

White Paper XXVII

Towards the Union of Logos & Mythos: Two Complementary Paths to Knowing

by

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Introduction

In the days of ancient Greece, there were two accepted and complementary paths for the acquisition of knowledge concerning nature and events occurring in nature. These were (1) the **Logos** path, which involved looking **outwards** to the nature around us from self (the conscious mind, etc) and (2) the **Mythos** path, which involved looking **inwards** to the nature within us from self⁽¹⁾ (the unconscious mind, etc). The Mythos path has also been called the Path of Revelation, or the Mystical path⁽²⁻⁴⁾. Quoting from Grace⁽²⁾ “Mystics may be viewed as those intrepid souls who traverse the spiritual realm much as Marco polo traversed the geographical realm.” “The Mystic testifies to the existence of a realm beyond ordinary perception.” “The Mystic offers another kind of knowledge based on an inner realization.”

Fran Grace has gifted us all with a truly beautiful foundation for understanding this topic. She also points to the important modern-day work of Hawkins⁽⁴⁾ in this area who states that “Based on application of attractor fields from non-linear dynamics and chaos theory, a map of consciousness can be developed positing that such higher energy fields or attractor fields of love, peace and self-realization radiate an uplifting effect on the world at the energetic level”.

Early on historically, the Mythos path led to various powerful religions, the creation of various gods and **God** with the dominance of priests as intercessors between humans and their gods or **God**. This evolved into a **theocratic** theory of nature.

In the late 1500's, with the advent of the Copernican revolution (Copernicus, Galileo, Kepler, Newton, etc), based on reproducible experiments, the theocratic theory was proven to be quite wrong and the **Logos** path morphed in the path of **Science** based on an experimentally-grounded model of nature using a coordinate reference frame of distance and time within which to map this experimental data and to seek internal self-consistency with respect to different categories of experimental data. To simplify this categorization process and clearly separate natural phenomena of a Logos nature from those of a Mythos character, in the 1600's, the following assumption (attributed to Descartes) was made:

“No human qualities of consciousness, intention, emotion, mind or spirit can significantly influence a well-designed target experiment in physical reality”.

This was a very useful assumption at the time because it helped humanity to lay the cornerstone for a firm foundation upon which to build a reliable framework for a predictive science that was completely independent of higher human qualities.

Over time, explorers of the **Logos** path produced (1) the classical mechanics paradigm in science, (2) a rudimentary understanding of the key coordinates distance and time to define “space”, (3) the industrial revolution in technology and (4) with the discoveries of relativity theory and quantum physics, the transformation to a four-dimensional “spacetime” and a beginning “quantum mechanics” paradigm. Figure 1⁽⁵⁾ provides a partial list of a few of the explorers who taught us about this Logos path upon which today’s technology is based.

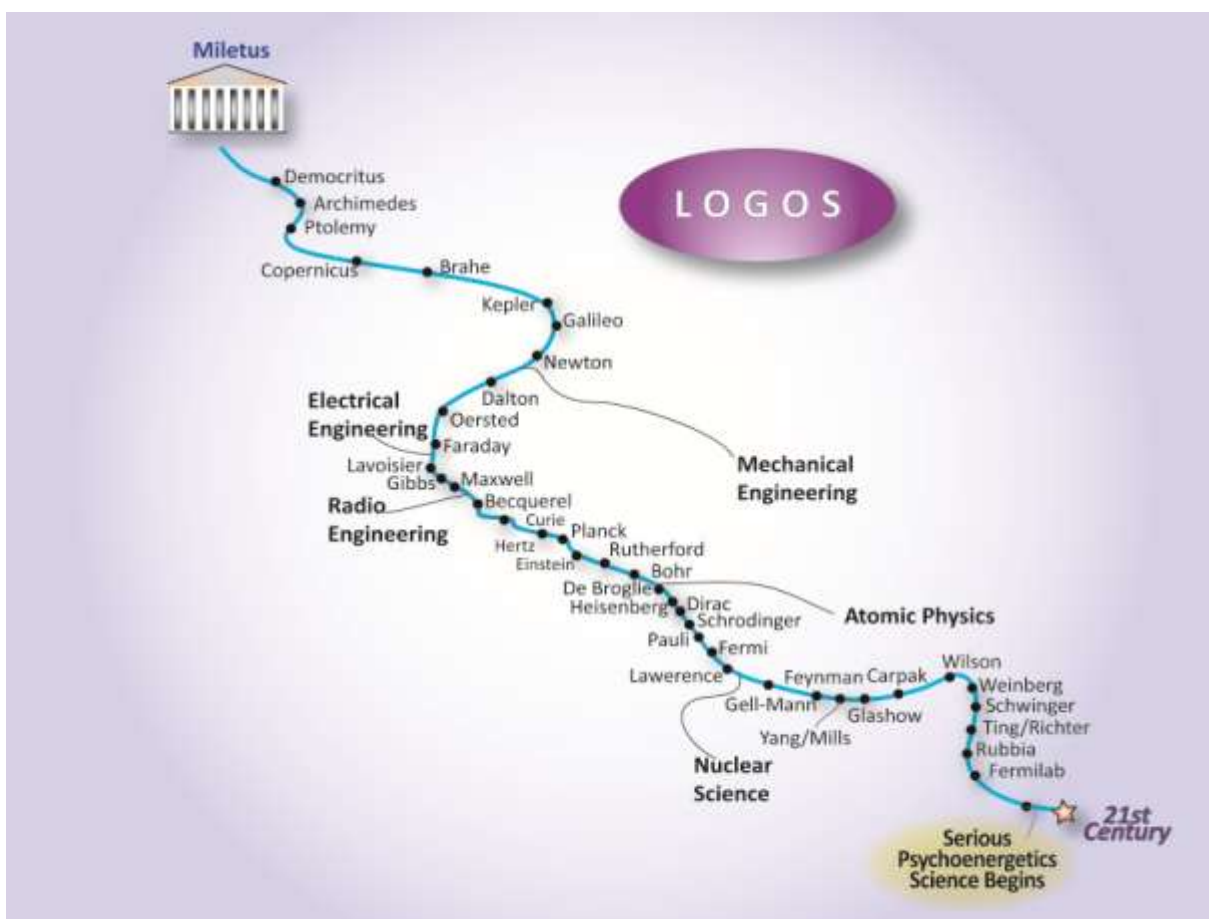


Figure 1. Logos path explorers (adapted from Lederman⁽⁵⁾).

One of the prices humanity had to pay for this great scientific success was that it was necessary to reject the huge body of work demonstrated by the many investigators exploring the **Mythos** path. Figure 2⁽³⁾ provides a partial list of a few of these explorers who showed us the way for our inner development as a partially enlightened species.



Figure 2. Some Mythos path explorers

Orthodox science, and thus orthodox medicine, has become “stuck” in (a) a distance-time-only reference frame (RF) for the study of nature and (b) a rigid belief in the Descartes assumption. However, human consciousness, intention, emotion, mind, spirit, love, parapsychology, etc, do not appear to be dependent upon distance or time – at least not in the same way that the natural phenomena explored by the Figure 1 investigators do. Thus, it appears to be impossible to find “internal self-consistency” between these two uniquely different classes of natural phenomena. Further, for the last decade or so, References (6 - 11) have clearly shown that the “Descartes assumption” does not hold in today’s world under various well-defined circumstances.

It appears to be time to **expand** our RF for the investigation of natural phenomena to include (a) the human qualities of consciousness, intention, etc, as meaningful experimental variables, (b) seriously consider expanding the dimensionality of our operational experimental space, (c) removing the current restrictions to velocities less than the velocity of electromagnetic light, $v=C_{EM}$, and for qualities with mass (both positive and negative) and (d) giving serious consideration to the existence in nature of substances and phenomena currently invisible to today’s orthodox physics instruments.

As a metaphor to describe some state of future human understanding of nature, I postulate that nature is radiating to itself via many different bands of photons as communicators of many different classes of operational substances (dark matter as one) most of which travel faster than C_{EM} and, over the past 400 years, we have learned a great deal about only **one** band, the EM-band (electromagnetic). Eventually, during our future evolutionary path, we must come to quantitatively understand the inner workings of all these separate bands plus how they might or might not interact with each other. What will ultimately be needed by this human community is what might be labeled as *"The Ladder of Understanding"* as illustrated metaphorically in Figure 3⁽¹²⁾ with the bottom-most rung representing our ~400 years of cumulative investigations re EM substances in all its various attributes and phenomena.



Figure 3. The Ladder of Understanding metaphor.

The physics data implicit in References 4-11 belong to the second rung of our Ladder of Understanding. For convenience, we might label the successive higher rungs as (3) emotion, (4) mind and (5) spirit, respectively. As we eventually build the quantitative science to fully understand these aspects of ourselves and of outer nature, we will finally be at the threshold where the serious questions voiced by today's religions can finally be experimentally tested (because we will then have suitable tools and sufficient understanding to properly phrase the questions).

The goal for us all seems to be to “*build a reliable bridge of understanding that seamlessly joins with today’s orthodox science and medicine on one end, extends through the territories of (a) the psyche, (b) emotion, and (c) mind and is then firmly implanted in the bedrock of spirit at the other end. Further, this bridge must be built reliably enough so that humans will feel confident enough to venture across it!*”. In what is to follow, we look at some of the questions to be addressed on this path of reaching the second rung of “The Ladder of Understanding”.

Where Does Our Electric Charge-Base World Come From?

Dirac’s model of the mid-1920’s is a place to begin⁽¹³⁾. He proposed that it began with the existence of the physical vacuum (the absence of any physical matter) which he defined, from a quantum mechanics viewpoint as a negative energy sea with all of its energy states filled. Thus, from an internal energy, E , perspective, Figure 4 represents an energy band diagram with disallowed states in the region close to $E=0$, the filled negative energy states of the physical vacuum at levels below this forbidden gap and completely empty positive energy states above this forbidden gap.

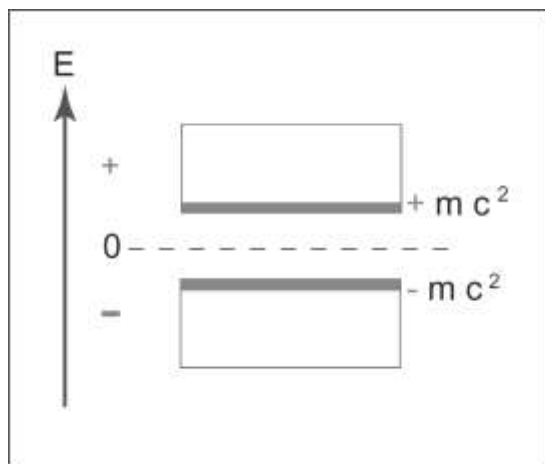


Figure 4. Schematic energy band spectrum associated with the Dirac analysis. A band gap of forbidden energies exists between $E = \pm mc^2$ for particle-antiparticle creation of total mass $2m$.

This model is completely analogous to that of an intrinsic (no doping atoms) very large band gap semiconductor.

Dirac then proposed that a high energy photon of the cosmic ray type, having sufficient energy, **interacted** with one of these filled energy states of the vacuum and transferred sufficient energy to it to “lift” it across the forbidden band gap and leave behind a “hole” at this particular vacuum level. Thus, an electron-hole pair production event had occurred.

This represents an electric matter-electric antimatter creation event and it applies to every type of electric particle known to today’s science. Dirac’s calculations were for the electron-positron pair creation (the positron was experimentally discovered about 5 years later). Because the electron has a negative electrical charge, the positron was predicted to have a positive electric charge (for charge neutrality) and, because the electron has a positive, E -value, it must have positive mass; therefore, for

mass conservation, the positron must also have $E > 0$ and $mass > 0$ (a **loss** in a **negative energy** sea needs both energy and mass conservation).

Dirac has also calculated the $\Delta E = 2mc^2$ for the electron-positron pair formation with a high level of accuracy for the time^(14,15). However, even though he won the Nobel Prize for predicting positron formation and thus general anti-matter formation, physicists **hated** the idea of negative energy because they couldn't imagine what that meant. Thus, the orthodox physics community didn't follow up on Dirac's general concept and still hasn't even today.

Two possible explanations of what **negative** energy states mean are as follows:

1. The first possibility is that the position of the origin, $E=0$, is arbitrary and can be changed. For example, when we consider the interaction potential between two Be-atoms as in Figure 5, the origin is usually placed at the bottom of the potential well so that all of the calculated binary interaction energy states are positive. However, if we take the origin to be at the dimer dissociation level, then all these calculated dimer interaction energy states will be of a negative energy character.

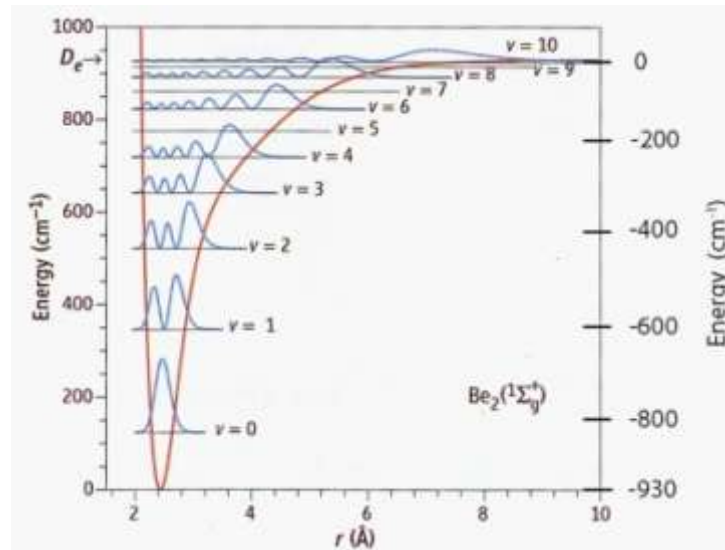


Figure 5. Potential energy for the Be₂ dimer as a function of Be atom separation distance, r , plus the first ten bound vibrational levels.

2. A better possibility is to realize that this type of internal energy should not be treated as a mathematical scalar but, as a wave, should be treated as a mathematical vector of the nature

$$E_j = R_j \exp^{i\theta_j} \quad (1)$$

Where R_j is the amplitude and θ_j is the phase angle for the j 'th energy state. Then, for the electric matter states, $0 < \theta_j < \pi$, and, for the physical vacuum states, $\pi < \theta_j < 2\pi$, so everything works perfectly and negative energies should no longer be a problem for orthodox physics because the negative sign enters through the phase angle.

Using a Mythos-perceived expansion of Dirac's concept of Figure 4, we can shed some light on Figure 3, "The Ladder of Understanding" via Figure 6 as a first-order approximation to the energy band domains for the individual rungs (with each domain having its own substructure (not shown)).

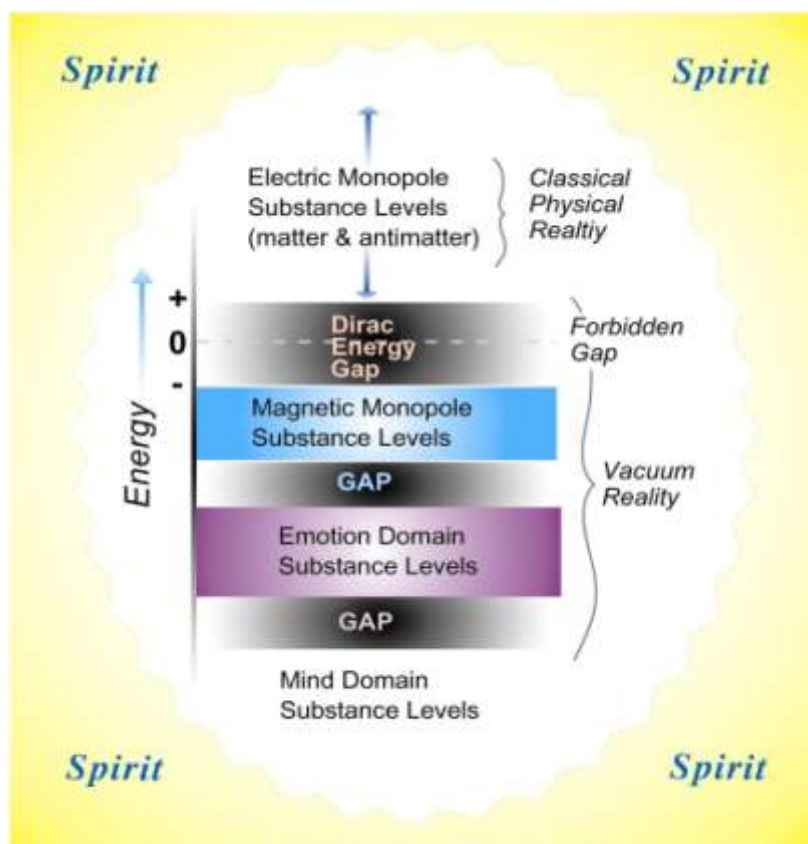


Figure 6. An energy band diagram embracing both classical physical substance and "unseen" vacuum substances.

For the electric monopole band of the bottom rung of our ladder, the quark substructure of the fundamental electric particles provides an example of the type of substructure being referred to in general. The successively higher rungs are

- (2) The magnetic monopole charge-based information substance band of energy levels (also referred to as the magnetic information wave levels),
- (3) The **emotion** domain substance band of levels (including the deltrons – to be discussed later),
- (4) The **mind** domain substance band of levels and
- (5) The **spirit** domain substance band of levels⁽¹⁶⁾.

This Mythos-perceived hypothesis is yet to be proven via experiment but it, at least, provides us with a target to aim at. A piece of support for these concepts is that, at least in a qualitative way, they

can account for (1) the origins of dark matter and dark energy, (2) planetary acceleration rather than deceleration at the outer envelope of the coarse physical expanding cosmos (the electric substance universe) and (3) why the matter/antimatter population ratio for a specific species is greater than unity⁽¹⁷⁾.

Physicists have experimentally observed that the matter/antimatter ratio for various fundamental particles in nature is greater than unity. A realistic possibility for explaining this comes from a consideration of Figure 6 wherein activation of some moiety from the emotion domain band, and less likely from the mind domain band, to jump upwards and fill some of the antimatter sites (hole sites) present in the magnetic monopole domain band as a result of the Dirac proposed process. This would definitely annihilate some but not all of these antimatter sites and produce a matter/antimatter of greater than unity.

In the past half-century, astronomers have begun to observe celestial body movements associated with “unseen” attractors. They have observed gravitational-type force effects that cannot be correlated with the observable presence of a celestial body so, to quantitatively account for their observations, they have postulated the presence, first of **dark matter** and second of **dark energy** with both of these having produced spatial curvature effects without any correlated EM-instrument detection. Ultimately, these experimental observations indicated that the majority of the mass and radiation energy present in the universe was of the dark matter and dark energy type. Today’s orthodox physics community seems somewhat confused as to the origins of such a phenomenon; however Figure 4 alone should “shout out” an obvious candidate.

Traditional gravitational forces involve positive mass-positive mass interactions of the $m_1 m_2 / r$ -type plus EM-radiation acting as the communication vehicle between positive mass types of matter. This is due to the $E > 0$ region ($E^2 > 0$) of substance in Figure 4, which is instrumentally observable because this EM substance exhibits $v_+ < c$. Non-traditional positive gravitational forces involve negative mass-negative mass interactions of the $m_1^* m_2^* / r$ -type plus a different type of communication vehicle called magnetoelectric (ME) energy (moving magnetic charges inducing electric fields in the physical vacuum). This is due to the $E < 0$ ($E^2 > 0$) region of substance in Figure 4. This region of substance, with $w = v^* > c$, is **not** instrumentally observable with today’s EM technology.

If one now adds some level of activated deltrons from the emotion domain (see Figure 10) to the mix of positive mass substance and negative mass substance, the $v^* > c$ substance can interact with the $v_p < c$ substance to produce a **repulsive** gravitational force rather than just an **attractive** gravitational force. Since dark matter is mass dominant over normal matter in the central regions of the universe, out at the periphery where ordinary matter planets and stars are expanding outwards, they will be subject to a repulsive force and thus will be accelerating rather than decelerating as expected by orthodox science.

To end this section, it is important to note that astrophysicist, John Wheeler⁽¹⁸⁾, calculated that, for quantum mechanics and relativity theory to be internally self-consistent, the average energy density of the coarse physical vacuum is $\sim 10^{94}$ gm cc⁻¹. In simpler terms, this means that, using $E=mc^2$ for 1 gm of average electric mass, and, knowing (1) the average mass density of the cosmos plus, (2) the volume of the cosmos as a sphere of radius ~ 15 billion light-years, the latent energy stored in about one thousandth of a cubic nanometer of the physical vacuum is about a trillion times larger than all the

$E=mc^2$ energy stored in the **entire** coarse physical cosmos. This great latent source of energy in the coarse physical vacuum forms the foundation for humanity's future as it explores the richness of the Figure 6 territory!

What Does a Spacetime, Relativistic vs. Non-Relativistic Analysis of "The deBroglie Particle/Pilot Wave Concept" Teach Us?

For the standard non-relativistic analysis (Figure 7), Shubert⁽¹⁹⁾ focused on the group and phase velocity of two harmonic waves with slightly different angular frequency, ω , and wave number, k , traveling in superposition. The group velocity, v_g , is the velocity at which the wave packets propagate in space while v is the phase velocity. For non-dispersive media such as the physical vacuum to EM waves, v is independent of wave frequency (which means that the EM wave is not interacting with the "stuff" of the physical vacuum) and $v=v_g=d\omega/dk$.

For a particle of momentum p , and mass, m , substitution of k in the calculated wave equation $d\omega/dk$ into the de Broglie relation, $p=\hbar k$, and subsequent integration yields the famous Planck relationship for the kinetic energy, $E_{KIN}=\hbar\omega=p^2/2m$; here $\hbar$ =Planck's constant divided by 2π .

On the other hand, Eisberg⁽²⁰⁾ combines de Broglie's two postulates, $\lambda=h/p$ and $v=E/h$, with the total relativistic energy of the particle, $E=\pm[c^2p^2+(m_0c)^2]^{1/2}$, where v is the frequency of the pilot wave. This approach leads to $v_p=v_g$ and the pilot wave velocity, $w=c^2/v_p$ (Figure 8). Since $v_p<c$, always, $w>c$, always. A much fuller development of this section is given in Reference 21.

Although Reference 22 touches on this topic, they deal with only the two waves v and v_g and predict that $vv_g=c^2$ and that $v_g>c$ but also cite an example that yields $v>c$. There is obviously some controversy here to avoid violating Einstein's prediction that nothing can travel faster than $v=c$.

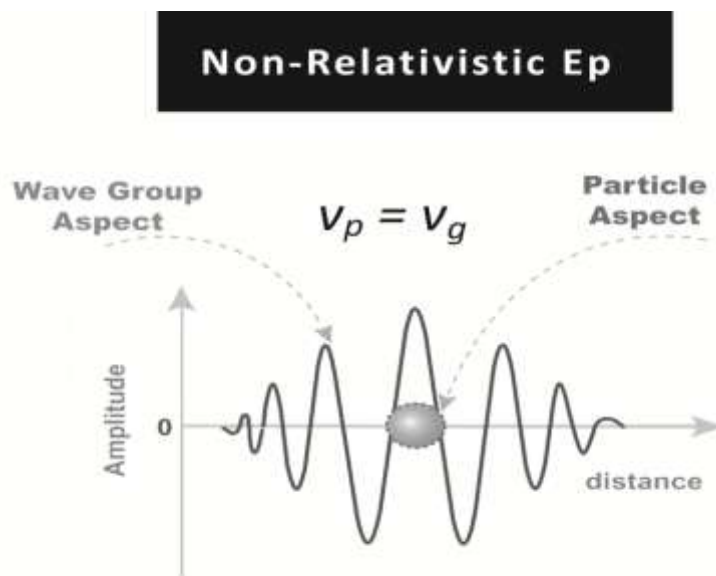


Figure 7. The De Broglie particle/pilot wave concept proposed that every particle had a pilot wave envelope enclosing it and moving at the particle's velocity. This was eventually to be called "the wave particle duality of QM".

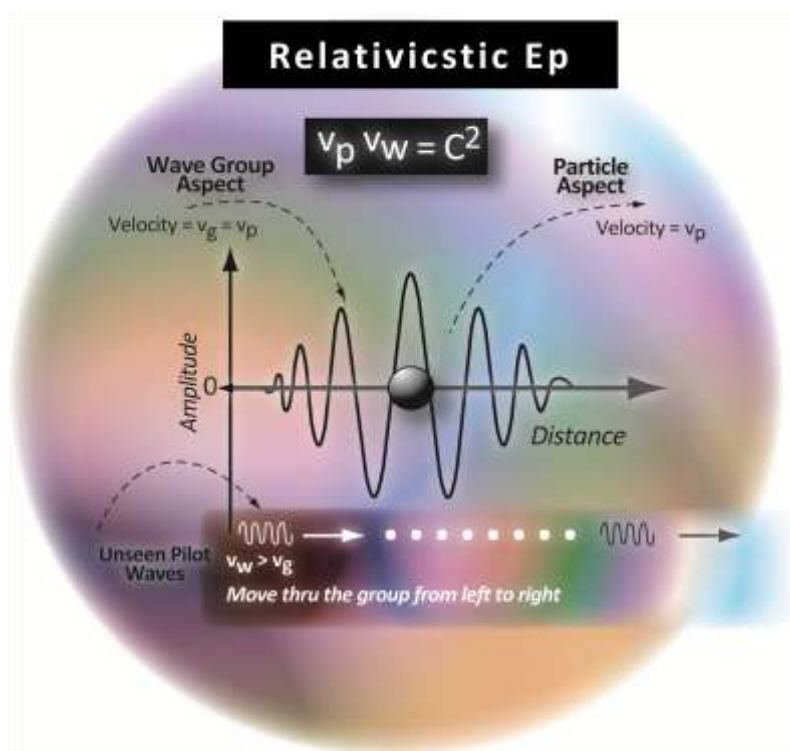


Figure 8. Schematic of true pilot waves.

How Might We Deal With $v < c$ Substances Interacting with $v > c$ Substances in Figure 8?

There are at least two relevant issues involved here, (1) Einstein has shown that the internal energy, E , of a particle goes to infinity as the particle velocity goes to the velocity of EM light, c . However, Terletsky⁽²³⁾ has shown that particles traveling at velocities greater than c also satisfy relativistic dynamics while Shannon and Weaver⁽²⁸⁾ have shown that a process in nature that creates **information**, ΔI , generates an equivalent magnitude **decrease** in thermodynamic entropy, ΔS_i , an important contribution to the thermodynamic free energy, G , of the substance where

$$G = PV + E - T(S_0 - \Delta S_I). \quad (2)$$

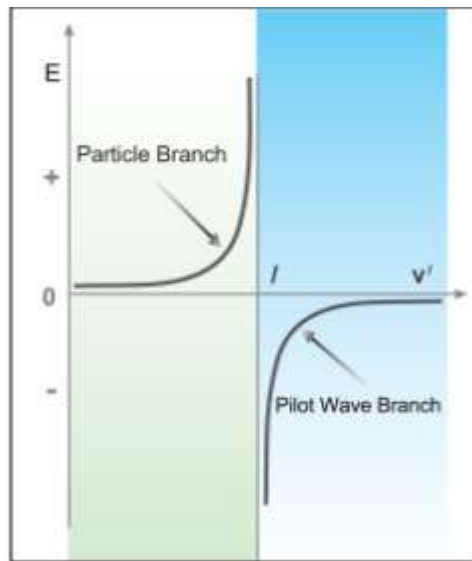


Figure 9. A Key Property of This Duplex RF is an Inversion Mirror Principle

A second, Mythos-generated, possibility is present that, from the emotion domain of figure 6, a moiety exists that can travel at both $v < c$ and $v > c$ and thus act as a “coupling” medium for interaction between $v < c$, electric-charge based substance with $v > c$, magnetic-charge based substance. I have labeled this coupler, substance “deltrons” which are postulated to allow such coupling as proposed via Figure 10.

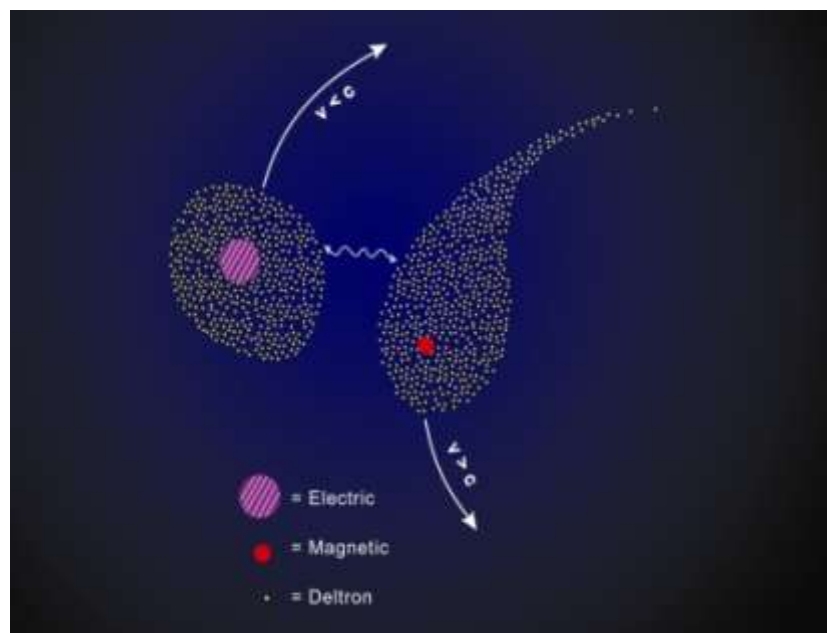


Figure 10. Deltrons, falling outside the constraints of relativity theory and able to move at velocities $v \lesseqgtr c$, acts as a coupling agent.

To make this new concept quantitatively operational, I also propose that we expand our present distance-time-only RF to a duplex space RF consisting of two, **reciprocal**, four-dimensional subspaces, one of which is spacetime. In the absence of any deltron coupler, this new duplex RF just collapses to our present spacetime (D-space) RF and all our present orthodox physics and medicine is accounted for. In the presence of sufficient deltron coupler, our full duplex space – {D-space//Deltrons//R-space} becomes interactive (see Figure 11 for a 6-dimensional version).

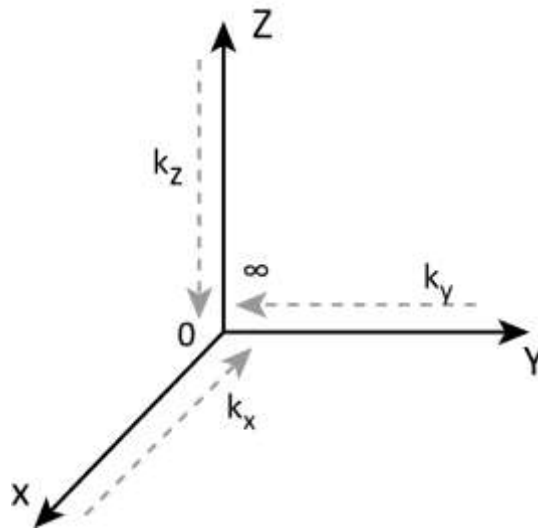


Figure 11. Invention of a Duplex RF of Reciprocal Subspaces, One of Which is Distance-Time {D-space // Deltrons // R-space}.

The R-space coordinates are all frequencies because one over distance is a spatial frequency while one over time is a temporal frequency.

This particular reciprocal subspaces RF has two significant benefits. The first is that the material properties of the two subspaces exhibit a type of deltron-modulated Fourier Transform relationship^(25,26) between each other. Thus, the quantitative behavior of the substance property in D-space allows one, in principle, to calculate the R-space conjugate behavior which reflects back into D-space experimental measurements. The second unique benefit is that this particular duplex RF exhibits a kind of “mirror principle”, not of the reflection mirror-type but rather of the inversion mirror-type. Figure 9 illustrates this inversion relationship for a particle’s internal energy, E , which changes abruptly as its velocity goes from subluminal speeds to superluminal speeds. References (6,7) shows many more such examples. Many other important mirror principal property relationships between D-space substance and R-space substance are given in Table I^(6,7,9).

Table I. The D-space/R-space mirror principle.

Physical Direct Space & Direct Time	Conjugate Physical Reciprocal space & Reciprocal Time
Direct space & Direct time	Reciprocal space & Reciprocal time
Electric Monopoles Forms atoms, molecules, etc. Allopathic medicine Positive mass Velocity < c Positive energy states E _p increases as velocity increases Positive entropy, S _p Positive free energy, G _p =H _p -T _p S _p Positive temperature Electromagnetism Gravitation Body sensory systems delineated	Magnetic Monopoles Forms atoms, molecules, etc. Homeopathic medicine Negative mass Velocity > c Negative energy states E _E increases as velocity increases Negative entropy, S _E Negative free energy, G _E =H _E -T _E S _E Negative temperature Magnetoelectrism Levitation Body sensory systems not delineated
Photons at velocity c Fastest in vacuum Slows down in dense material Faraday cage screening	Photons at velocity c' >> c (~10 ¹⁰ c) Slowest in vacuum Speeds up in dense physical matter Screening by magnetic cage

Experimentally Testing the Validity of the Descartes' Assumption in Today's World

This important assumption is paraphrased as “no human qualities of **consciousness, intention, emotion, mind or spirit** can significantly influence a well-designed target experiment in physical reality”. In today's world, there is no agreed-upon definition for the word “consciousness”; however, almost everyone would agree that human consciousness manipulates **information** in the form of numbers, language letters and words into sentences, symbols as in equations and jigsaw puzzles into pictures, etc. Thus, today's orthodox science, looking at a reaction equation of the form

$$\text{MASS} \leftrightarrow \text{ENERGY}, \quad (3a)$$

where human consciousness is not considered to be a significant experimental variable, is quite different from the psychoenergetic science equation of the form

$$\text{MASS} \leftrightarrow \text{ENERGY} \leftrightarrow \text{INFORMATION} \leftrightarrow \text{CONSCIOUSNESS} \quad (3b)$$

where, from Equation 2, $\Delta I = -\Delta S$ and $T\Delta S$ can be of comparable magnitude to ΔE . An experiment of the Equation 3b character could seriously test the Descartes' assumption so I and my colleagues designed and tested four such experiments.

These four target experiments were specific **intention** experiments with the **intention** being delivered to the particular experimental scene via a simple electrical device ^(7,3) placed within ~6" to 12" from the continuously running experimental apparatus. The total electrical power unintentionally radiated from the imprinted (or not imprinted) intention host device (IHD) was purported to be less than one millionth of a watt. The specific intention was mentally/emotionally imprinted into the IHD^(7,3) by four well-qualified meditators from a deep meditative state. The four specific target experiments were:

1. To lower the pH of highly purified water by -1 pH-units with **no** intentional chemical additions (measurement accuracy of ± 0.01 pH units).
2. To raise the pH of the same type of purified water by +1 pH units with **no** intentional chemical additions.
3. To increase the in-vitro thermodynamic activity of a specific liver enzyme, alkaline phosphatase (ALP) by a significant amount by a short-time exposure of the enzyme to such an imprinted IHD.
4. To significantly increase the in-vivo ATP/ADP ratio in the cells of living fruit-fly larvae via their lifetime exposure to such an imprinted IHD in order to be more physically fit and therefore manifest a significantly reduced larval development time to the adult-fly stage.

All four of these target experiments were robustly successful^(7,3) with the unequivocal conclusion that **the Descartes assumption, at the very least, does not hold in today's world!** In target Experiment 3, the exposure time was 30 minutes and the percent increase was ~30% at $p < 0.001$. In target Experiment 4, the ATP/ADP ratio was increased by ~10% to 20% with the percent **decrease** in larval development time being ~25% and, in both cases, $p \leq 0.001$.

In general, the evolutionary process of material property change, ΔQ_M , appeared to be like that illustrated in Figure 12 with incubation time, $t_1 \sim 1$ month, completion time $\sim 2-3$ months and with the direction of change always being consistent with the specific intention imprinted into the device.

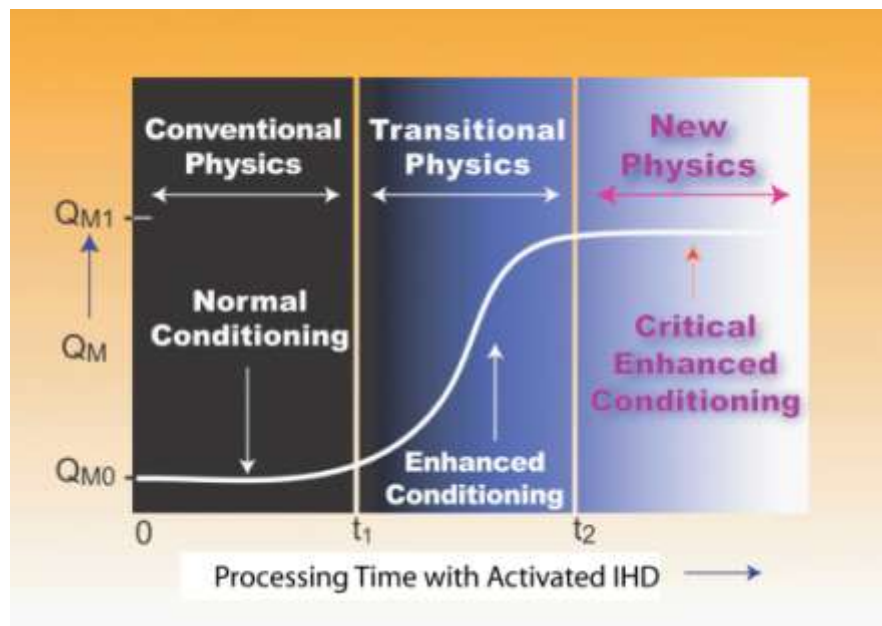


Figure 12. For any typical physical measurement, Q , the qualitative magnitude of Q_M , changes with IHD processing time.

In Figure 12, Q_M can be given by

$$Q_M = Q_e + \alpha_{\text{eff}}(t)Q_m.$$

Here, Q_e is our normal electric-charge based atom/molecule-value (Q_{M0} in Figure 12), Q_m is our vacuum-level magnetic information wave-value and $\alpha_{\text{eff}}(t)$ is the time-dependent deltron coupling coefficient-value. When $\alpha_{\text{eff}} \sim 0$, the coupled state collapses back to our normal reality, the uncoupled state (where $Q_M = Q_e$). In general, $0 < |\alpha_{\text{eff}}| < 1$ and can be of either positive or negative sign so that, at $t^* > t_2$, $\alpha_{\text{eff}}(t^*)Q_m \approx Q_{M1} - Q_{M0}$ and the experimentally measured material property has changed.

Some Experimental Characteristics Observed in an Imprinted IHD-Conditioned Space^(7,3)

Three main characteristic changes were observed to manifest in the experimental space when the Figure 12 process is allowed to mature to the well-established plateau level:

1. A D.C. magnetic field polarity effect on water pH occurred
2. Very low frequency property oscillations (water temperature, air temperature, pH and electrical conductivity) in the 10^{-2} to $\sim 10^{-5}$ Hertz range occurred with remarkable coherence and
3. Both long range spatial and temporal information entanglement occurred^(7,3). Such properties are never observed in normal, uncoupled states of physical reality.

Figure 13^(7,3) illustrates what is sometimes observed in a coupled space (after sufficient IHD treatment) when a disk-shaped D.C. magnet is placed underneath a pure water vessel containing pH and temperature measurement probes for two cases, (a) when the South-pole is pointing up into the water, the water exhibits increased alkalinity (the pH increases) and (b) when the disk magnet is turned over and the North-pole points into the water, the water exhibits increased acidity (the pH decreases)

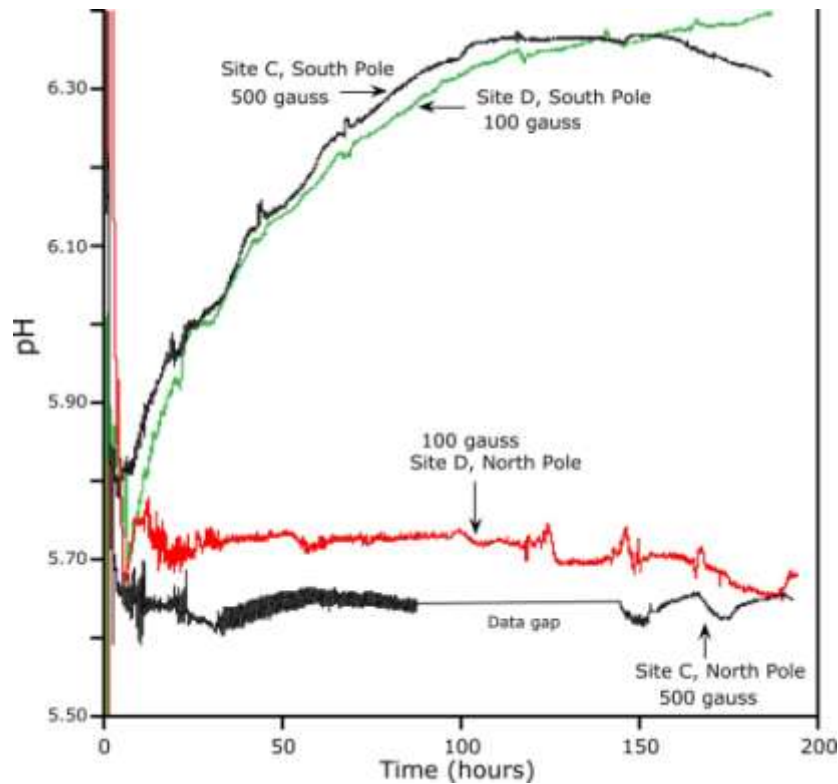


Figure 13. A D.C. magnetic field polarity effect.

This type of behavior can **never** occur in our normal uncoupled state of physical reality because only magnetic dipoles exist in that state of reality and both the magnetic dipole force and its thermodynamic potential are independent of geometrical orientation in space.

Figure 14 illustrates a type of enhanced coherence^(7,3) observed to occur in an IHD-conditioned space when the frequency spectrum is calculated for both simultaneous water temperature-oscillations and pH-oscillations. Here, we see a complete entrainment of the two spectra. Such a behavior never occurs in our normal, uncoupled physical reality. Further, this interproperty Fourier spectra entrainment phenomenon occurs even when one physical property sensor is physically separated from the other physical property sensor by as much as 12 feet^(7,3).

Abundant experimental evidence has been found for long-range spatial information entanglement^(27,28) (at distances from ~100 feet to ~6000 miles). More recently, temporal information entanglement from ~hours to ~a month has been observed in IHD conditioned spaces⁽²⁹⁾.

Our preliminary conclusions drawn from these results is that sufficient IHD conditioning of an experimental space lifts at least a portion of that experimental space to a higher electromagnetic gauge symmetry state^(14,30) which we designate as the SU(2) state compared to our normal, uncoupled state designated as the U(1) state. Orthodox physics has made great contributions to the EM gauge symmetry state theory⁽³⁰⁾ which involves fiber-bundle mathematics illustrated in Figure 15⁽³¹⁾.

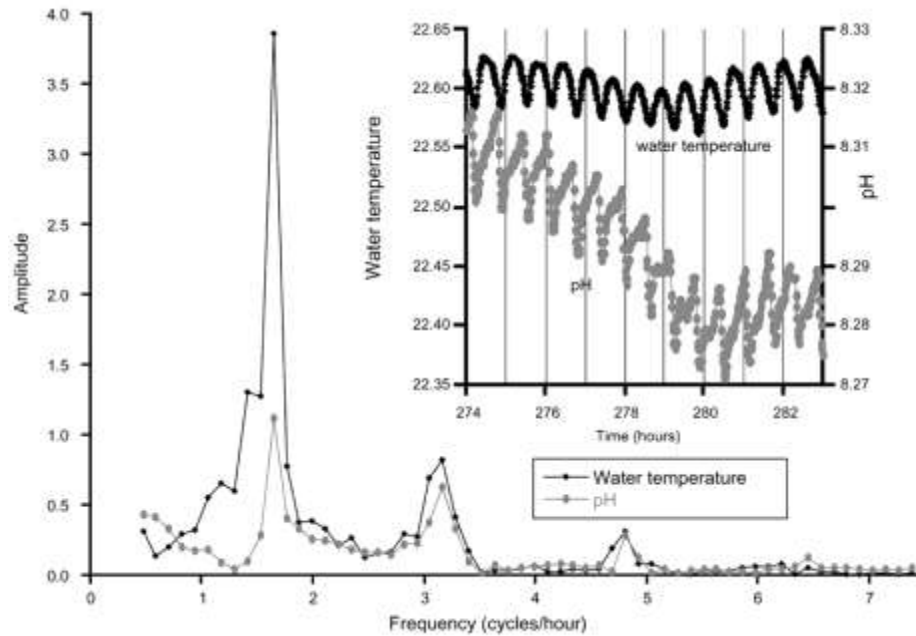


Figure 14. A type of enhanced coherence in an IHD-conditioned space.

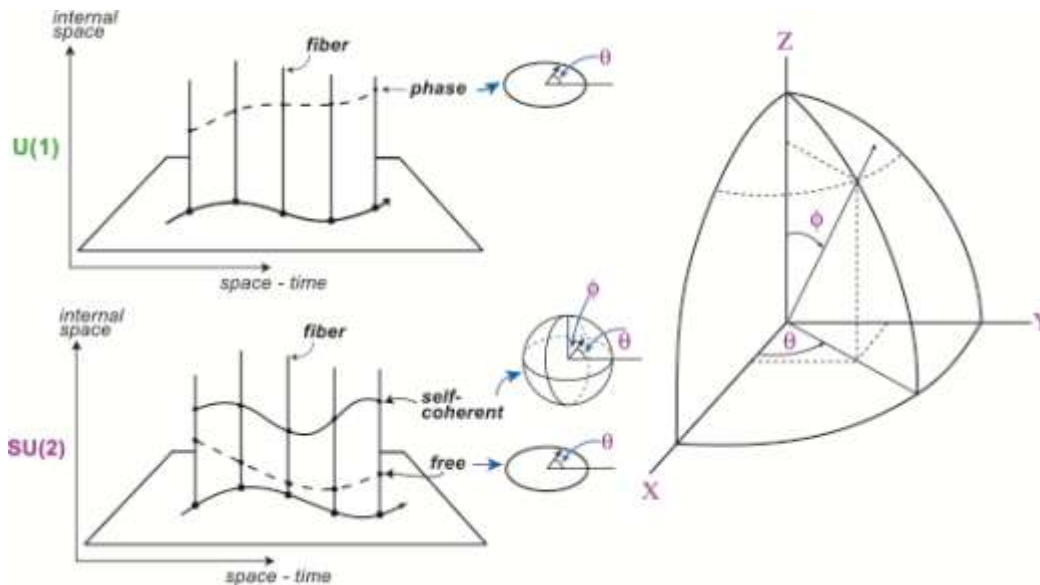


Figure 15. Illustrations crucial to meaning articulation for the U(1) and SU(2) EM Gauge symmetry states.

In today's orthodox physics, the neutron/proton exchange reaction also has an SU(2) Gauge theory designation because only the neutrino is also involved. i.e., only the three players are involved. In our case, the three involved players are thought to be the electric monopole (electron, $v_e < c$), the magnetic monopole $v_m > c$ (magnon) and the deltron ($v_d \leq c$).

Our proposed mechanism for the formation of a partially $SU(2)/U(1)$ mixed gauge symmetry state is illustrated in Figures 16 and 17.

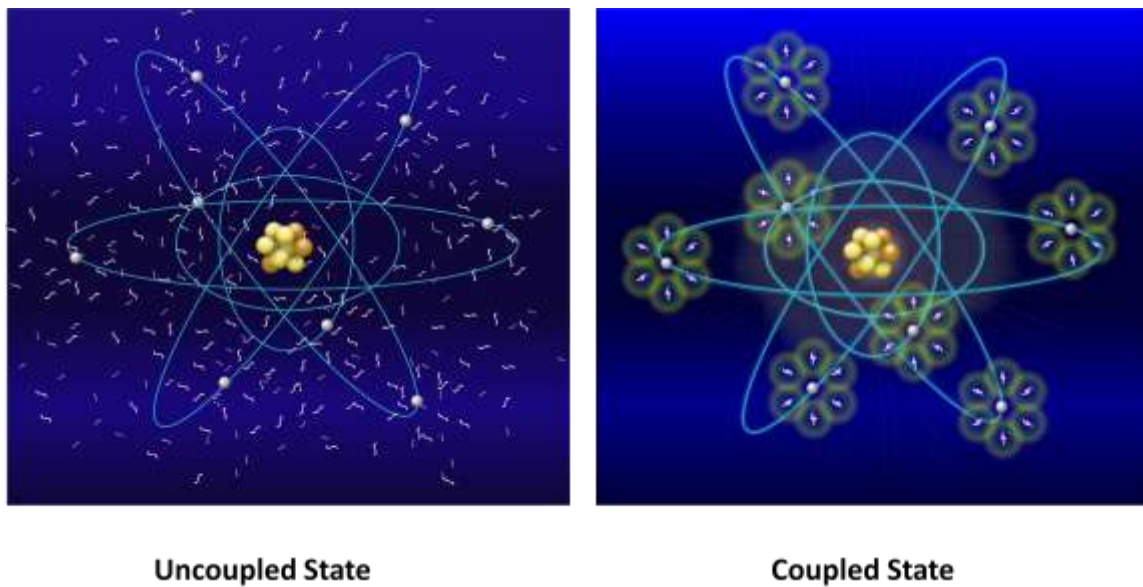


Figure 16. Physical reality metaphor.

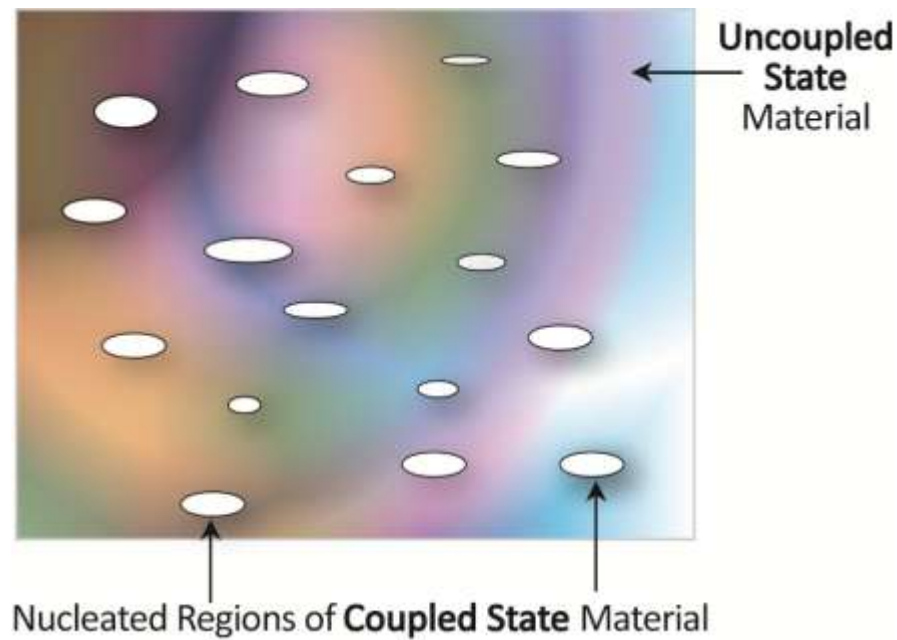


Figure 17. Nucleation and growth of the macroscopic coupled state of physical reality.

In Figure 16, the normal uncoupled state of physical reality (the $U(1)$ state) is illustrated metaphorically on the left with a classical picture of the atom with electrons moving in well-defined orbits at subluminal

velocities and the non-interacting, superluminal velocity, magnetic moieties illustrated as randomly moving dots of light. When the imprinted IHD is switched on in the experimental space, I postulate that deltrons flow from the emotion domain of Figure 6 upwards into the magnetic information wave domain reacting with those entities and therefore allowing D-space interaction with electrically charged species to form the coupled state, SU(2)-species illustrated on the right of Figure 16 and create the upper curve in the fiber-bundle SU(2) diagram of Figure 15. Continued reaction of this type is thought to eventually nucleate more macroscopic-sized domains of SU(2) material as in Figure 17, with these intention-altered properties which continue to grow in size so long as the IHD continues to pump sufficient deltrons into R-space. The ultimate property change of the host material will depend upon the volume fraction ratio $\Delta v_{SU(2)}/(\Delta v_{U(1)} - \Delta v_{SU(2)})$. At present, there is always a leakage rate of deltrons out of the experimental space so the system is thermodynamically metastable if an insufficient rate of deltron pumping from the IHD to sustain the net deltron leakage rate from the system is allowed to occur.

One last but important point needs to be addressed before we close this section. This is that lifting the experimental space from the U(1) gauge state to the SU(2) gauge state via use of an imprinted IHD, increases the thermodynamic free energy of that space relative to the unconditioned U(1) state material. As is well-known from the science of thermodynamics, processes in nature flow from higher thermodynamic free energy states to lower thermodynamic free energy states. Thus, if we had an organ or body system in our bodies that was at the SU(2) level while most of the body was at the U(1) level when we were born, this would provide an energy source appearing to give “life” to the body.

To experimentally test this Mythos-related concept, Figure 13 suggests that a system or organ in the human body that exhibits a D.C. magnetic field polarity effect indicates that such a system or organ is already at the SU(2) level. Using a ~6” long bar magnet as a probe to test various muscle group points on the human body, we observed that the South-pole placed within ~1cm of the skin surface of such muscle group points significantly **strengthened** that muscle via kinesiological testing^(10,9). The North pole of that bar magnet addressing the same surface group of points significantly **weakened** that muscle via kinesiological testing. Thus, these results strongly indicate that the human acupuncture meridian system is already at the SU(2) level so the human, and probably all vertebrates, have a chi/prana pump providing “life” to such systems. This life force is probably introduced into the acupuncture/meridian system via the various chakras of the body. Also, human practices of applied intention, meditation, yoga and qigong, etc, can greatly strengthen and broaden chi flows in such systems to greatly enhance the capabilities of such humans.

Some Future Human Opportunities Re the Ladder of Understanding

One of the very useful results of our experimental studies is that we can now quantitatively measure the excess thermodynamic free energy per unit volume, $\delta G_{H^+}^*$, of an IHD-conditioned space relative to the U(1) gauge symmetry state space for the aqueous hydrogen ion, H^+ . Therefore, all of our pH measurements can be mathematically scaled to this standard. On the experimental side, we use a pH-probe system like that illustrated in Figure 18.

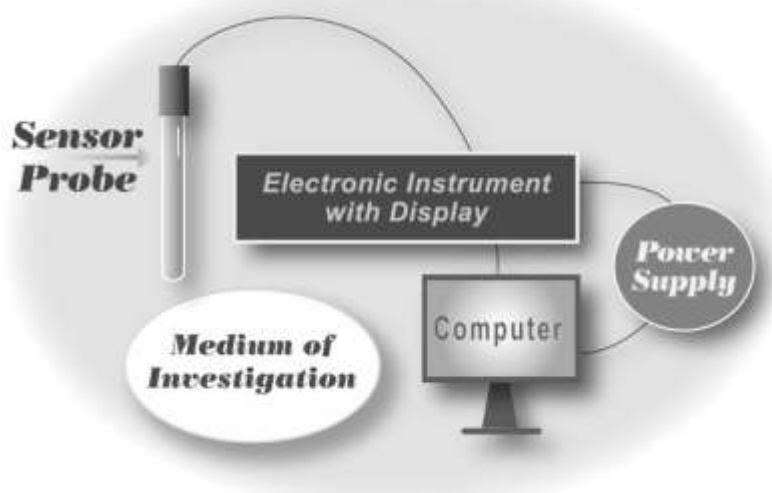


Figure 18. Equipment setup for experimental site.

For a commercial pH-measurement system, Figure 19 illustrates the linear relationship between the device measured voltage and the water pH for our normal U(1) gauge symmetry state.

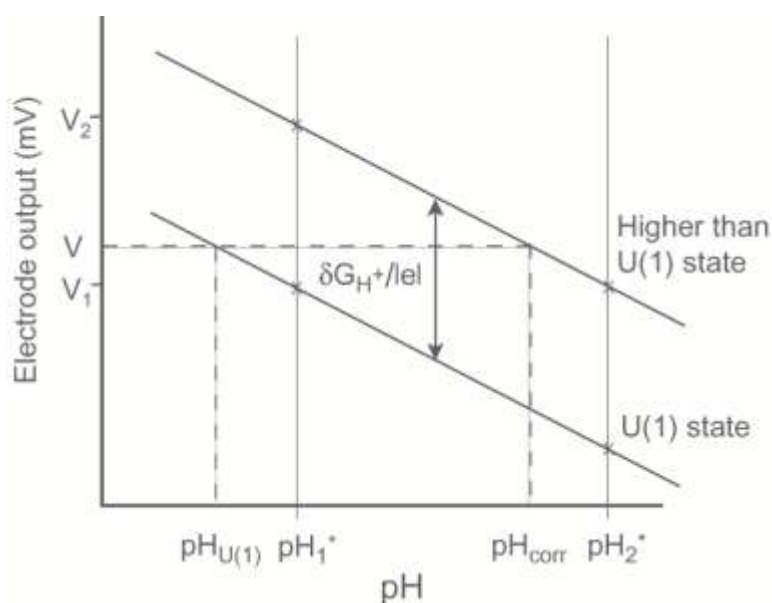


Figure 19. The electrode electrical output vs. pH plots for both U(1) and SU(2) gauge states.

For an excess thermodynamic free energy change of $\delta G_{H^+}^*$, for the aqueous H^+ -ion, that voltage/pH relationship is also shown and has been theoretically calculated⁽³²⁾. Figure 20 shows us some pH-converted data into $\delta G_{H^+}^*$ -data for the two Payson sites P_1 and P_7 plus both a London, UK-site and a Milan, Italy site.

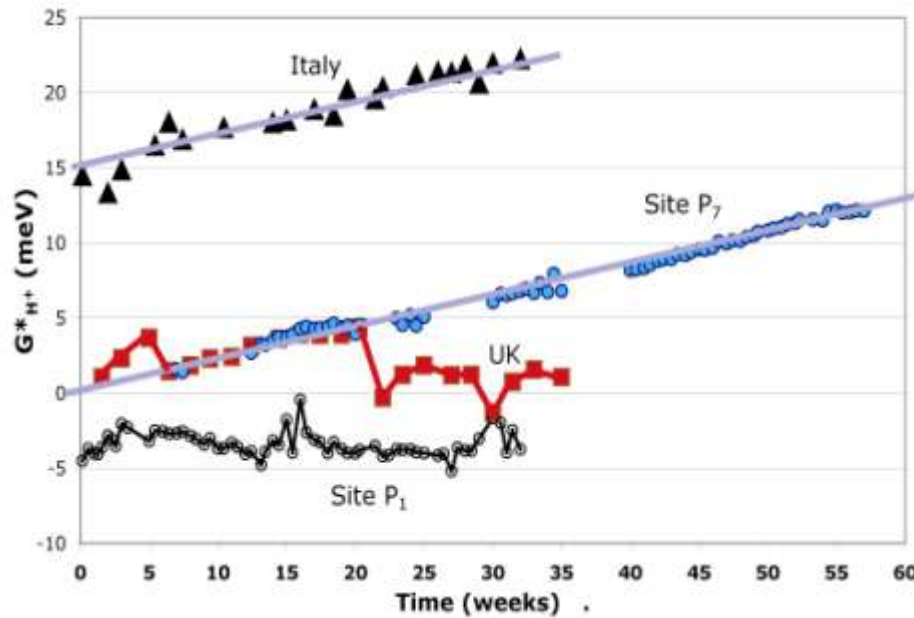


Figure 20. $\Delta G^*_{H^+}$ vs. time at four diverse sites.

For the latter two sites, they just send us their pH(t)-data via disk and we converted it into $\Delta G^*_{H^+}$ -data. A pH-change of one unit at the U(1) gauge state level is equivalent to a +23.6 meV change in electrode reading at room temperature which is also equivalent to the internal energy change, ΔE , of an atom that is heated by about 300 degrees Centigrade (which is substantial in our normal world). For the purpose of interhuman communication, it is useful to convert $\Delta G^*_{H^+}$ from the units meV to ΔT_{eff} where ΔT_{eff} is the effective temperature change to which a medium must be heated to produce the same magnitude of internal energy change as $\Delta G^*_{H^+}$.

As a specific example to illustrate the foregoing, we were asked by Eric Pearl of “Reconnective Healing” fame to come to one of their healing workshops and experimentally measure subtle energy changes during the workshop events. One such workshop was in Sedona, Arizona, about a 1.5 hour drive from our laboratory so I agreed. Figure 21 illustrates a meaningful schematic of the room setup.

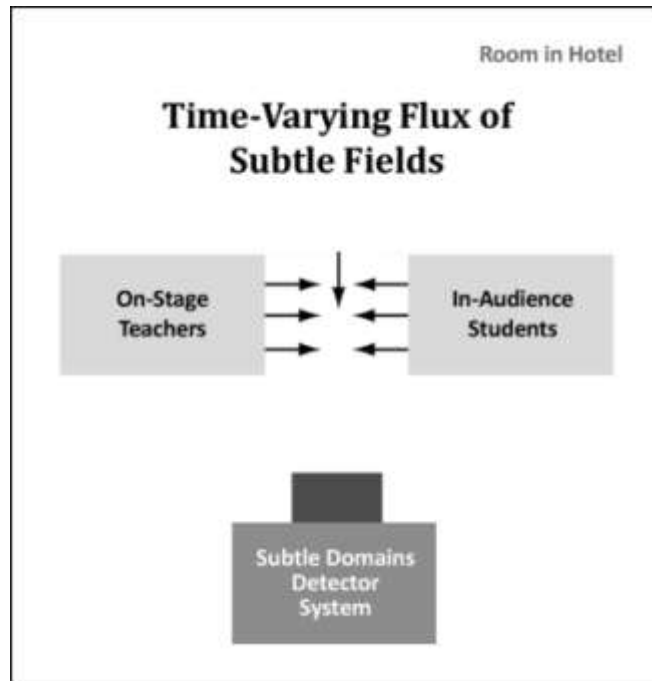


Figure 21. Schematic of the room setup for The Reconnection workshop.

Figure 22 shows the first piece of experimental data. We set our equipment up and checked to make sure that everything worked properly about 7 hours before the workshop began. We measured pH and water temperature, T_w , and calculated from theory the U(1) gauge state value of pH. The first thing noticed was that “the space was already highly “conditioned”” about 7 hours before the workshop began (perhaps a “time entanglement” event). Also, the pH-plot was significantly above the calculated $pH_{U(1)}$ -value indicating some level of pre-conditioning of the space. The second thing we noticed was the downward plunging lines on the T_w -plot. We often see such behavior in a “conditioned” space and have concluded that it comes from a small electrical discharge in the instrument circuitry of the temperature probe (designed to be electrically stable for the U(1) gauge state but not for its present “space conditioned” state). The second important piece of data gathered from this experiment is shown in Figure 23 as a plot of $\Delta T_{eff} (^{\circ}C)$ over the entire period of the workshop and checked a week later (the fourth data point on the plot).

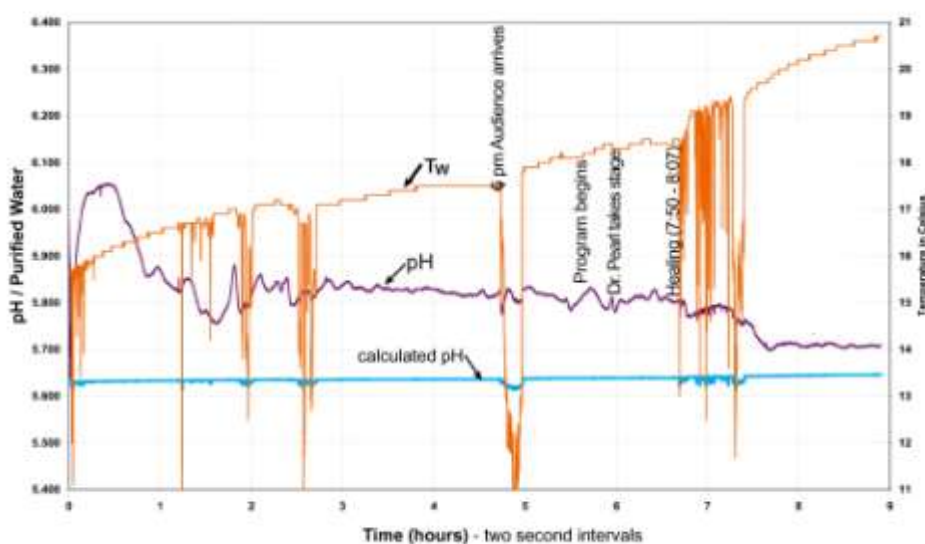


Figure 22. Very anomalous water temperature, T_w , behavior was observed at this Sedona, healing workshop.

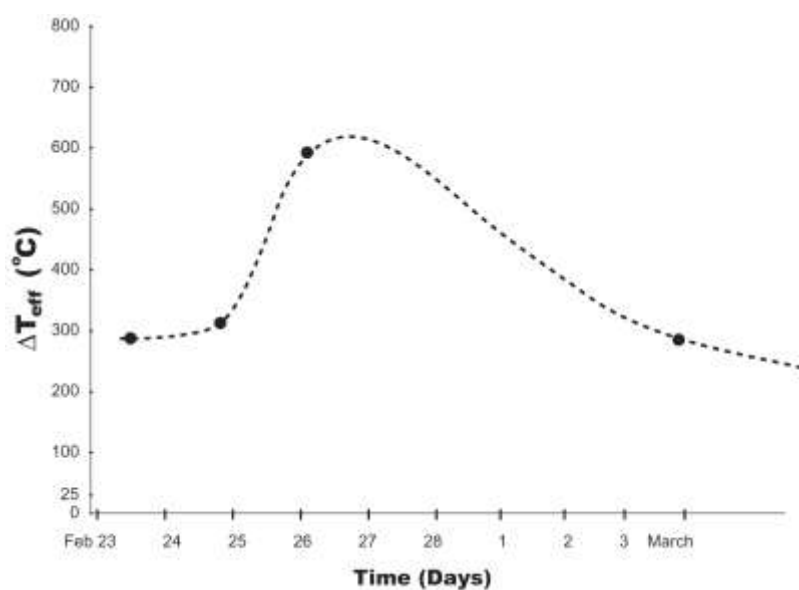


Figure 23. Possible data plot of the excess thermodynamic free energy for the healing workshop room as a function of time via converting δG_{H+}^* to an energy equivalent, effective change in temperature, ΔT_{eff} , for a normal room.

Here, one sees that ΔT_{eff} starts out at 300°C above its normal expected value, rises to about 600°C above and decays slowly back to a ground state value a week after the workshop ends.

At another Reconnective Healing workshop in Los Angeles a couple of years later, the Figure 24 data was obtained.

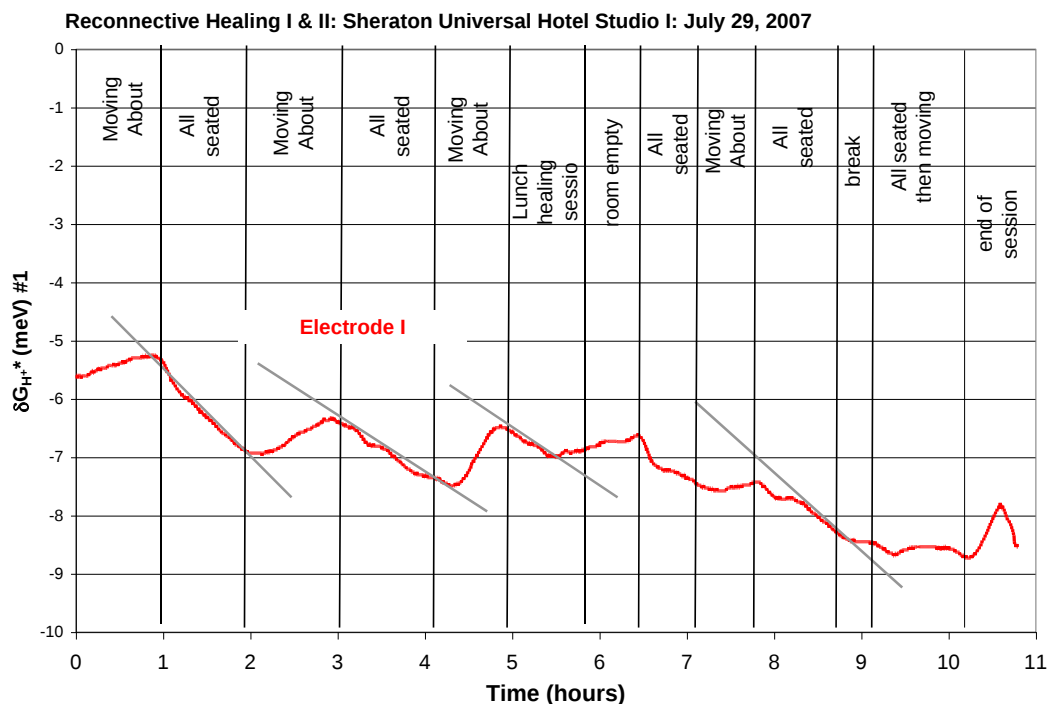


Figure 24. $\delta G_{H^+}^*$ for the space vs. time.

The importance of this Figure 24 data is that, **every time** the students sat down and paid attention to the onstage workshop teacher (see Figure 21), the **magnitude** of $\delta G_{H^+}^*$ or ΔT_{eff} increases (more negative) and **every time** the students stand up and walk around, the magnitude **decreases** (less negative). Since this magnitude ΔT_{eff} was much larger than the **actual** room change of temperature, we interpret these pH-changes as (1) positive information increases, $\Delta I = -\Delta S$, (see Equations 2 and 3b) and (2) increased entropy creation occurs when they stand up to walk around and chat with each other.

As we move towards understanding more about subtle energies and the Ladder of Understanding, three very important developments are needed:

1. Construction of a reliable and robust device for day-to-day measurement of “space conditioning” magnitudes via either IHD’s or human biofields,
2. Biofeedback devices for human self-development to strengthen their ability to intend, to create and to project subtle energies, etc,
3. Develop other categories of sensors for measuring subtle energies and use such tools with groups of people to enhance group coherence and apply such tools in schools, businesses, hospitals and industries, etc.

As a last important point to be emphasized with this paper is to recognize that an IHD-conditioned space or a human biofield-conditioned space is a thermodynamic **metastable** state. Just like a laser is a metastable thermodynamic state. So long as you keep “pumping” the lasing system appropriately, the

system will continue to lase; however, if the “pumping” is not continued, the excited electrons in the atoms will drop back from their excited state to their ground states and the lasing process will stop. Here, the property enhancement is also due to a thermodynamically metastable process requiring a significantly enhanced population of deltrons which can be created either by strongly inner-self managed humans who radiate these via their biofields or via imprinted IHDs, which can be thought of as deltron storage devices. Decay of the necessary population of deltron couplers leads to a decay of the stimulated property change as the system drops back to the $U(1)$ gauge symmetry state.

Acknowledgements

This author would like to acknowledge very helpful discussions and assistance from my colleagues Dr. Walter Dibble Jr. and Greg Fandel.

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Addendum to White Paper XXVII

Letter from Kathleen E Erickson, Editor of the "Journal of Scientific Exploration"
and Dr. Tiller's response:

Date: Wednesday, April 11, 2012 4:57 PM

From: Kathleen E Erickson <EricksonEditorial@gmail.com> 📧

To: William Tiller <bill@tiller.org> 📧

Subject: [JSE] Editor Decision

Size: 7 KB

William Tiller:

I regret to inform you that we are unable to accept your manuscript "Toward the Union of Logos & Mythos: Two Complementary Paths to Knowing" for publication in the Journal of Scientific Exploration. Please see the comments below. I hope you will find these comments useful in your future endeavors with the manuscript.

I am sorry to have to send you this negative decision. We very much appreciate you considering the Journal of Scientific Exploration for the publication of your work.

Best regards, Kathleen Erickson, Managing Editor

Editor-in Chief Comments:

Dear William Tiller,
Thank you for submitting your paper to the JSE. It's been read by two highly qualified referees, an Associate Editor, and myself, and I'm sorry to report that the consensus is to decline your paper. You'll find the readers' comments below, and I hope they will be useful in case you revise your paper for submission elsewhere.

Best wishes, Stephen E. Braude, Editor

Associate Editor comments:

Regrettably, I must recommend that JSE decline this submission on the basis of clearly presented reviews. One of these is by a physicist and the other by a philosopher of science, and both are highly regarded authorities. I believe the reviews could be helpful if the Author wishes to write a new

paper on the topic.

Reviewer C comments:

This paper tackles two huge themes: explanation of the immaterial in the history of Western understanding and how emerging energy theories and consciousness are related. The author is clearly passionate about the subject, however, perhaps because the themes are so complex and extensive the paper as a whole lacks a clearly defined premise which is followed through to a conclusion founded in relevant contemporary discussion of the issues in the fields it draws on: philosophy of mind, history of explanation, experimental parapsychology (especially within the area of the apparent measurable physical results of focused intention) and energy theories.

One of the biggest problems is the lack of reference to other contemporary attempts to address the mind/matter consciousness issue using the results from psi research. The paper could be strengthened with an acknowledgement that the explanatory gap has been a well-known problem in philosophy of mind and a more comprehensive defense of how the energy system proposed by the author addresses this issue. As the JSE aims to be accessible to people across disciplines the scientific aspects of paper should be graspable by those in other disciplines, at the moment this isn't the case. The paper would be strengthened if the experiments mentioned were tied more closely into the structure of argument.

The mythos and logos division is appealing as a concept, but the history of the study of science and its relationship to religion and more esoteric concerns is more complex than this allows for. An example of why this is problematic is revealed in the diagram for the mythos tradition. Some psi researchers (Sheldrake, Radin, etc.) are placed in this tradition of mythos, but their work is undertaken in the logos tradition as it uses the precepts of science as dictated by this tradition, even if the subject matter is controversial. The fact the parapsychology community itself is divided as to where to ultimately seek explanation of psi events though both camps undertake scientific experiments is something which could be addressed which would make the paper more solid.

The paper could be reshaped into a more suitable paper for JSE with a substantial rewrite that included references to those who are also exploring the connection between psi, energy, consciousness, and spirituality such as Charles Tart. And the philosophy of mind aspects could be strengthened by more research into psi and mind theory. These are examined thoroughly in relation to psi in the work of Stephen E. Braude. The paper would also need a revision of how the science that backs up the new theory is presented. A clearer argument showing how it is placed within a contemporary context of would also be required.

Reviewer F comments:

In various key aspects of the argument (e.g., propagation of wave groups, and band theory), the author appears not to have understood the basic arguments (e.g., in saying in his white paper V that the group velocity analysis applies only in non-dispersive media).

<http://www.scientificexploration.org>

Dr. Tiller's reply:

Dear Kathleen:

Thank you for the much delayed sad news re your email of 04/11/2012. I don't agree with the decisions of your reviewers since (a) this paper is not about the mind/body problem and (b) I have looked at the dispersive medium analysis described in "Optical Physics" by Lipson & Lipson, pp 34, 313, 314 (they argue for anomalous absorption to account for their dispersion relation, which I question for my case). However, I do understand that your group doesn't want to touch this paper I have written and I am at peace with that as a JSE "policy" decision.

Best Wishes
Bill Tiller

P.S. If the reader looks at pages 4 and 5 of White Paper XXVI, one sees that the physical vacuum is a non-dispersive medium for electromagnetic waves.