness (Love) as a fundamental organizing force of Nature:

Any name that might be proposed for this organizing capacity of consciousness would inevitably be confounded by alternative connotations. We might with de Broglie, call it “Love, in a very general sense”; with Bergson, “life force”; with theologians “Holy Spirit” or “Divine Mind”; or with the mystics, “Unity” or “Self,” but by any title it encompasses the potential that Teilhard de Chardin envisaged when he wrote:

Someday, after we have mastered the winds, the waves, the tides and gravity, we shall harness for God the energies of love. Then for the second time in the history of the world, man will have discovered fire.

Whatever may be assigned to this chaos-reducing capability of consciousness, if *L* [Love] is its symbol, the process it defines is clearly of the form

[Equation 1]

$$L = - \Delta s,$$

where $-\Delta s$ denotes the decrease in entropy of the relevant system, the increase in its information, the establishment of its reality [order].²³

This equation can be recast in ‘positive’ terms of the *order-increasing* “capability of consciousness” as:

Equation 1.a

$$L = + \Delta s^N,$$

where “N” in superscript means *negentropy*.

William Tiller

Some forty years later, William Tiller and associates published *Some Science Adventures with Real Magic* (5)—a truly revolutionary work. The study reports on a 35-year series of experiments documenting the effect of “lovingly held” intention imprinted into simple electrical devices (Intention Imprinted Electrical Devices—IIEDs)²⁴ on various proximate and remote

²² (26): 293; italics and bold font added.

²³ (26): 339-340; italics and bold font added.

²⁴ The intention template statement is ‘imprinted’ into the IIED through a loving-held focused meditation process by Tiller and his

targets²⁵ (some as far as 6,000 miles away), and concludes that:

The experimental summary of findings ... indicate to us that there is a profound connectivity between any one part of nature and another. *Every one of us can influence all biological life forms around us via our biofield emissions and the information that they carry whether we consciously intend to or not*.²⁶

A New Physics—Tiller’s “Real Magic”

In his assessment of the significance of Tiller’s work, Murray Gillin writes that “[T]he importance of Tiller’s research [is] to open up a type of ontology that sees consciousness and matter as two *complementary* aspects of one reality [which enables a] fuller understanding of human intention... .”²⁷ Thus, in Tiller’s model (Figure 6), Consciousness exists outside physical reality as a series of higher dimensions—Spirit, Mind, and Emotion. Together, they constitute the means by which intention exerts its will on Matter.

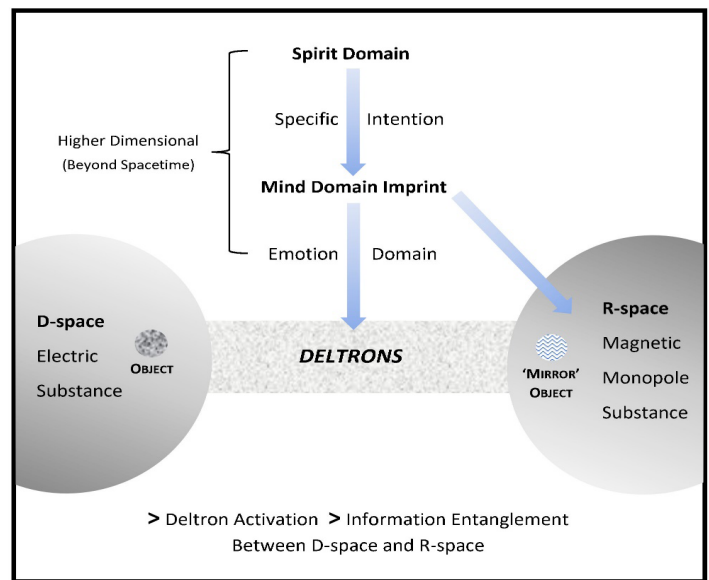


Figure 6. Tiller’s Model Showing How Intention Activates Deltronic Coupling to Induce Change in an Object in D-space (Physical Reality)

“Human consciousness, and specifically human intention, can activate [the] deltron population, and thereby modulate [the] electric/magnetic monopole substance coupling, so as to alter the specifics of the EM [electromagnetic] gauge symmetry state of the [D-]space wherein an object rests, and thus the experimentally measurable properties of that aspect.”¹

¹ Adapted and redrawn from Tiller (5), Figure 3.5, p. 112).

two associates. See (5) for the details.

²⁵ Such as, room temperature of a controlled space, the pH behavior of water, and fruit fly larvae maturation.

²⁶ (5): 92; italics added.

²⁷ (13): 236-237; italics added.

Tiller's Model

Tiller divides the reality of conventional physics into two domains. One is **D-space**, the 'direct' physical space of spacetime comprised of 'coarse,' particulate substances constrained to subluminal velocities ($v < c$). The other is its 'reciprocal,' **R-space**, the "mirror" of D-space—a nonmaterial domain of 'fine' information wave patterns traveling at superluminal speeds ($v > c$) in the physical vacuum. The two spaces are conjoined by a "postulated" substance "from the domain of emotion" called *deltrons*, and link, via "information entanglement," the respective electric and magnetic potentials (monopoles) of the two spaces.²⁸ Deltrons are activated by focused intention which, when sustained/repeated, ultimately transforms 'ordinary' space into a 'conditioned' space in which the intention imprint is active as a quasi-'permanent' feature. "When this happens," Gillin points out, "*the laws of physics in that conditioned space no longer operate ... [and] a new [higher gauge] dimension of reality [emerges with] magnetic information wave characteristics [including superluminality].*"²⁹ In this way, focused intention, augmented by the energy it draws from the vacuum, can alter a living system/object targeted in D-space:

Tiller's mathematics and experiments demonstrate the conditioning results from *producing* domains of order in the vacuum! This is not an 'empty' vacuum but contains dense energy potential. In ordinary space, that potential is chaotic and amorphous. But, *in the ordered reciprocal space, a change takes place in which the [higher gauge] symmetry actually changes the state of particles that make up ordinary (physical) reality.* And, since Tiller has shown that the order created in the vacuum is based upon human intent, this shows that *we can actually harness the power of the vacuum through our consciousness.*³⁰

Major Findings

Among Tiller and associate's many important findings, are groundbreaking discoveries that bring us closer to an understanding of how psi phenomena occur. An intriguing one is that the IIED conditioning imprint of intention transfers to local and nonlocal targets (including unintended transfer), and can stay 'active,' without reinforcement, for months. Another is the discovery of a "*new kind of [superluminal] energy*" which is "sensitive" to "[human] subtle energies" and, therefore, can transmit intention to local and nonlocal targets, alike. Accessed from the quantum vacuum, the 'new' energy "*yields a higher thermodynamic free energy per unit volume state*" empowering intention in a way not previously understood.

A further finding involves 'subtle' energies associated with the human *acupuncture meridian system*:

... aspiring humans, through their conscious intent acting on and through their acupuncture/chakra systems into the U(1) level world [our space-time reality], can slow down and perhaps even reverse the degradations of

²⁸ (5): 137.

²⁹ (13): 314-315; italics added.

³⁰ (13): 315-316; italics added.

that world via *lifting themselves and their surroundings* to ever higher EM gauge symmetry [higher dimensional] states!³¹

Finally, is their discovery of change in the hydrogen ion ($\Delta\Psi_H^+$) as a marker of the shift to this 'new' (higher gauge) dimension of reality, wherein a special kind of "*information entanglement*" operates:

A postulated substance, called *deltrons* from the domain of *emotion* (outside of physical reality), exists and has the quality of being able to travel at velocities both above and below c and to interact with substances from both levels of physical reality [viz, that of the "conventional" spacetime world where "everything" travels below c , and that of "the information wave level in the physical vacuum where everything travels at $v > c$."].³²

Synopsis

Tiller's research shows, that when cocooned in the coherent energetic conduit of heart coherence, sustained focused intention creates a conditioned space to generate a will-induced change to reality by prompting the emergence of a 'new' higher dimension of order in the quantum vacuum. This 'higher gauge symmetry state' has properties and potentials that transcend the current laws of physics. Namely: that the intention imprint can remain active in generating the desired change over time; that the wilful agent can access the enormous 'free' potential energy of the vacuum to power the change; and that magnetoelectric wave propagation at superluminal speeds of communication is in effect. According to his model, the stronger the activation of deltrons, the greater the level of information entanglement between R-space and D-space, the more the access to the "free" energy of the vacuum, and, hence, the potential of intention to generate change in a system in physical space.

III. Love— 'The Force of All Creation' ³³

Both from the research on biopsychosocial development and organization—reviewed elsewhere (38), and studies documenting human psychic proficiencies, it is clear that love is a ubiquitous force for order and information transmission in nature. As mentioned at the outset, Tiller makes a giant leap in scientific understanding by codifying love's vital role in consciousness and the creation of order in a general equation.

Tiller's "Reaction Equation"

From their findings and Tiller's explanatory scheme (Figure 6, above), Tiller's group derive a general "reaction equation" postulating the relations among the fundamental constituents of reality—Mass, Energy, and Consciousness (Equation 2)—which "underscores the *importance* of focused intention." In Tiller's scheme, Consciousness is a "biproduct of ... *spirit entering dense matter* ... [Consciousness is] *convertible to either energy or mass.*"³⁴

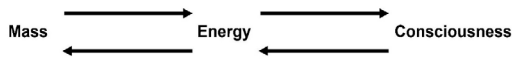
³¹ (5): 255; italics added.

³² (5): 137; italics added.

³³ This is Tiller's poignant phrase.

³⁴ (5): 215; italics added. However, as depicted in their equation, Consciousness must work through Energy to influence/transform Mass/Matter.

Equation 2.³⁵

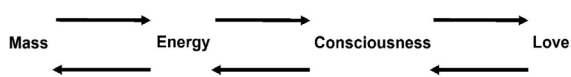


In a later chapter on the implications of their findings for *healing*, Tiller's group arrive at the *same* conclusion on the crucial role of love in the generation of psychoenergetic effects and nonlocal consciousness anomalies that Jahn and Dunne arrived at, with their equation (Equation 1, above):

$$L = - \Delta s$$

But Tiller's group goes significantly further, expanding their reaction equation to include Love:

Equation 3.³⁶



They explain the equation's significance in these terms:

Here, Einstein provided us with the quantitative relationship connecting the first two terms on the left [$E = MC^2$]. We will probably discover the quantitative relationship between the second and third terms sometime in this or the next century. *The last term on the right [Love] is the force of all creation* and we can't even guess how long it will take us to awaken to the quantitative connection between the last two terms. *However, centering one's consciousness within a framework of unconditional love, nurturing, caring, etc., can allow the healing process to unfold from right to left in the above equation even though we do not know the quantitative connections.*³⁷

However, although they depict a reciprocal relationship between each pair of factors in a specific order, wherein Love does *not* have a *direct* effect on Energy or Mass/Matter, many studies find evidence of an *emotional component creating a coherent nonlocal channel of energetic resonance* among these factors (27, 33, 34, 37, 39, 40). This, and other considerations that follow, have prompted my revision of Tiller's equation, as described at the conclusion of this work.

In Tiller's model (Figure 6, above), D-space and R-space are conjoined by deltrons which are activated by focused intention and link, via information entanglement, the respective electric and magnetic potentials of the two spaces, drawing energy from the vacuum to induce change in the target object in D-space. But, as Tiller asks, "... *what is the mechanism for this information transfer? ... Exactly how this important process works [remains] an important goal for science.*"³⁸ Addressing this question, is the purpose of what follows.

³⁵ From (5), Equation #6.1: 215.

³⁶ From (5), Equation #6.4: 230.

³⁷ (5): 230; italics and bold font added.

³⁸ (5): 255; italics added.

IV. Psychoenergetic Processes

In addition to my participation in various studies of heart coherence (2, 3, 4, 6, 8, 41, 42, 43), I have investigated love's key role in nonlocal communication—such as collective identity/consciousness and psychic interactions—and employed the principles of quantum holography to develop a scientific understanding of these phenomena (17, 18, 23, 24, 25, 38, 44, 45, 46, 47, 48, 49). The promise of a quantum holographic approach has long been recognized (50, 51, 52), and is aptly summed up by Edgar Mitchell (53):

Nonlocality and the nonlocal quantum hologram provide the only testable mechanism discovered to date which offers a possible solution to the host of enigmatic observations and data associated with consciousness and such consciousness phenomena.³⁹

In what follows, I describe the psychoenergetic processes by which nonlocal interactions occur and develop a quantum holographic theory describing how focused intention, when cocooned in an envelope of heart coherence, can induce change in macro scale systems—viz, the physical and living systems that comprise our reality. But first, because they are integral to the holographic account that follows, I begin with a distinction between two concepts of consciousness: Universal Consciousness and Conscious Awareness.

Concepts of Consciousness

Universal Consciousness is Knowledge from Source: immutable Truth, and the Laws and Forces which describe how the universe is organized and evolves. In essence, these are the implicit *constants* of nature and spirit which are universally omnipresent and give shape to everything. By contrast, *Conscious Awareness* is the flux of information from internal and external sources, both conscious and unconscious, and includes our bodily sensations, feelings, emotions, and thoughts. This ever-changing stream of information reflects the interplay of all factors, forces and elements involved in creating each moment of individual experience. It *in-forms* our existence and actions within the *dynamics* of an ever-evolving spacetime reality.

While both Universal Consciousness and Conscious Awareness are holographically encoded in the movement of energy, two distinct kinds of holographic processing are involved in neural processing of sensory perception. As described momentarily, one involves the Fourier transform function—Classical Holography (58); the second involves Gabor's elementary function and its unit of measurement (the logon)—Quantum Holography (57). Because the former encodes a *static*, unchanging record, it is postulated that the processes of Classical Holography are the means of preserving and enfolding the *constants* of Universal Consciousness into everything, throughout the entire universe. On the other hand, because the Gabor elementary function involves the processing of an endless stream of moment-by-moment quantized snapshots—logons, the processes of Quantum Holography inform our Conscious Awareness by recording information on the *dynamics* of interactions in the flux of spacetime reality.

³⁹ (53): 299.

Classical and Quantum Holography

Both forms of holography have their origins in the work of Nobel Laureate, Dennis Gabor (57, 58). Holographic organization is a field concept of order in which energetically encoded information about the organization of a system—as a *whole*—is enfolded into the field and distributed, nonlocally, by the movement of energy to all parts and locations. The process occurs in spacetime as energy radiates—scatters and diffracts—from interaction with objects, creating an interference pattern that contains a tacit image encoded (in terms of frequency, amplitude, and phase) in the *spectral domain*, an invisible reality apart from spacetime. The nonlocalized distribution of information makes it possible to obtain a *static image*—a *hologram*—of the system’s global organization from the *information* spectrally encoded in any part or location within the field, as illustrated in Figure 7.

Note that the discussion involves two distinct realms—spacetime reality and the spectral domain—which are related, in that Gabor demonstrated that you can get from one to the other and back

by means of a Fourier transform function (FT), which means it is invertible (58). Hence, a Forward FT ($\hat{f}(k)$) into the spectral domain, and an Inverse FT ($\tilde{f}(x)$) back into spacetime. While seemingly paradoxical, mutually exclusive domains, the domains are *complementary*: viz, while each embodies a different face of reality, they are unified by a specific physical mechanism of translation—the Fourier transform.

These same dimensions, spacetime and frequency, are also the basis of Quantum Holography. Except here, drawing on the mathematics of Heisenberg’s principle of uncertainty, Gabor treats the two as orthogonal coordinates in which measurement precision on one ordinate is obtained at the cost of total *uncertainty* on the other (57). However, when *conjoined*, as conjugate variables, the coordinates create a phase space in which minimum values on both can be mathematically determined (Figure 8.A). The phase space is Gabor’s elementary unit of information, a quantum of information—the *logon*, which defines the *minimum* amounts of energy frequency and space/time required to encode a feature

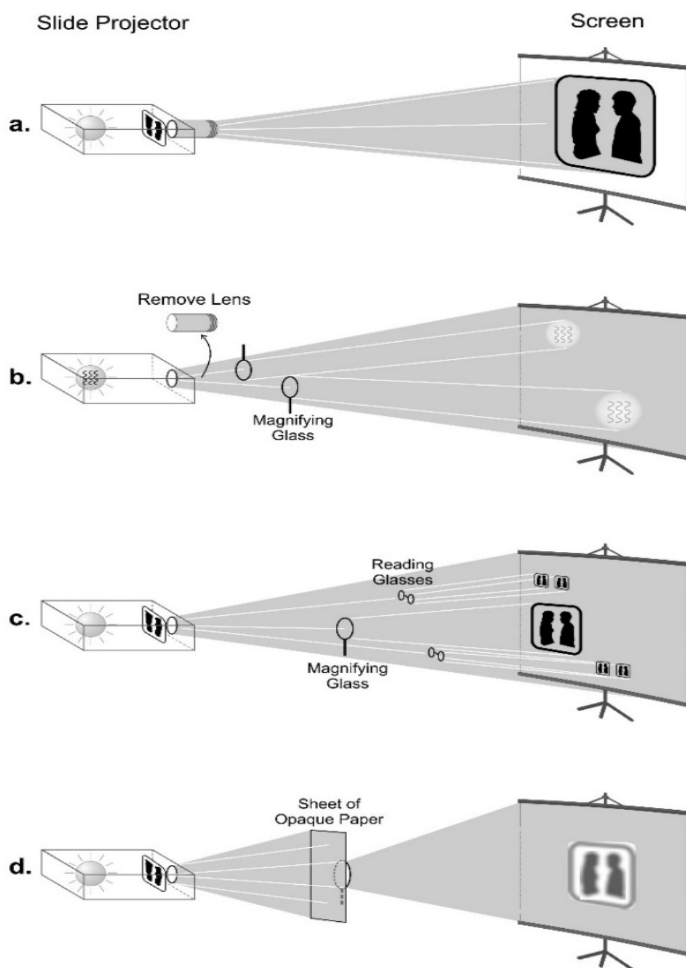


Figure 7. Demonstration of a Holographic Effect

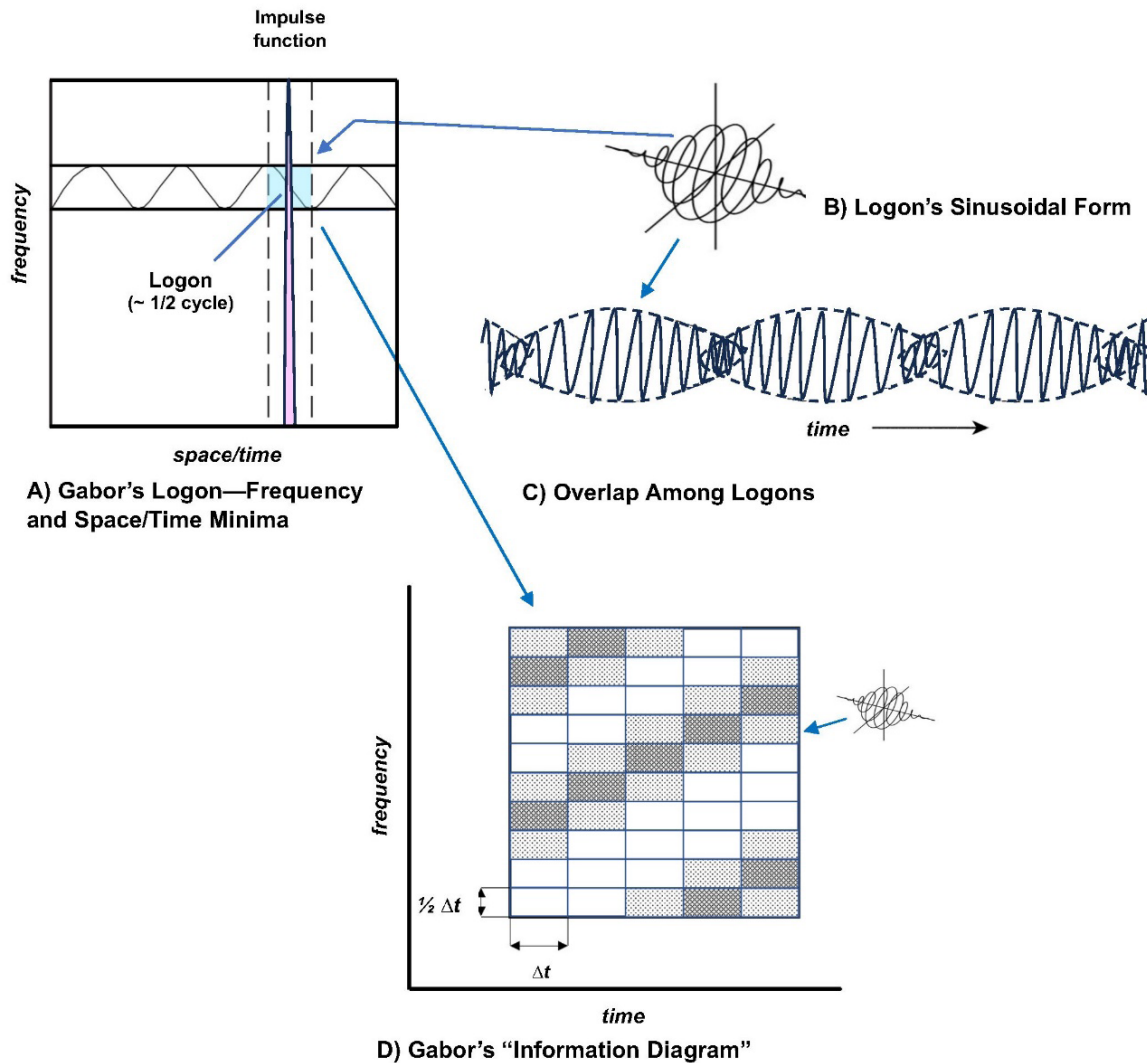
The normal setup for a slide projector (a) is shown first, with the image of a slide projected by the light emitted from the light bulb through (and focused by) the lens onto the screen. In (b) both the lens and the slide are removed, so that a cone of empty “white” light is projected onto the screen—“empty,” in that no image of anything is apparent. However, holding a magnifying glass perpendicular and close to the projector, at the right focal length, reveals an image of the light bulb’s filaments, wherever the magnifying glass is held in the plane of the light cone field projected into the screen. In short, the features of a source object (in this case the light bulb) are encoded as an image everywhere in the energy field emitted from that object. In (c) the slide is reinserted, but without the lens, so that the light passing through the slide appears on the screen as “white” light; no features or image of the slide are visible. However, holding a magnifying glass and/or one or more pairs of reading glasses (each is a lens), an image of the whole slide can be retrieved for each lens, at the appropriate focal length, from *anywhere* within the cone field of the “white” light—demonstrating that an image of the slide is encoded into the light’s energy field. Finally, covering most (~90-95%) of the magnifying glass lens with a sheet of paper, as shown in (d), the slide’s image can still be retrieved from any position in the light cone field—demonstrating the property of information redundancy. The image’s features are fuzzy, due to the reduced energy density storage capacity producing a loss in resolution, yet the object as a whole is still discernible from the smaller amount of light energy passing through the tiny portion of the magnifying glass’s lens not covered by the sheet of paper.

element of a signal for communication with fidelity. Since certainty can be obtained only by minimizing uncertainty on both ordinates, the minimum measurement of the signal in time *and* frequency is given by $Dt Df = \frac{1}{2}$, which defines an *elementary unit of information* (57: 431-437)—approximately a half cycle. In Fourier space, the minimum area is defined by the following Gaussian-modulated complex exponential functions, which is known as the Gabor Elementary Function (see Equation 4).

Equation 4:

$$\phi_{jk}(t) = \exp[-\pi(t-j\Delta t)^2/a^2] \exp[2\pi i k \Delta f (t-j\Delta t)]$$

In Gabor's mathematics, the phase space is modulated by a Gaussian envelope ("windowed"/constrained) to prevent spectral progression to infinity. Viewed in three dimensions, the logon has a sinusoidal form which emerges from its cosine and sine components (Figure 8.B). Finally, communicated as a succession



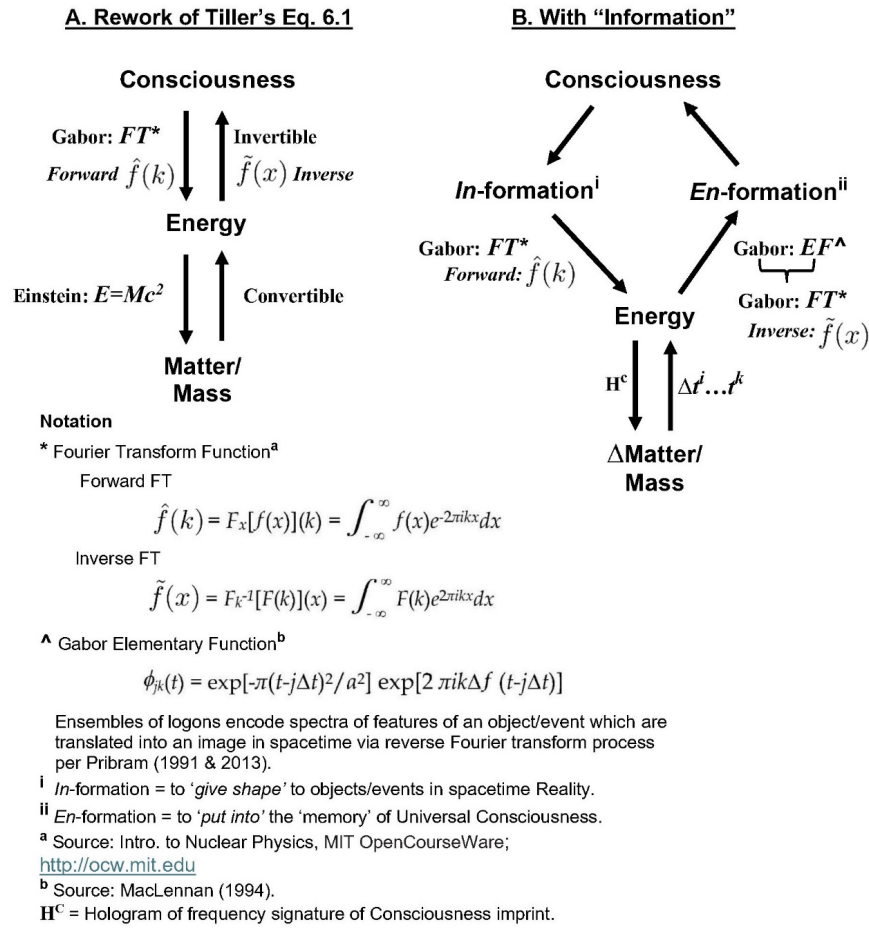
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Figure 8. Basic Features of Gabor's Elementary Unit of Information—the Logon

A) shows the *minimum* amounts of frequency and space/time (shaded rectangle) Gabor mathematically determined was required to encode a signal for communication integrity. He defined this unit as a "quantum" of information and called it a "logon." **B)** shows the logon's 3-dimensional sinusoidal form that emerges from the real (cosine) and imagined (sine) components of the complex Gabor waveform and which is Gaussian modulated. **C)** shows the "overlap" of logons wherein the information from a given logon is spectrally enfolded into adjacent logons. **D)** shows Gabor's "Information Diagram" which illustrates his "expansion" method for grouping combinations of logons to capture the *entire* signal: "any signal can be expanded into elementary signals [logons] in such a way that their representative rectangles cover the whole time-frequency area" (Gabor, 1946: 435-437). Note, how the pattern of shading, diagonally across the cells in the matrix, represents the 'peaks' and 'troughs' morphology of coherent waves of energy.¹

¹ Figures A) and C) adapted from Bradley & Pribram (1998); Figure B) adapted from MacLennan (1994, Figure 10, p. 11)—used with permission; Figure D) adapted from Bradley (2024a).

Equation 5.



Equation 5.A is an elaboration of Tiller's Equation 6.1 using Classical and Quantum Holography, per Gabor (1948 & 1946, respectively). Added, is the *invertible* relationship between Consciousness and Energy. *Arrow down*: Consciousness is spectrally encoded into the movement of Energy by a *Forward* Fourier Transform function (FT) and retrieved, *Arrow up*, as an image in spacetime by an *Inverse* FT.

Equation 5.B elucidates a concept implicit in Tiller's model: *Information*. Here, the concept has two meanings. The first (*arrow down*), *In-formation*, means 'to give shape to.' Consciousness and Mind/Spirit are holographically encoded, via a Forward FT, and 'give shape to' objects/events in spacetime reality as a hologram encoding the frequency signature of the image of order 'prescribed'/'desired.' The second (*arrow up*), *En-formation*, means 'to put into.' This is the quantum holographic mechanism, via Gabor's Elementary Function, for encoding a continuous record of *all* events and interactions in spacetime as an endless succession of snapshots—*logons*, which are stored in the ginormous energy store of Universal Consciousness.

of quantized holographic 'snapshots,' logons overlap (Figure 8.C). The overlap produces spectral enfoldment of information among adjoining logons, creating, in Gabor's words, an "overlap of the future"⁴⁰—an important property I draw on below.

In situations where there are *limits* on the transmission volume of energetically encoded information—such as through pipes, wires, electrical circuitry, organic filaments, or neural fibers, and so forth—Gabor's elementary unit of information applies, since it defines the *minima* of frequency and space/time required for effective communication.

⁴⁰ (57): 437; italics added.

But psychic interaction, by nature, is *nonlocal*—not constrained to pipes, wires, or the fibers and circuitry of living tissues. This is exactly what the voluminous research on psychic phenomena has consistently shown: psychic effects are observed *despite* the rigorous experimental controls on local and external influences in different laboratories throughout the world. In short, psychic interaction involves nonlocal communication through the 'open space' of *potential energy fields which interconnect all objects and percipients*. What lies beyond such limits is the spectral domain in all its totality—a vast Fourier space where holographic information about everything in the universe is encoded in the diffraction patterns of objects/events in the movement of energy across the entire frequency spectrum.

Psi-formation

We are now equipped to further describe the relations between Mass, Energy, and Consciousness per Tiller’s “general reaction equation” (see Equation 2, above). This elaboration is given in Equation 5.

Based on the physics of image processing (58) and the neural physics of perception (reviewed by Pribram (54, 55), and discussed momentarily), the relationship between Consciousness and Energy can be described by the Fourier Transform function of Classical Holography (58)—which means it is *invertible*. Thus, as depicted in Equation 5.A, Consciousness is spectrally encoded into the movement of Energy by a *Forward FT* ($\hat{f}(k)$), and retrieved, as imagery in spacetime by an *Inverse FT* ($\hat{f}(x)$). However, beyond this translation into perceptual imagery (cognitions, feelings, and bodily sensations), comprehension of the meaning of such perceptual inputs in our Conscious Awareness also involves neural processing in terms of Shannon’s (60) concept of information (reduction of uncertainty), as described by Pribram (54, 55).

The distinction between Universal Consciousness and Conscious Awareness points to another fundamental element of reality—namely, *Information*, which is an implicit concept in Tiller’s model. As indicated in Equation 5.B, here the concept has two meanings. The first, *In-formation*, means ‘to give shape to’ (56). Thus, Consciousness (including Mind/Spirit) is holographically encoded, via a Forward FT, and ‘gives shape to’ Matter/Mass in spacetime reality as a *hologram* encoding the frequency signature of the image of order ‘prescribed’ by Consciousness or willfully sought by ‘intention,’ as described later. The second concept of information, *En-formation*, means ‘to put into.’ This is the quantum holographic mechanism, via Gabor’s Elementary Function (57), for encoding a continuous record of *all* events and interactions in spacetime as an endless succession of holographic snapshots—*logons*, which are stored in the ginormous energy store of Universal Consciousness.

Moreover, in this context of psychic phenomena, we can take this a step further, in that *In-formation* signifies the processes by which focused intention (Consciousness) shapes/changes (*In-forms*) the structure of an object/system. In essence, it signifies the power of mind through spirit to change reality—viz, *psychically induced In-formation: Psi-formation*. But *Psi-formation* requires that the human agent is operating with integrity *and* within the potentials and possibilities prescribed by the Laws of the Universe.

Psychophysics of Neural Processing

The features of the objects of perception are encoded in the interference of oscillations of energy as tacit information (spectra) and processed by the neural substrate in receptive fields in the brain composed of densely interconnected networks of dendritic fibers (Figure 9.a). In various experiments, neuroscientist Karl Pribram and his collaborators (59) found that neural response spectra in receptive fields could be “systematically described,” in physical form, as three-dimensional manifolds rendered by plotting spatial frequency against temporal frequency (Figure 9.b). Importantly,

It was then demonstrated that these manifolds could be derived from *Gabor-like functions*, indicating that somatosensory processing is consistent with the physics of conventional signal processing theory.⁴¹

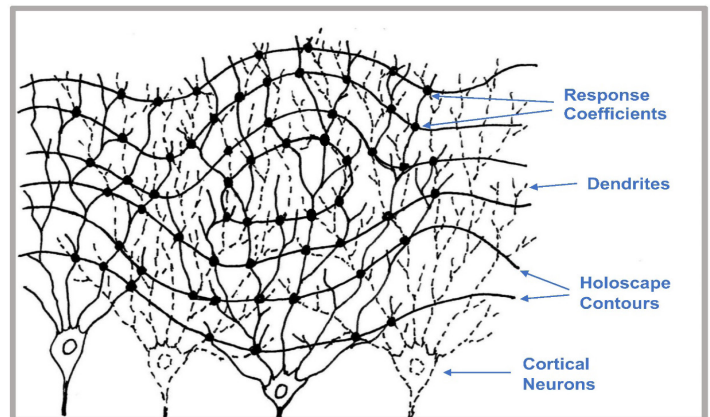


Figure 9a: Neural Microstructure: Pribram’s “Idealized Portrait of a Hologscape”

Pribram’s “Idealized Portrait of a Hologscape” shows overlapping dendritic receptive fields in the brain in which response coefficients of identical value are plotted as a series of contour lines which increase in value toward the center, to create a three-dimensional, knoll-like form.

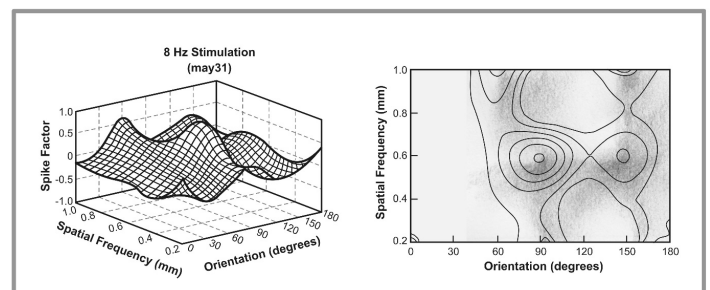


Figure 9b: Three-Dimensional Response Manifold and Associated Contour Map

Pribram and his collaborators found a similar morphology in the response field in the barrel cortex of rats in an experiment stimulating the rat’s whiskers in different orientations and spatial directions. Of note, is that the response manifold displays sinusoidal Gabor wavelet-like form—left.⁴²

The conjoint operation of adjoining receptive fields creates ensembles of logons, each of which is an *element of a feature processing channel*. Essentially, the operation of ensembles of logons occurs in the same terms as Gabor describes in his expansion of an “arbitrary signal in cosine-type and sine-type elementary signals” (Figure 8.D). These processes create a “*transneuronal manifold*” which Pribram (54, 55) visualizes as a “*hologscape*” (Figure 9.a), embodying Fourier coefficients (amplitude, frequency, and phase). Together, the coefficients define the relations between oscillations, and thus spectrally encode the stimulus object’s spacetime features: “The ensemble of ... [these Fourier] coefficients, when embodied in physical form, becomes

⁴¹ (59): 158; italics added.

⁴² Adapted and redrawn from Pribram (55).

palpable as an *optical hologram*”⁴³ (Figure 9.b).

Constraint on Processing

Processing in the neural microstructure requires a “*constraint*” to prevent spectral progression to infinity thereby enabling translation of the spectrally encoded data into imagery along spacetime coordinates:

Note that we are dealing with dendritic patches limited to one or a small congregation of receptive fields ... [so that] the transformation is limited to a single or small patch of receptive fields. By definition, therefore, the Fourier transformation is *constrained*, windowed, making the transformed brain event a [Gabor] wavelet.⁴⁴

This is vital, for without the operation of a constraint “window” on the neural processing of spectra, there would be *no* physical means by which the encoded information from objects could be rendered into imagery along spacetime coordinates. Thus, because our perceptual experience would be confined *solely* to the spectral domain, we would be *blind*—unable to perceive the spacetime features of an object (51).

“Overlap of the Future”

Pribram goes on, “Wavelets are not instantaneous numbers. As their name implies [,] wavelets have an onset slope and an offset slope. Think of a musical tone: you know a little something about where it comes from and a little as to where it is leading.”⁴⁵ Also, there is an overlap among successive wavelets as logons, which is the basis of our anticipatory or intuitive sensing of a directional vector in sensory experience. It arises from ‘interference’ in the overlap among logons, which reflects their spectral enfoldment and which as a Fourier series extends to infinity (Figure 8.C, above). In Gabor’s words:

The principle of causality requires that any quantity at an epoch *t* [time] can depend only on data belonging to epochs earlier than epoch *t*. But we have seen that *we could not carry out the expansion into elementary signals without taking into consideration also the “overlap of the future.”*⁴⁶

Adjustable Neural ‘Lens’

Finally, Pribram clarifies that the Gabor elementary function and the Fourier transform function are *both* involved, and that the ‘constraints’ on neural processing are affected by “cognitive influences.”

The form of receptive fields is not static. ...receptive field properties are subject to top-down (cognitive) influences from higher-order brain systems. The changes are brought about by altering the width of the inhibitory surround of the receptive fields. Thus both Gabor and Fourier processes are achieved, depending on whether communication

⁴³ (54): 28 & 29; italics added.

⁴⁴ (55): 108-109; italics added.

⁴⁵ (55): 109.

⁴⁶ (57): 437; italics and underlining added.

*and computation or imaging and correlations [respectively] are being addressed.*⁴⁷

This is crucial, for it means that the constraint “window,” which is “subject” to “cognitive influences,” *can be willfully adjusted*—much like a *lens*—to enhance *signal* processing (via Gabor elementary function) or enhance *image* processing (via Fourier transform function). This is a key point we’ll come back to.

Synopsis

Perceptual experiences are encoded in the interference spectra of oscillations of energy and processed by adjoining receptive fields in the neural substrate which are constrained by an inhibitory surround. These micro processing patterns (Pribram’s “holoscape”) consist of ensembles of logons, each of which is a feature processing channel. The “form” of micro processing patterns is *affected* by macro-scale factors, such as orientation and *cognition*; viz, feelings, thoughts, and intentions—and therefore, with practice, can be *willfully adjusted* via meditation/prayer/healing and/or emotional management techniques. These factors alter the “width” of the constraint “window”—i.e., alter the focusing properties of the neural ‘lens’: contracting it for Gabor wavelets in processing communication and computation; expanding it for Fourier processing when imaging and correlations are involved.

Revisiting Tiller’s Model

In light of the above, we can return to Tiller’s model (Figure 6, above) and reexamine two of his central concepts—namely, information entanglement and deltrons.

To account for measurements signifying the “transfer” of IIED conditioning information (including unintended transfer) among various laboratory sites—some, thousands of kilometers apart, Tiller *speculates* that the sites are enmeshed by “information entanglement.” While offering *no* explicit definition of this core concept, it appears imbued with *holographic* properties.⁴⁸ This is evident in Tiller’s mathematical demonstration of how “information entanglement” occurs in a hypothetical system comprised of an IIED laboratory and a control space.⁴⁹ From this he concludes that “because they are always connected to some degree via Υ [his *postulated* deltron coupling coefficient] ... [then we] always ... [have] *information entanglement between separated parts of the overall system*”—in other words, a *holographic* system.⁵⁰ Although implicit in his approach, Tiller does *not* draw

⁴⁷ (55): 109-110; italics in original, underlining added.

⁴⁸ (5): 199; italics added. Tiller provides no definition of this core concept, nor is it listed in the “Glossary” or “Index.”

⁴⁹ In these mathematics, Tiller superposes the wave amplitude spectrum of the former with the latter, and then squares and integrates the resultant coefficients over the entire domain—the space occupied by the two (see (5): 199; italics added).

⁵⁰ For the details, see (17).

on the explanatory power of holography and seems unaware of Gabor's work. Instead, he uses Claude Shannon's (60) concept of information (reduction of uncertainty) and its associated unit of information the binary digit—the BIT. As discussed at length elsewhere, this creates some basic difficulties which limit the explanatory utility of Tiller's approach.⁵¹

Turning to deltrons, Tiller is explicit that these are “a *postulated* substance”—viz, a *theoretical* construct unsubstantiated by *direct* empirical evidence.⁵² Yet within his theoretical scheme, this supposition is *imperative* for deltrons are Tiller's means to cross the so-called ‘Great Divide’ in physics: viz, the fundamental discontinuity—the *gap*—between the macroscale world of spacetime, governed by the laws of Classical physics, and the microscale world of the quantum domain where the statistical laws of quantum mechanics apply. This is clearly depicted in his model (see Figure 6, above) where deltrons are shown as the *means of connection* between D-space and R-space. Without deltrons, there is *no* transmission bridge across the ‘Great Divide.’⁵³

Bridging ‘The Great Divide’

As depicted in my rework of Tiller's model (Figure 10), because Gabor's concept of information applies across the *entire* frequency spectrum and encompasses the movement of energy within and from *all* forms of order (including electromagnetic and magnetoelectric bandwidths), it provides a transmission bridge for communication of energetically encoded information—*logons*—between Spacetime/D-space and the Quantum domain/

⁵¹ Briefly, there are two basic problems with Tiller's approach which stem from his use of Shannon's (60) concept of information. First, Shannon's concept is a logical unit for the encoding and transmission of symbolic information only; it cannot capture the structural features of objects/events encoded in the movement of energy. For that, Gabor's concept of holographic information is required, as described in this work. The second problem is Tiller's use of Shannon's mathematical translation of his concept of information into a measure of entropy in thermodynamics. Gabor (61) points to a fundamental flaw in Shannon's effort: namely, that Shannon's definition of the mean entropy per symbol in signal transmission (the relative frequencies of pi) is purely statistical: “The probabilities of pi have no direct relation to the structure of the signal, they are determined by the source” (Gabor (61): 56; see (17)).

⁵² (5): 137; italics added.

⁵³ Because Tiller postulates deltrons are the means of transmission between the two spaces, and communicate the intention as an encoded signal, then they must be equivalent to Gabor's logons. This is necessary if deltrons are to transmit the structural features of the intention as a prescription template to change the object. Similarly, the holographic approach described in this work, has utility in explaining how the structural features of energetically encoded information are transmitted in the linkage between consciousness—both that of the individual and globally—and the Earth's geomagnetic field, as described in McCraty and Abdulgader (10).

R-space.⁵⁴ As noted in the “Primary Proposition” in the figure, focused Love—via heart coherence—is essential for creating and maintaining a *coherent* energetic channel of communication. As described below, a relationship of *mutually adaptive resonance* between the agent and a target object/system is vital to the efficacy of a *psi*-formation episode.

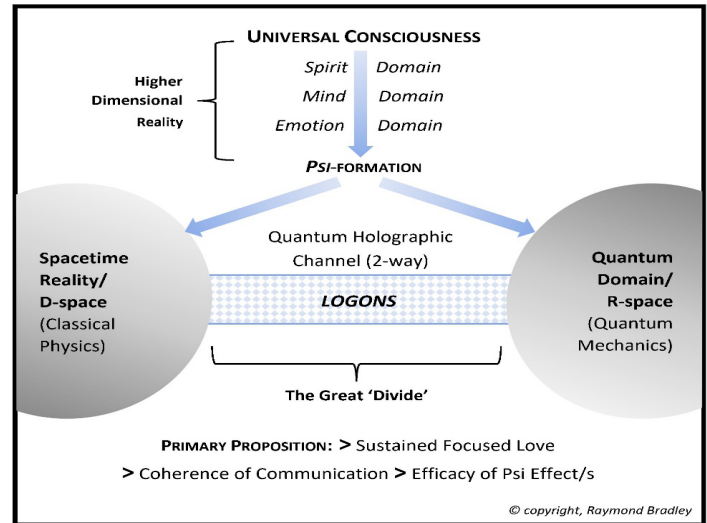


Figure 10. A Quantum Holographic Revamp of Tiller's Model

V. Psi-formation: Updating the Quantum Holographic Theory

The quantum holographic approach developed here has its basis in four complementary scientific discoveries which constitute the foundational postulates of the theory.

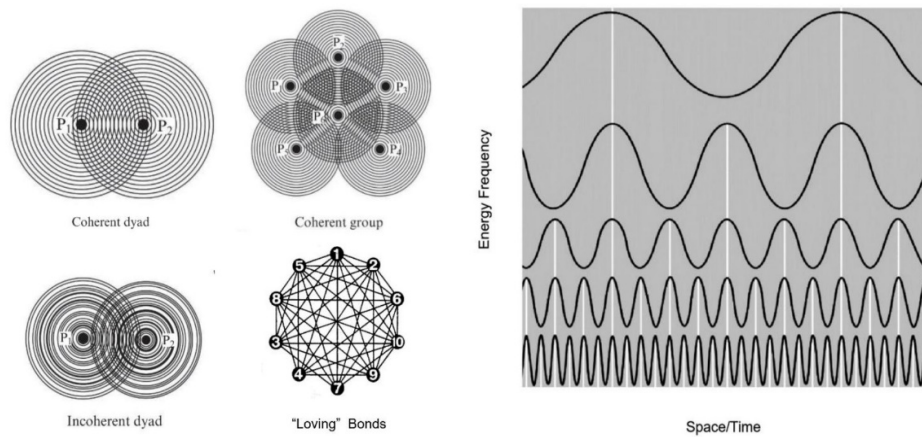
Four Postulates

The first postulate is the *principle of holographic organization* with its core concept of distributed order—viz, the discovery that information about the order of a given whole (object/event) is encoded and distributed by the movement of energy throughout a field/domain. As described above, holography *has* two distinct forms, Classical and Quantum Holography, which we will draw on in what follows. The second postulate is the *principle of quantum entanglement* or *nonlocality*. Now accepted as ‘scientific fact,’⁵⁵ this is the discovery that it is possible to connect subatomic particles (photons) “in a special way” that joins them together in a bond of *inseparability*, so that they behave as one entity, irrespective of the distance between them. “Such objects are termed entangled states ... [and] communication between them is *instantaneous*.”⁵⁶ The

⁵⁴ This is the basis of quantum holography's application in modern imaging/scanning technologies—such as, fMRI, CT, and CAT scans, plus spectral, sonographic, and acoustical scanning technologies.

⁵⁵ Einstein famously referred to evidence of nonlocality as “spooky action at a distance.” Nowadays, quantum entanglement is accepted as ‘scientific fact’—formally acknowledged with the 2022 Nobel Prize in Physics.

⁵⁶ Quoted in Gillin (13): 272 & 273; italics added.



A) Energetic Coherence and Communication B) Harmonic Resonance and Communication Across Scale

A) Illustration of Emergence of Nonlocal Communication Channels. The figure shows how a channel of coherent interaction – phase coherence – is generated between two persons (top left; Person #1, P1, and Person #2, P2) when their interpenetrating bioemotional wave fields are radiating oscillations at a common resonant energy frequency. This also holds for larger systems composed of wave fields oscillating at the same frequency (top right) and in groups of mutually held “loving” relations (bottom right)*; where the wave fields radiating from each pair of individuals interpenetrate, coherent channels of interaction are created for each dyadic relation in the system. However, this does not occur for wave fields radiating energy oscillations at different non-harmonic frequencies (bottom left); effective communication is impeded by an incoherent pattern of interpenetration between the two wave fields (Source: © copyright, Bradley et al. (2010b) and Bradley (1987)).

*This is a group from Bradley’s study (1987) and shows the sociogram of mutual “loving” relations among members.

B) Illustration of Harmonic Resonance. The figure depicts a set of macro to micro scale wave fields at different energy frequencies in a harmonic series—two waves, four waves, eight waves, and so forth, per cycle, phase synchronized across the series. Note how a coherent channel of energetic resonance emerges from synchronized oscillations—phase lock—across the wave fields over different levels of scale, depicted with a white vertical line in the figure (adapted from R.T. Bradley, © copyright, 2023).

Figure 11. Bioenergetic Coherence and Channels of Communication

third postulate is the *principle of quantum coherence*. This is the relatively recent discovery that subatomic emissions from macro-scale objects (at the molecular scale and above), are not random but exhibit coherence at the quantum level reflective of an object’s material organization and its event history (62).

Equally important to these developments, is the discovery that Love both plays a fundamental role in the development and organization of *all* life and is directly implicated in nonlocal consciousness and psychic interactions—including micro-multicellular organisms (63) and animal life.⁵⁷ This, suggests a fourth postulate: the *principle of ubiquitous Love*—that Love is the basis of consciousness and order in the Universe.⁵⁸

Oscillations, Interference Patterns, and Quantum Holograms

From the micro-scale of the quantum domain to the macro-scale of spacetime, all objects and entities in the universe are energized in a constant state of oscillation across bandwidths of various frequencies. The oscillations from all objects generate wave fields of energy that radiate outward and interact. The interaction between wave fields generates an interference pattern which spectrally

⁵⁷ Sheldrake (27) documents telepathic communication and premonition among herds of social animals.

⁵⁸ This is the idea in Jahn and Dunne’s basic equation (see Equation 1, above), and it is in accord with Tiller’s conclusions.

encodes phase-dependent information about the object’s internal and external organization, and its event history (53, 64). To decode the spectrally encoded information, a reference wave is required. Marcer (65) has established

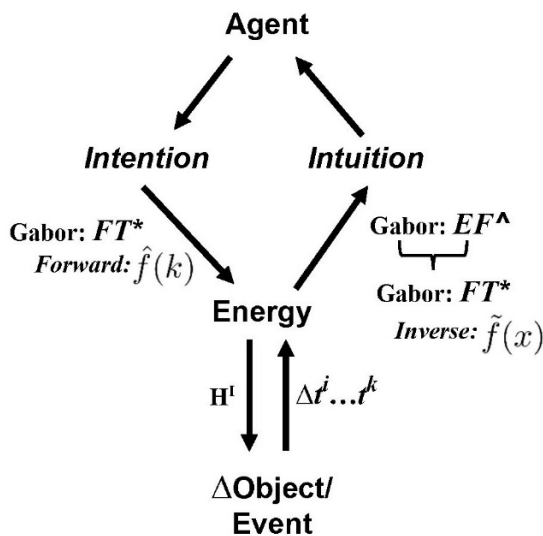
...that *any* waves reverberating through the universe remain coherent with the waves at the source and are thus sufficient to serve as the reference to decode the holographic information of *any* quantum hologram emanating from remote locations.⁵⁹

Energetic Coherence and Communication

It can be shown (Figure 11.A), that when two interpenetrating wave fields are radiating synchronized oscillations at the same energy frequency, the conjunction of individual waves creates a spatially and temporally *coherent* channel of interaction connecting the object source points of the two wave fields. This energetic channel is also generated in systems/groups involving multiple objects/members in connection on the same frequency; in humans, during group meditation/prayer or communion—viz, unconditional love (see “Coherent group and Loving Bonds,” in the figure) (44, 35). But this does not hold for interaction between wave fields at discordant or varying frequencies (“Incoherent dyad”); effective communication is impeded by spatial and/or temporal incoherence in the pattern of interpenetration between/among the wave fields.

⁵⁹ The quote is from Mitchell ((55): 302; italics added).

Equation 6.



Notation

* Fourier Transform Function^a

Forward FT

$$\hat{f}(k) = F_x[f(x)](k) = \int_{-\infty}^{\infty} f(x)e^{-2\pi ikx}dx$$

Inverse FT

$$\tilde{f}(x) = F_k^{-1}[F(k)](x) = \int_{-\infty}^{\infty} F(k)e^{2\pi ikx}dx$$

^A Gabor Elementary Function^b

$$\phi_{jk}(t) = \exp[-\pi(t-j\Delta t)^2/a^2] \exp[2\pi ik\Delta f(t-j\Delta t)]$$

Ensembles of logons encode spectra of features of an object/event which are translated into an image in spacetime via reverse Fourier transform process, per Pribram (1991 & 2013).

^a Source: Intro. to Nuclear Physics, MIT OpenCourseWare; <http://ocw.mit.edu>

^b Source: MacLennan (1994).

H^I = Hologram of frequency signature of Agent's intention.

Δt = Changes over time.

Further, when wave fields at sympathetic frequencies oscillate, *harmonic resonance* emerges. This creates a multilevel coherent channel of communication across the wave fields—in effect, a two-way logon pathway of optimal nonlocal communication between macro and micro scales of order (Figure 11.B). And since the overlap among logons means that information about remote/future order is spectrally enfolded, this creates the means by which remote perception or future foreknowledge is intuited from the incoming succession of quantum holograms at hand.

Multiscale Entanglement

As documented by Tiller, one pathway for superluminal communication involves *magnetolectric fields*. Another pathway of instantaneous communication is at the subatomic level through *quantum entanglement*.

Macro scale objects, like the human body or any living system, are comprised of subatomic particles which become ‘entangled,’ by virtue of multiscale processes that generate emergent order. Such entanglement, at the quantum level, extends by shared experience or direct connection to the events of existence in the 4-D world of our spacetime reality. Thus, at the beginning of life, conception—the conjunction of two cells—produces entanglement among the constituent particles (and atoms)⁶⁰ involved. As the fetus grows during gestation, this encompasses all cells and thus all particles, and evolves, after birth, to ‘entangle’ those of the mother, the father, siblings, and so forth, in which neuropsychosocial development is optimized when the mother (or ‘good enough’ parent) maintains a bond of *heart coherence* with the infant (66, 67). Beyond this, the social basis of life experience generates an

⁶⁰ There is evidence that entanglement extends to the macro scale level. Recently, physicists at Muenchen University (Germany) have reported successfully entangling two atoms separated in laboratories 400 meters apart—using the “entanglement swapping” protocol (see https://xqp.physik.uni-muenchen.de/research/atom_photon/entangling_atoms/index.html).

endless stream of encounters between and among individuals. These create entanglements across levels of scale by virtue of the subatomic particles of macro scale objects involved. Thus, due to the multiscale processes that generate emergent order, quantum entanglement creates a bond of inseparability for *instant* tacit communication between/among living systems sharing existential experiences.

In moving to describe the psychoenergetic processes involved in nonlocal intuition and focused intention, Equation 6 expresses the relations among the primary factors—Agent, Intention/Intuition, Energy, and the target Object/Event—in terms of the logic and holographic processes denoted in Equation 5.B, above.

Passionate Attention

The concept of *passionate attention* denotes the arousal of bio-emotional energy when a percipient engages a sustained *loving* focus on an object of interest (24). As documented above, sustained passionate attention shifts the body’s psychophysiological systems to higher and even hyper states of heart coherence. This *attunes* the outgoing wave field of bio-emotional emissions from the percipient to the incoming wave field of emissions from the target object and creates a relation of *resonance* between the wave fields.

Peter Marcer (65) has shown that perception requires both an incoming wave field of sensory information about the object *and* an outgoing wave field of attentional energy. Further, that a relationship of ‘*phase-conjugate-adaptive-resonance*’ (PCAR) *must* exist between the two wave fields, to perceive an object in spacetime reality.⁶¹ PCAR is a process in which the incoming and outgoing wave fields are phase-conjoined by the percipient’s act of attention, in that s/he tunes into and maintains ‘vibratory resonance.’ This phase-locks the emissions of the percipient’s perceptual system and those of the object in a *mutually adaptive* resonant feedback loop. Thus,

⁶¹ (65): 153.

The incoming wave front carrying information may be labeled as “perception” from the point of view of the percipient, and the return path required by the resonant relationship may be labeled “attention.”⁶²

Heart’s Vital Role

The body’s psychophysiological systems generate numerous fields of energy, at various frequencies, that radiate outwards from the body as wave fields in all directions. Of these, the heart generates the most powerful energetic field. Not only does a massive deceleration in the heart’s pattern of rhythmic activity occur at the instant of mental attention (which is recorded in the outgoing wave field), but studies show that nonlocal perception is related to the percipient’s degree of emotional arousal generated by an object/event (33, 34, 35). Thus, *it is the energetically more powerful, emotionally arousing component of attention*, rather than the mental (purely cognitive) element, *that is propelling the outgoing wave field of bio emotional energy*.

As documented above, the heart plays a significant role in the body’s sensing and processing of precognitive information, in that the heart receives information about remote/future events *before* the brain (3, 4). Once received by the brain, the pre-stimulus information is decoded by a reverse Fourier transform process, as described by Pribram (54), and converted into mental imagery, feelings, and other sensations in our Conscious Awareness, which registers the experience as an *intuition*.

As previously described, neural processing involves both the Fourier transform function and the Gabor elementary function by way of an adjustable ‘window of constraint,’ in much the way a lens is focused. Widening the window propels processing more deeply in Fourier space; narrowing the window focuses processing more into spacetime. Also, we saw how focused love—via heart coherence—induces transitions to deeper introspective states, wherein higher states of consciousness can be accessed. Thus, by practice in meditation, prayer, healing, and so forth, adjustment of the neural ‘window’ becomes amenable to *willful* regulation. Moreover, in the hyper state of Omniscient Love, the neural lens expands fully into Fourier space, opening heart, mind, and spirit to the spectrum of Universal Consciousness itself. Here, Knowledge and Truth from Source can be accessed, so that the fundamental *constants* of Nature and Spirit may be revealed.

Passionate Intention—Psi-formation

Given Tiller’s discovery that focused consciousness brings into being a ‘new’ higher dimension of order in the quantum vacuum, wherein the intention imprint is ‘active’ in his “conditioned space”—empowered to induce the desired change in physical reality—the question is *how: what are the psychoenergetic mechanisms involved?*

As described above, the act of attention generates a heart-propelled outgoing wave field of bio-emotional energy from the percipient directed towards the object of interest. Insofar as this act includes

an intentional disposition (such as a preference, a desire, a goal, or a plan), it is registered in the brain as a distinct pattern of neural activity and is recorded in the outgoing wave field of energy. When the willful agent holds a fixed, unchanging intention, the intention is spectrally encoded in magnetoelectric frequency (per Tiller), as a Classical Hologram—a *static* image containing the *frequency signature* of the intention. In this way, the intention imprint is energetically encoded and distributed throughout the entirety of the outgoing wavefield, and, in the ‘conditioned’ space of the vacuum, can remain ‘active’ (without reinforcement) as an inducer of change.

Oscillatory Entrainment

Although most of the signal is deflected by the object’s boundary, part of the wave field containing the hologram of intention is *absorbed* by the target, via vibratory resonance—the ongoing oscillations of energetic activity emitted by all objects. Since the record of intention is enfolded throughout the outgoing wave field, the part that is absorbed by the object therefore contains a hologram of the agent’s intention. In Tiller’s ‘conditioned’ space, with the hologram of intention ‘inside’ the object, the target’s system is frequency-pulled by a process of *oscillatory entrainment* to the frequency signature encoded in the intention imprint (Figure 12).

To trigger a change in the target’s system, an input of additional energy is required. In the absence of tapping into the zero-point energy field (ZPF), this is sourced from the agent’s biophysical system, as a succession of pulses of energy quanta directed to the object. As documented for healers and Shamans, this is often experienced as a massive depletion of energy—a feeling of total exhaustion, or worse (68). This entire process must be sustained by ongoing loving intentional focus in which communication integrity is maintained by a PCAR envelope of coherent energy, via heart coherence.

Accessing the ZPF

Tapping into the virtually infinite energy store of the ZPF requires extraordinary special skills and years of spiritual practice for mastery. Even so, it can be fraught with great personal risk, including death, as observed in Katz’s study of Kalahari Kung healers activating “Num”—literally ‘boiling energy’, the equivalent of the powerful, highly unpredictable Kundalini energy (68). Commenting on Tiller’s discovery of a “new kind of energy,” Murray Gillin points to the enormous energy density available in the physical vacuum:

... the so-called [quantum] vacuum is not ‘empty’ or void. Indeed, the available energy in this dimension of reality is staggering, of the order of 10⁹⁴ grams per cubic [decimeter; about the size of an empty cup] which is equivalent to 10⁹⁷ kilograms per cubic metre—a truly *ginormous* number. ... It is, therefore, reasonable to maintain that by *accessing even a small amount of this real energy, an intentionally guided human can change things in the physical world.*⁶³

⁶² (53): 299.

⁶³ (13): 355; italics added.

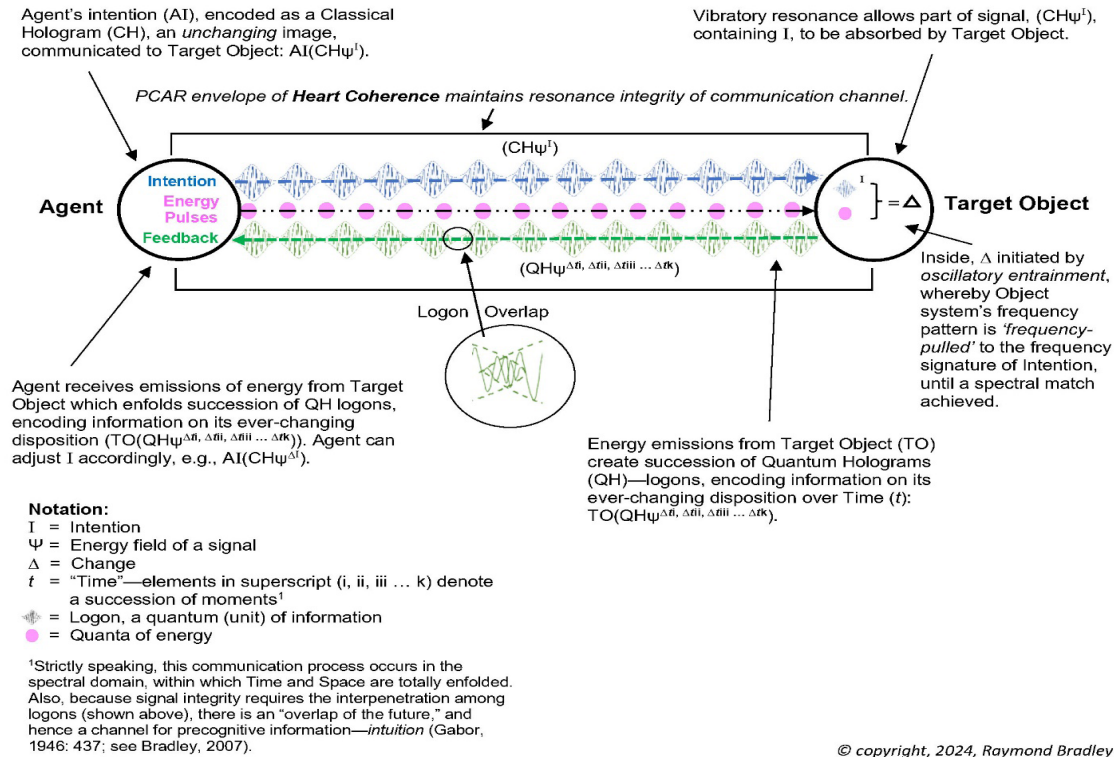


Figure 12. Quantum Holographic Model of Nonlocal Agency

When combined with Prigogine's discovery of 'sensitivity to initial conditions' in far-from-equilibrium systems, this means that when the object is targeted at the bi-furcation moment (the tipping point), sustained focused intention can generate transformational change in a complex dynamical system—essentially, *all* systems in nature (69).

Tapping into the ZPF necessitates inducing and sustaining the hyper shift to the state of Omniscient Love (Figure 5, above), which, in turn, calls into being Tiller's 'conditioned space.' At this level, Love is pure spirit, a higher dimensional channel for interaction with this 'parallel' domain beyond spacetime. Due to the ginormous energy density, direct connection must be limited to discrete instants; hence the "energetic pulses" from the Agent to stimulate release of energy quanta from the ZPF, depicted in the model in Figure 13.

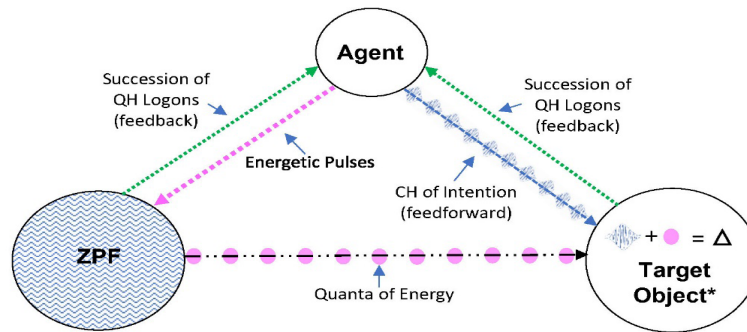
Drawing energy from the ZPF entails establishing a three-way channel in the 'conditioned' space, interlinking the agent, the ZPF, and the target object as shown in the figure. The process involves the agent stimulating the flux of the ZPF with a modulated vector of pulses to release quanta of energy, while simultaneously projecting the frequency signature of intention to the target. The frequency signature acts as an *attractor*, translating the 'freed' energy to the target's bandwidth and frequency-pulling the object's system, via an iterative process, toward the image of order holographically encoded in the frequency signature of intention. This way, the hologram of intention can generate a subtle but significant change in the quantum organization of the object, thereby *reshaping* the


target object's macro-scale organization and behavior. Again, a *heart coherence* envelope of PCAR must be maintained throughout the *psi*-formation episode to ensure communication integrity, and hence the potential for success.

Amplification

These processes of nonlocal communication are greatly amplified in harmonious groups and mass social aggregations when in a *coherent* state of socio-bio-emotional resonance (33, 34, 35, 39, 44)—essentially, a collective state of heart coherence (see Figure 10.A, above), a point Tiller emphasizes in relation to 'healing' dyads.⁶⁴ Collective coherence amplifies the reception and transmission of energetically encoded information, in much the same way that a signal of radio waves from distant stars and galaxies is amplified by an array of radio telescopes. Moreover, the degree to which the harmonious group focuses collective attention/intention on a target object/event of common interest, the efficacy of nonlocal communication is further amplified. Conversely, nonlocal communication is greatly impeded in socially *incoherent* groups/aggregations, wherein social order is fraught with emotional stress, or by relations of disaffection, tension, or conflict. Under these conditions, both at the individual and collective levels, the wave fields of bio emotional energy are not only too disorganized to access information from nonlocal sources, but too unstable and incoherent to receive/transmit focused attentional/intentional energy (23, 35, 44).

⁶⁴ See (5): 210.



Notation:
 QH = Quantum Hologram
 CH = Classical Hologram
 ZPF = Zero Point (energy) Field
 = Frequency signature of Intention (encoded as CH)
 Δ = Change
 FN* = Oscillatory entrainment: Δ Object's frequency pattern until spectral match with frequency signature of Intention.

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Figure 13. Quantum Holographic Model of Tapping into the ZPF

Synopsis

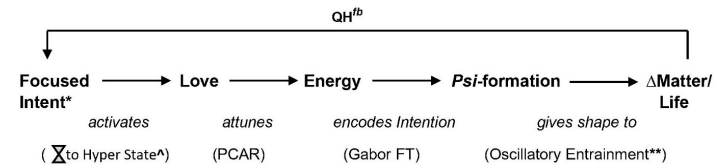
Sustained passionate intention, within a PCAR envelope of heart coherence, induces change by oscillatory entrainment. In this *psi*-formation process, the frequency signature of intention frequency-pulls the target's system to the image of order encoded in the agent's intention. The additional energy required to induce change in the target system is transmitted as pulses of energy quanta, either from the agent's own physiological system or by tapping into the 'free' potential energy of the quantum vacuum. The efficacy of psychic effects is amplified or reduced by the degree of socioemotional coherence in groups, collectives, or mass aggregations, both in terms of reception of tacit/intuitive communication and with respect to transmission of focused intention.

Summing Up

In short, we have a qualitative description in scientific terms of *how*—the psychoenergetic processes by which—psychic interactions occur. In the mode of passionate attention, there is access to information about distant events or the future as remote perception or foresight and, via Omniscient Love, to fundamental Truth and the Laws of order in the universe. In the mode of passionate intention, the willful agent can influence a proximate or remote target by sustained intentional focus and, via the 'conditioned' space created by Omniscient Love, induce change in objects/events—essentially, all systems in nature. For the efficacy of both, a PCAR envelope of heart coherence is requisite.

Finally, the logic of the psychoenergetic processes in this quantum holographic approach can be summarized in a reformulation of Tiller's "Reaction Equation" (per Equation 3, above), in which we denote, for each pair of factors, the likely physical mechanism and mathematical concepts (in parentheses) involved (Equation 7). As shown in Equation 6, there is a quantum holographic feedback loop relaying information on the target's disposition and/or conditions enabling the agent to modify the hologram of intention, accordingly, as portrayed in Figures 12 and 13, above.

Equation 7.⁶⁵



Notation
 * Via meditation, prayer, healing, etc.
 Δ = Change
 X = Domain Transition
 ^A Heart coherence via Omniscient Love
 PCAR: Phase Conjugate Adaptive Resonance
 Gabor FT: Gabor Fourier Transform Function
 ** Frequency pulling target object's frequency pattern to frequency signature of Intention until a spectral match is achieved.
 QH^{fb} Target disposition feedback: Quantum Holographic (QH) processing via Gabor Elementary Function.

Conclusion

Since I have provided synopses of major points throughout this work, I will not repeat these in a summary in the space remaining. Rather, I want to highlight certain key findings and concepts, and comment on their significance in the context of the work's focus—the heart's vital role in creation.

The first is that beyond the state of Psychophysiological Coherence, there is a second—the Hyper State of heart coherence—which can be accessed by a self-induced phase transition during deep states of meditation. In the electromagnetic spectrum, the Hyper State is structured as a *harmonic series* in an infinite progression, via multiscale entanglement to the quantum domain. As such, the Hyper State operates as the communication channel for psychic and spiritual interactions—including access to the domain of Universal Consciousness itself. This is validated by Tiller's evidence of unconditional love as requisite to creating the psychoenergetic channel for relaying an intention imprint to his R-space—the quantum domain. In short, it is through the Hyper State of heart coherence that we access our psychic and spiritual proficiencies.

⁶⁵ Adapted and revised from Bradley (18), Equation 4.

And this is *only* accessible by Omniscient Love—viz, holding a state of *unconditional* love.

A second point of major import comes from Pribram's research on the psychophysics of sensory processing in the neural substrate of the brain's overlapping receptive fields (his "Holoscape"). Namely, that these neural processes are "affected" by macro scale factors, which *include* "cognitive influences"—our feelings, thoughts, and intentions. Further, that the inhibitory surround of receptive fields can be "*adjusted*" like a 'lens': 'narrowed' for Gabor wavelet processing of spacetime information; or 'widened' to probe Fourier space of the spectral domain wherein information about higher/hyper dimensions of reality are encoded.

It is because the neural lens is both "adjustable" *and* subjected to "cognitive influences," that neural processing is rendered amenable to *willful* control by way of meditation, prayer, healing, deep introspection, and so forth, with disciplined practice. This enables attentional/intentional focus on spacetime reality or opens mind, heart, and spirit to probe the frequency bandwidths of higher/hyper dimensional space.

Such willful control of the neural lens *empowers* humanity with profoundly important psychic/spiritual proficiencies which enable access to the *universal constants* of Ultimate Knowledge: Spiritual Truth and the Laws of the Universe. And it *empowers* the individual by enabling access to the psychoenergetic channel for intuitions about remote/future events, or to transmit intention and harness 'free' energy from the vacuum to induce change in spacetime reality. Even so, efficacy of a psychic episode or spiritual 'request' *requires* a sustained PCAR envelope of *heart coherence*—viz, the Hyper State of harmonic resonance *only* generated during Omniscient Love.

Finally, this work provides a quantum holographic account of the psychoenergetic processes involved in psychic interactions which both builds upon Tiller's work and resolves some basic limitations in his approach. In this account, the Hyper State of heart coherence, generated by unconditional love, is vital. It creates the psychoenergetic channel of nonlocal communication through which intuition is received and focused intention is transmitted. For both, a sustained two-way PCAR envelope is required, which is generated by the Hyper State of heart coherence.

Further, as the most powerful generator of energetic oscillations in the body, the heart plays a crucial role in *psi*-formation. In my model of nonlocal agency, it is hypothesized such will-induced change occurs by *oscillatory entrainment*—a process of energetic resonance. In this process, the target's system is frequency-pulled to the image of order encoded in the agent's intention, by sustained intentional focus. This is communicated through an oscillatory conduit of heart coherent energy. Whereas the agent's intention is encoded as a *hologram*—a static image, feedback to the agent on the target's disposition and existential circumstances are encoded, quantum holographically, as a succession of *logons* reflecting moment-by-moment change in spacetime reality. This enables modification of the intention, as necessary.

In closing, while there is much work still to do, we are now within reach of a scientific understanding of love's subtle but crucial role in relations of creation—of how we can harness the power of heart, mind, and spirit to *shape* reality. Given the division, disorder, and conflicts at hand—rife throughout society and the world—this offers hope to empower humanity's "Great Shift": the urgent, radical *global transformation* "UP," in Laszlo's (12) terms, "to healing and evolution ... to [create] that era where we can all live in harmony with each other, with nature, and with the wonder of life in the universe." ⁶⁶

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