

January 2003

Volume 3, No. 1

CONSCIOUS ACTS OF CREATION: THE EMERGENCE OF A NEW PHYSICS*

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Editorial introductory notes:

This special article comes from Professor William Tiller, a physicist who has been exploring the influence of consciousness on the physical world for more than three decades. This article is a preamble to a second article Tiller is preparing, specifically relevant to spiritual healing, for the next issue of IJHC.

In a series of experiments, Tiller shows that conscious intent can be imprinted in materials which can be shipped to a distant laboratory, where they bring about the intentional effect that is imprinted on them.

These notes are provided as a summary to this technical article. Physicists speak a language that is highly specialized to their field, including terms and formulae that require a high level of proficiency in physics and mathematics – clearly beyond the level of most IJHC readers. If you find yourself in this majority, you may still enjoy the thrill of skimming this pioneering research report.

Tiller suggests that in each scientific generation we tend to presume we possess the ultimate and final knowledge and explanations for our world – only to discover that there are deeper and more basic ways of understanding the universe. Changing our ways of explaining the cosmos is, however, a slow and painful process – often resisted by habitual ways of conceptualizing the universe.

Tiller developed an Intention Imprinted Electrical Device (IIED) which can change the acidity of water, alter the action of enzymes (chemicals that facilitate physiological processes), and accelerate the growth rate of fruit fly larvae. “By comparing the separate influence of two physically identical devices, one unimprinted and the other imprinted via our meditative process, we were able to demonstrate a robust influence of human consciousness on these four materials...”

An unexpected finding was that the laboratories in which these experiments were conducted became “conditioned” to enhance these effects, even after the devices have been removed from the laboratory for several months. Tiller likens this to the spiritual “field of consciousness” that appears to fill a room where people have gathered regularly to meditate or pray together. Tiller found preliminary evidence suggesting a validation for this intuitive “feeling,”

demonstrating that the space used by a husband and wife healer team had the same “conditioned” effects as the laboratories where the IEEDs were used.

Other experiments produced further, highly unusual results. The IEED was placed in a beaker of purified water within a Faraday cage (shielding it from electromagnetic radiation). A number of thermometers that were placed in a line extending radially from the IEED showed a particular pattern of temperature gradient that remained constant despite strong fans blowing on the thermometers. The fans would be expected to dissipate any heat differences between the thermometers, but they did not do so. This is a highly anomalous finding, unexplainable in conventional physics. Further anomalous effects were noted when the IEED was removed from the room.

Recent advances in theoretical physics suggest that the space between atoms and molecules is not inert. Tiller speculates that this “vacuum” may be where the intent is imprinted.

Tiller suggests: as human beings we are spirits dressed in “biobodysuits” that are composed of four layers, spanning the physical and vacuum dimensions. He discusses consciousness as an aspect of the biobodysuit, representing spirit as it exists in matter, and relates these layers to theories of physics.

Tiller is a pioneer not only in physics but also in spirituality research.

Introduction

The experimental observations of Copernicus and Galileo eventually overcame, after great struggle, the prevailing and deeply entrenched science paradigm of their time. Over the subsequent centuries, what we now call classical mechanics gained ascendancy in the physics community and, by the 19th century was deeply entrenched as the prevailing physics paradigm of its time. By the last quarter of the 19th century, world leaders in the physics community were advising young students not to enter this field as “there are only a few t’s to cross and a few i’s to dot and then everything fundamental in physics would be known that could be known.” And then a new doorway seemed to open in the universe and two new concepts, (1) the quantum and (2) relativity, were born to account for some troubling experimental observations of the time.

Once again, the establishment science of the day strongly resisted the new concepts but, after about three decades of serious struggle, the new fields of quantum mechanics and relativistic mechanics had become strong enough and integrated enough to be begrudgingly accepted by the scientific community as a serious part of nature’s expression. By the end of the 20th century a new physics paradigm was in full acceptance and quantum/relativistic mechanics is the entrenched paradigm of today.

From the foregoing, one should deduce that nature always has richer modes of expression than our models and paradigmatic approximations to nature circumscribe. We should also deduce that it is reproducible experimental data generated via a well-defined protocol, which is inconsistent with any prevailing paradigm, that heralds a need for expansion of that particular world view into a new paradigm. Finally, we should also deduce that the process of change from one paradigm to its replacement does not occur easily and quickly because entrenched mindsets cause humans to reject what they don’t understand (from their viewpoint) even in the face of abundant experimental data. It is psychologically easier to reject the existence/validity of such data than to go through the difficult process of changing “hardwired” mental patterns concerning reality.

Today, we once again have abundant experimental evidence concerning nature’s expression that is being “swept under the rug” by the scientific establishment because it doesn’t fit into the

current prevailing paradigm. This concerns the issue of whether or not human qualities of spirit, mind, emotion, consciousness, intention, etc., can significantly influence the materials and processes of physical reality. The current physics paradigm would say “no” and indeed there is no place in the mathematical formalism of the paradigm where any human qualities might enter. However, the database that supports an unqualified “yes” response is very substantial [1-10]. This article is dedicated to illustrating to this readership both why, from a scientific perspective, the “yes” response is the correct one and, briefly, what some of its implications are for philosophy, religion and technology.

This article is a preamble to a discussion of spiritual healing, to follow in the next issue of the IJHC.

Experimental findings from our Intention Imprinted Electrical Device (IIED) research

The IIED device becomes the host for a specific intention designed for a specific target experiment. This specific intention is “imprinted” into the host device via four very qualified humans acting from a deep meditative state. The device then acts as an effective surrogate for these humans, plus cooperating parts of the “unseen,” with respect to transferring this specific intention to the experimental site of the appropriate target experiment.

The main target materials selected for this study were (1) purified water, (2) the liver enzyme, alkaline phosphatase (ALP), (3) the main cell energy storage molecule, adenosine triphosphate (ATP), and (4) living fruit fly larvae, *drosophila melanogaster*. By comparing the separate influence of two physically identical devices, one unimprinted and the other imprinted via our meditative process, we were able to demonstrate a robust influence of human consciousness on these four materials. In particular, by just placing the designated IIED for its target experiment about 6 inches from the experimental apparatus and turning it on (total radiated electromagnetic energy less than one-millionth of a watt), the following has been observed:

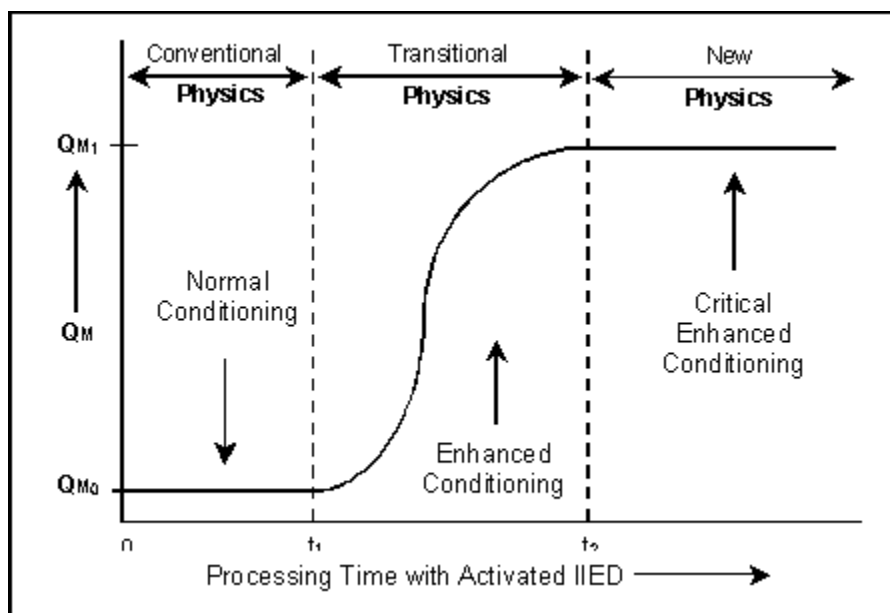
- (1a) A shift in pH (acidity) of the purified water, in equilibrium with air, down by one full pH unit (in precise accord with the intention imprint for that IIED), with a measurement accuracy of one-one hundredth of a pH unit with no chemical additions to the water. Thus, the imprinted intention [asked for produced] a response 100 times higher than any background noise.
- (1b) A shift in pH of purified water, in equilibrium with air, up by one full pH unit (in precise accord with the intention imprint for that particular IIED). Combined, these two devices (a and b) represented a swing in hydrogen ion content of the water by a factor of 100.
- (2) An increase in the *in vitro* thermodynamic activity of both ALP and ATP by about 15%-30% (in complete accord with the imprints imbedded in these two IIEDs). In both cases, the statistical significance of the data was $p < 0.001$, meaning that the probability of these results occurring by random chance was less than one in a thousand and
- (3) Reduced larval development time to the adult fly state by 25% at $p < 0.001$. This means that the IIED increased the rate of ATP production in the growing larvae so that they were more “fit” physically and they matured more quickly. Measurements of ATP confirmed this hypothesis.

A totally unexpected and critically important phenomenon arose during repetitive conduct of any of these IIED experiments in a given laboratory space. It was found that, by simply continuing to use an IIED in the laboratory space for approximately 3 – 4 months, the laboratory became “conditioned” and the state of that “conditioning” determined the robustness

of the above-mentioned experimental results. Our interpretation of this effect is illustrated in Figure 1.

Let us suppose that we have some generalized physical measurement, M , of magnitude, Q_M (this might be pH, electrical conductivity, etc.). From Figure 1, we note that, for IIED processing times less than t_1 , no meaningful change is detectable by our measurement instruments and $Q_M = Q_{M_0}$. However, for processing times between t_1 and t_2 , a variety of transitional behaviors (many of an oscillatory nature) are observed for Q_M . For processing times longer than t_2 , the space conditioning seems to have reached a stable plateau wherein, even with the IIED removed from the space and stored in an electrically-grounded Faraday cage, the degree of conditioning seems to remain fairly constant for very long periods of time in that locale (for over a year and

Figure 1. For any typical physical measurement, Q , the qualitative magnitude changes with IIED processing time



still going in one of our locales). In our purified water experiments locale, after time t_1 , we began to observe oscillations in air temperature, water pH, water electrical conductivity and DC magnetic field polarity effects on water pH. In nearby “unconditioned” locales, about 10 to 20 meters away, no such oscillations were ever observed.

Although we have not yet tried the specific experiment, we hypothesize that, if we had removed the IIED from the experimental space sometime between t_1 and t_2 , the magnitude of Q_M would slowly decay back to Q_{M_0} . If so, this would indicate that, whatever structural element in nature is responsible for these oscillations, is changing through a series of metastable states and would decay back to the ground state if the “IIED-pumping” was discontinued. Only after an IIED processing-time greater than t_2 does this structural element surmount some barrier and reach a truly stable state (the higher plateau in Figure 1).

This seems remarkably like the general human experience wherein a group of well-intended individuals come into a room to meditate together, pray together, meaningfully commune from a “spiritual” perspective together, etc. Then, an elevated and tangible “field of consciousness” seems to fill the room and one doesn’t want to leave this room. When the group eventually leaves, a residue of the experience remains in the room and slowly disperses. If this gathering meets daily in the same room for the same purpose then, after years to decades of such processing, the room takes on a seemingly permanent “conditioning” that can be tangibly felt by most individuals when walking singly into the room. Some of these sites become what we currently call “sacred spaces.”

On a more technical and theoretical level, our working hypothesis concerning nature’s structural element involved in the laboratory conditioning process is that we are changing the degree of order in the physical vacuum state of the room. This vacuum fills the spaces between all the atoms and molecules of the room as well as most of the space within all the atoms and molecules of the room. This vacuum is thought to contain “unseen” substances that today’s science has not explored in any detail. However, its normal state is postulated to be highly energetic, chaotic and completely random (disordered). Our IIED work suggests that human consciousness, specifically human intention, can interact with this vacuum “stuff” and alter its degree of order in a seemingly permanent way. As a metaphor for this process, it is much like having a large volume of pure water at a temperature near 0°C that is being cooled slowly. Theoretically, we know that microscopic regions of ice-like order form and disappear quickly throughout this water and we could call this a metastable condition. When the temperature is below 0°C, a true thermodynamic potential exists for forming ice as a stable phase in this water. All that is needed is to have an effective catalyst present to help these microscopic regions of ice-like order exceed a critical size and then macroscopic sized particles of ice appear and remain stable in the bulk water.

Returning to my main technical theme, what we have created via this IIED research is a higher symmetry state of nature wherein a richer level of physical expression is naturally manifested in that space. From this discovery, we have learned that any measurement by a physical instrument is comprised of two parts (1) the typical part, which we call the direct-space or particulate part, and (2) a second part, which we call the reciprocal-space or wave part. In our normal world (an unconditioned laboratory), Part 1 is much much larger than Part 2 and, to even discriminate Part 2 from Part 1, we must gather careful statistics.[1] because the magnitude of the signal is just above the noise level. However, in a fully “conditioned” space, human intention can significantly influence materials and processes in nature so that the magnitude of Part 2 can be much larger than Part 1. It indeed becomes a “new” reality.

To date, we have consciously created six different “conditioned” spaces for our experiments with one having remained in the “conditioned” state for over a year after removal of the IIED. We are now moving out to try and reproduce these remarkable results in other people’s laboratories around the U.S. We think that they can be created in various settings, such as hospitals (nursery, surgery), offices (psychiatrist, psychologist), churches, homes and manufacturing facilities, with a different specified intention for each. It seems to be a practical way to gradually raise the symmetry state of the earth to a new level of potentiality and possibility. Of course, elevated and loving human consciousness is a likely requirement for sustaining and nourishing that stable higher symmetry state. (A full account of this new research is given in Reference 10).

Additional “conditioned” space experimental results

My current working hypothesis is that the conditioning process produces domains of order in the physical vacuum which, in-turn, raises the electromagnetic Gauge symmetry of the space so that any physical measurement in that space is comprised of two appreciably sized parts.

(Gauge symmetry is a very complex concept in physics so, here, we will just consider it as determining the type of order present at the vacuum level of nature.) One aspect is from our normal “direct-space” while its companion aspect is from the newly appreciated “reciprocal-space.” The former arises from particulate structure in nature while the latter arises from wave structure at the vacuum level in nature which, combined, comprise the wave/particle duality concept that is a cornerstone of quantum mechanics (QM).

In this section, I want to elaborate on the base of our experimental findings, provide a few examples concerning unintentional human “conditioning” of space, and indicate the key step of experimental validation that we are embarking upon at the moment.

At our most conditioned laboratory site in Minnesota (the IIED had been removed many months earlier and the room maintained stable “conditioned” space signatures), we decided to set up a “source” type of experiment which we continuously ran over a several month period. The “source” consisted of (1) an electrically-grounded, 12” diameter (~12” high) Faraday cage (FC), (2) a 3” diameter jar containing purified water placed inside the FC at its center, (3) a pH-electrode and temperature-probe placed inside the water with leads going outside of the FC to a measurement device plus a computer and (4) a linear array of air-temperature measurement probes placed about every 6” or 12” from the center of the FC along a direction extending across the entire room to a position 11 feet away outside in the hall. The location of the FC plus temperature measuring probes (resolution of 0.001°C for some probes and 0.1°C for others) relative to the conditioned office and hall is shown in Figure 2a.

Figure 2a. Forced convection experiment at site B. A mechanical fan was positioned to perturb the air around a series of aligned temperature measurement probes. Fan location positions (X is on the floor, Y is on the desk) relative to the water vessel in a Faraday cage on upper left table top and a line of temperature probes (small boxes) 6 inches apart.

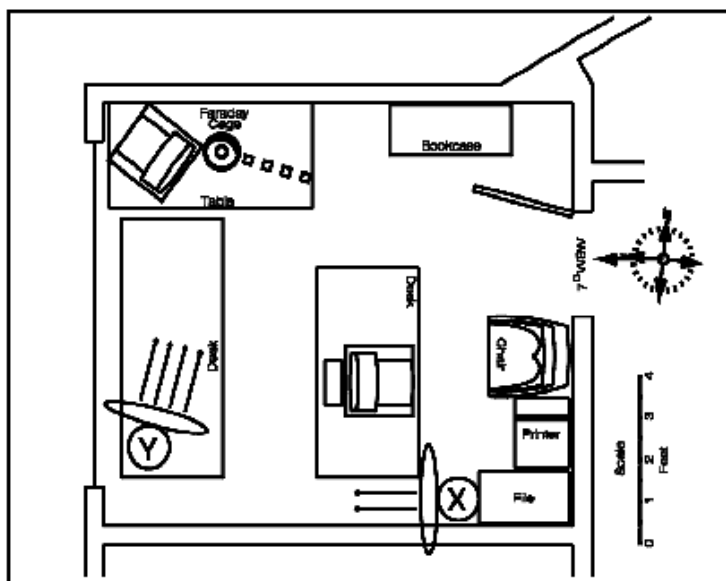
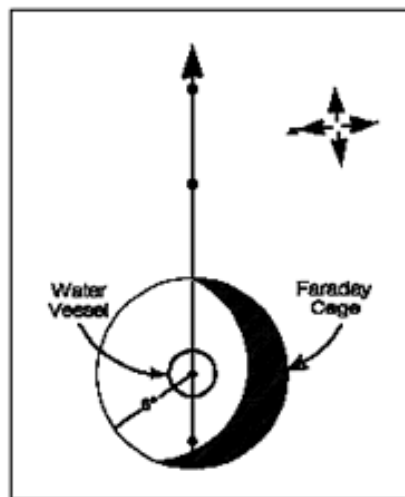


Figure 2b. Detailed schematic drawing of temperature probes relative to Faraday cage and water vessel and their relationship to true North. Position of temperature probes shown as black circles

A detailed picture of the FC shown on the table top (upper left corner of Figure 2a) is shown in Figure 2b. All of these temperature probes record oscillations with some average amplitude and we were interested to determine (1) how the amplitude varied with radial distance from the center of the FC, (2) how the air T-oscillation amplitude changed when a fan was blowing air across the array of probes and (3) how the air T-oscillation amplitude changed when the FC plus water jar and its instrumentation were removed from this “conditioned” room and stored elsewhere.



Standard, normal observations (i.e. conventional anticipations under the prevailing paradigm) in an unconditioned space for these three temperature (“T”) experiments would be the following: (1) for an air T-oscillating source at the location of the water jar inside the FC, the amplitude would diminish steadily with radial distance from the jar while the period of the oscillation would increase steadily with increase of radial distance from the jar, (2) the T-oscillation amplitude would collapse to about zero magnitude with the fan blowing air strongly about the room and (3) the T-oscillation amplitude at all probe locations would decay to zero within minutes of removal of the “source” from the room. Any other behavior would be anomalous!

The actual, observed behavior of the T-oscillation amplitude in these three basic experiments was as follows:

(1) The air T-oscillation amplitude did not decay smoothly and asymptotically to zero with increasing distance from the FC. Rather, we observed the profile shown in Figure 3.

The second maximum is distinctly anomalous. In addition, when we analyzed the spectral distribution of the various T-oscillation wave components (fundamental plus all higher harmonics) at all probe locations from within the FC to out in the hall, this spectral distribution was identical at all probe locations. This is very anomalous, as if one common oscillating force of unlimited extent (at least 11-20 feet in radius) was driving all these T-probes.

(2) Even with a fan blowing directly on the T-probes (with sufficient force to blow a sheet of paper quickly from the table top), although some jiggling of the T-oscillation waves occurred at any particular T-probe location (immediately on starting the fan), they quickly settled down and continued to oscillate with almost the same amplitude and period as in the pre-fan case. An anomalous behavior indeed, as one would expect the fan to distribute heat from any one location to all locations around the laboratory!

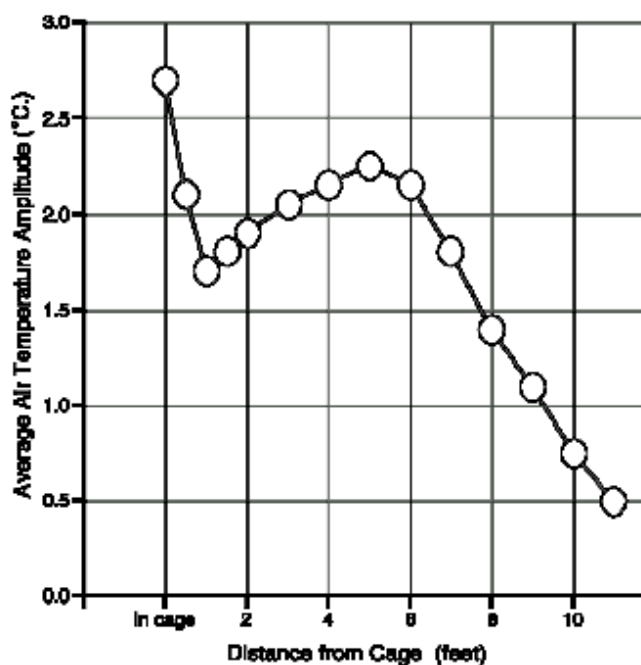
(3) When the “source” was removed from the room, the air T-oscillation amplitude did not quickly disperse. Rather, it slowly decayed with a time-constant of ~weeks to months. What we might call a “phantom” air T-oscillation amplitude profile existed in the room for a very long time. (We didn’t wait long enough for it to decay fully but, after a few days, did experiment 4).

(4) We placed a large, natural quartz crystal, with its C-axis (central, longitudinal axis) pointing upwards (perpendicular to the table top) within the area previously occupied by the FC. We immediately noticed an increase in the phantom T-oscillation amplitude but no particularly noticeable change in the time-profile shape of these phantom waves. However, when this quartz crystal was rotated 90 degrees, so that one of its prism faces was now flat with the table top and its C-axis was now pointing along the line of the T-probes, there was an immediate inversion of the wave shape, a reduction of T-oscillation amplitude by a factor of about five, and a reduction of the wave period by about a factor of two. This is a remarkably anomalous result!

All of this is very “odd” behavior. So what does it mean? What initial conclusions can be drawn concerning “conditioned” spaces? What is the most important step to be taken in our future research?

First, the experimental data are real! We are observing startling new facts about the manifold expressions of nature. It is a new reality for us and one must look at it with new eyes. We

Figure 3. Composite amplitude vs. distance plot for air, T-oscillations in the Figure 1 geometry (between August and September 1999).



presume these effects are related to a raising of its symmetry state. We learn that space is adaptable/malleable to human intention when the coupling between the substances of direct-space and the substances of reciprocal-space is strong. From our theoretical studies, discussed below, we have postulated that activation of a higher dimensional coupling substance from the domain of emotion (called deltrons) is required.

There are two subspaces that are reciprocals of each other. One subspace, which we call direct-space (or D-space), has a distance-time coordinate framework. The other subspace, which we call reciprocal-space (or R-space) has an inverse-distance and inverse-time coordinate framework. The latter coordinates can be looked at as frequencies and thus allow a more natural bridge to the higher dimensional domains of nature (emotion, mind and spirit).

A word picture of the simplest composite substance would be

{D-Space Substance //Activated Deltrons// R-Space Substance}. Since the magnitude of this coupling increases as the magnitude of deltron activation increases, we can conclude that enhanced human intention is or includes a thermodynamic potential to increase deltron activation. We can also conclude that it is not the dense particulate substance of physical reality that gives rise to these new phenomena. Rather, it is the much finer wave substance of physical reality that gives birth to these new expressions of nature. Thus, we must begin to recognize physical reality as being composed of two parts, a dense electric matter part and a fine magnetic matter part. Only when large deltron (from the emotion domain) activation occurs is this magnetic monopole aspect readily distinguishable from the electric monopole aspect. (Magnetic dipoles manifesting measurable effects in dense physical matter are thought to arise as “images” from the magnetic monopoles in reciprocal-space).[10]

If we remove particulate substance as any explanation for these new experimental facts, we are left with the physical vacuum as the next most simple structural domain in nature as a home for this new class of phenomena. Since reciprocal-space is thought to be the coarsest level of the vacuum[10] and magnetic monopoles are also thought to be the prime constituents comprising the fine atomic substance of reciprocal-space, it is the development of domains of order in an otherwise random background of vacuum, that is thought to be the “source” of these phenomena.

Most people think of the physical vacuum as totally empty but, actually, it is the space between all atoms and almost all of the space within atoms and molecules (at least 99.999+% of that space). From theory, for internal consistency of quantum mechanics and relativity theory, the vacuum must contain $\sim 10^{94}$ grams equivalent of latent energy ($E=MC^2$ units). This is a huge number which, in more practical terms, means that the amount of vacuum energy latent in the volume of a single hydrogen atom is much, much more than all of the mass energy present in all of the planets and all of the stars that telescopes would detect in a radius of 20 billion light-years[10] (provided that we can neglect the Einsteinian gravitational constant – which one can if we have a “flat” universe - and cosmological data suggest that we do).

Before the general science community will accept this new data as a demonstrable part of nature’s expression, we must find a way to have other experimenters around the country and around the world reproduce the experimental results described in the introductory section of this article. This means that they must first “condition” their experimental space. Very recently, we have received the funds to conduct and track “conditioning” experiments in four different laboratories around the country. As I write this article, we have already initiated this new step in four laboratories,.

In the closing section of this article, let us consider a few examples of what are probably partially “conditioned” spaces with which this readership may have some familiarity. For the first example, let us consider an inventor who has worked for years in his garage to construct

and perfect a subtle energy conversion device of extremely high efficiency. Let us also suppose that eventually, to his satisfaction, he is successful in achieving his goal. He shows it to his friends and is able to successfully demonstrate the super-high efficiency of his device. They encourage him to start a business utilizing the device and, as a key part of the overall business

agreement, the prototype is to be moved to a testing laboratory in another city for rigorous evaluation by others. This is done, the tests are carried out carefully by reputable people and the super-high conversion efficiencies of the original tests are not substantiated. Only ordinary performance is observed for the device!

Both the testing people and the potential business associates conclude from this that the inventor was either not a careful experimenter, had a defect in his measurement system or was practicing fraud. However, in reality, he had probably partially “conditioned” both his garage and his device via his sustained intention through the many years of prototype development and was probably not even aware of this possibility and its crucial relationship to his results. He had probably created something approximating the higher Gauge symmetry state of one of our “conditioned” spaces whereas the verifying laboratory locale was bound to be a totally unconditioned space. The many stories (myths?) concerning alchemists from the middle ages probably involved many of the same ingredients present in the garage inventor example above.

The last example relates to the conditioning of an external space in the office of a husband and wife who conduct their daily professional activities in this space. They are a remarkable couple, strongly devoted to helping and healing others and filled with love for both individual examples of humanity and the larger collective humanity. They wanted to participate in our external site conditioning experiment to help us and perhaps to eventually be of greater help to others in need of “healing.” Our first measurements in their office immediately showed it to be partially “conditioned” (surprise, surprise!). However, the “quality” of this conditioning gave a different pH and temperature signature than we were used to and, if this means that there is already a high deltron activation in that room, it should not take too long for the room to “learn” to generate the signatures required by the prime imprint directive from the IIED we are using in their space. An exciting possibility that the near-future will unfold for us!

Towards Understanding the New Experimental Data

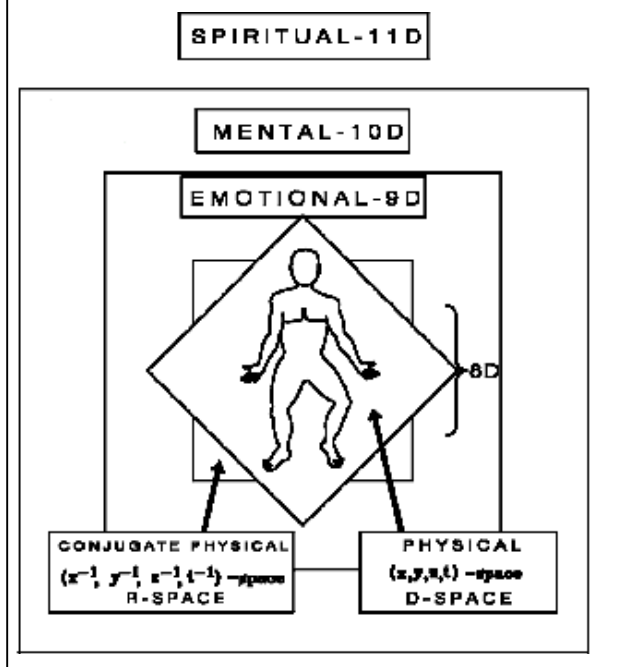
To recapitulate, I described the many strong experimental measurement anomalies associated with monitoring air temperature-oscillations in a particular radial direction from a “source” structure placed in a strongly “conditioned” space. These effects could not be traced to any particulate substance in the room but, rather, appears to originate from a physical vacuum substance that is generally unseen and undetectable by instrumentation in normal unconditioned space. When we removed the source to a remote location, the room still manifested these air T-oscillations which we labeled “phantom” oscillations having a long lifetime and described how their nature could be strongly influenced by the placement and orientation of a natural quartz crystal at the original “source” location[10]. I also described a few examples of unintended, intention-generated, partial conditioning in the work spaces of what could be called focused, loving, normal people.

In this section, rather than presenting a deeply scientific perspective on the structure of the universe and the various detailed processes that we think can account for these experimental results, I wish to describe my present understanding in metaphorical terms.

The Biobodysuit Metaphor

My working hypothesis is that we are all spirits having a physical experience as we ride "the river of life" together. Our spiritual parents dressed us in our biobodysuits and put us in this playpen, which we call a universe, so that we can grow in coherence, in order to develop our gifts of intentionality, and in order to ultimately become what we were meant to become - effective co-creators with our spiritual parents.

Figure 4. A visualization of dual four-space frames imbedded in three higher dimensional frames

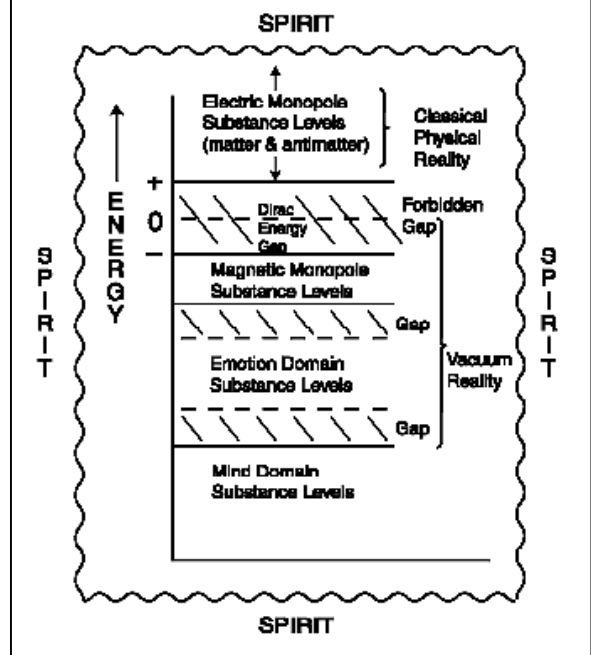


All of these inner layer substances function in what we presently call "the vacuum." The more structurally refined are these layers, the larger is the amount of our high spirit self that can inhabit the biobodysuit. What are known as the four fundamental forces of present-day science all function in the outermost layer and somewhat in the first inner layer of the biobodysuit. What are presently called "subtle energies" all function in the three inner layers which are substructures of the vacuum. An energy level diagram for this biobodysuit structure is given in Figure 5.

It is well known that, at least at the moment, our eyes detect only a very small fraction of the total electromagnetic spectrum and our ears detect only a very small fraction of the total available sound spectrum. Thus, it is perhaps

These biobodysuits come in a wide variety of colors and two unique morphologies, that we choose to call genders. Each biobodysuit has four main layers: (1) the outer layer is the electric monopole substance layer, (2) the first inner layer is the magnetic monopole substance layer, (3) the second inner layer is the emotion domain substance layer and (4) the third inner layer is the mind domain substance layer - and inside that is a portion of our spirit self that drives the vehicle. So think of this multilayered suit as a kind of "diving bell" or apparatus that our spirit self uses to sense and experience this peculiar earth environment. A pictorial representation of this structure is given in Figure 4.

Figure 5. An energy level diagram embracing both classical physical substance and "unseen" vacuum substances.



not so surprising when I suggest that we generally detect only one band in the total spectrum of reality!

For most of us, we are presently only cognitively aware of the outer layer of our biobodysuits and the outer layer of the world that surrounds us. However, some individuals are, today, cognitively aware of these unseen bands in the spectrum of reality. These are people we call "sensitives," "clairvoyants," "seers," "intuitives," and other names that indicate they perceive information outside of the usual spectrum of conscious human awareness. This means that such a capability is a natural part of the multidimensional human genome. It probably also means that all of us have the latent capability for achieving these expanded levels of cognition. This generally occurs via intentional and diligent practice of self-management techniques. We are all familiar with such self-development processes at the outer layer level of the biobodysuit – for instance, for developing and enhancing various athletic, artistic or strength coordinations. Now, we are becoming aware that we can extend such efforts to the emotional and mental levels as well. This allows us to build new infrastructures at the inner levels of our biobodysuits.

At least three or more inner self-management techniques at emotional and mental levels are readily available to us:

- (1) Yoga –is the oldest and best known. It focuses on the brain in order to still the mind and then to make significant contact with our larger self.
- (2) QiGong –is the next oldest, and the basis for all the martial arts. It focuses on the Dan Tien point just below the belly-button in order to still the mind and then make contact with our larger self.
- (3) HeartMath –is the newest, which focuses on the heart in order to still the mind and then make significant contact with the larger self.

There are a variety of other approaches, Sufism being one. In almost all cases, sufficient diligent practice leads to various levels of adeptship and this naturally manifests as what we presently call "superphysical" abilities. I prefer to call it actualizing our latent abilities, which involves becoming more coherent and therefore more conscious.

In this metaphor, consciousness is a concomitant or byproduct of spirit entering dense matter. If only a little can enter because insufficient structural organization exists in the dense matter, then the individual consciousness will be low. This means that the individual's awareness will also be low and very little flexibility will exist in the course of action to be taken in response to a stimulus or event that occurs in the environment. However, by the diligent application of personal effort, one can increase the structural refinement in their biobodysuit so that it exhibits a greater capability. Thus, more of our high spirit self can enter the body and the individual exhibits a higher level of consciousness. This manifests, in part, as greater personal awareness, the recognition of new possibilities, more flexibility, more adaptability, a greater ability to just love and not judge another human, the recognition that only win-win situations are enduringly stable, the recognition of others as part of our larger self, etc. This continual "bootstrap" process is the way we grow spiritually. And we have grown quite a bit since we first invested a part of our spirit-selves in the biobodysuits of the mammalian ape. However, we still have a very long way to grow before we reach home!

What we see here is that "we are the product of the process and we are built by the process!"[9] By directed intention, we engage in activities outside of ourselves and, by the

quality of our actions there, have the possibility of building a better biobodysuit (a major experience in spirit's creation ability) and developing a higher consciousness - both of which greatly enrich the human family!

At the outer layer of our biobodysuits, our neural systems function only on the basis of contrasts or differences. Thus, our sensory systems in this layer detect only the differences between things and this is why we appear to be separate from each other. At the level of the first inner layer of the biobodysuit, a special kind of "mirror-type" relationship exists and the coordinates for experience are not distance and time but are the reciprocals of these ($1/\text{distance} = \text{number per unit distance}$ or a spatial frequency and $1/\text{time} = \text{number per unit time}$ or a temporal frequency). Thus, this coarsest level of the vacuum is a four-dimensional frequency domain and, here, there is no separation between us. Here, we form a unity, and the events that occur in this presently unseen domain are the precursors to all the events that materialize at the space-time level. If you like, it is the prephysical reality where we collectively create our future at the space-time level.

At present, we don't cognitively access the vacuum domains in the reality spectrum for a variety of reasons. Three of these are:

- (1) We are seldom quiet enough at the outermost layer level in order to reliably sense the information signals present at the more subtle levels - they are buried down in the "noise" [of our engagement with material awareness].
- (2) We have not yet developed a sufficiently coherent structural organization at these inner levels to allow large amplitude signals to exist and be sustained in the vacuum domains.
- (3) Perhaps most important of all, our mindsets are such that we believe the four dimensions of space-time are all that exists and, therefore, we have built a cognitive jail for ourselves with walls so high that it is almost impossible to tunnel through them and break free of this confining mindset!

Now, let us address some of the key points in this biobodysuit metaphor:

(a) The Vacuum: Most of the general public hold the idea that the vacuum is not only the absence of physical matter but is also devoid of anything! However, for quantum mechanics and relativity theory to be internally self-consistent, the vacuum is required to contain an amazingly large inherent energy density. This vacuum energy density is so large that, for a "flat" universe (so Einstein's Gravitation constant can be neglected), the intrinsic total energy contained within the volume of a single hydrogen atom is [about one trillion times larger than that contained in all the physical mass of all the planets plus all the stars in the entire known cosmos out to a radius of 20 billion light-years. This makes the energy stored in physical matter an insignificant whisper compared to that stored in the vacuum. Uncovering the secrets of the vacuum is obviously a very important part of humankind's future!

(b) Coherence: To illustrate this principle, let us consider the case of a typical home-use 60 watt light bulb. It provides some illumination but not a lot of illumination. This is primarily because the emitted photons destructively interfere with each other so that most of the bulb's potential effectiveness is destroyed. However, if we could somehow take the same number of photons emitted by the light bulb per second and orchestrate their emission to be in phase with each other, then we would have constructive interference between these photons and now the energy density of the surface of the light bulb would be thousands to millions of times larger

than that emitted by the surface of the sun. This illustrates the unutilized potential in the present light bulb.

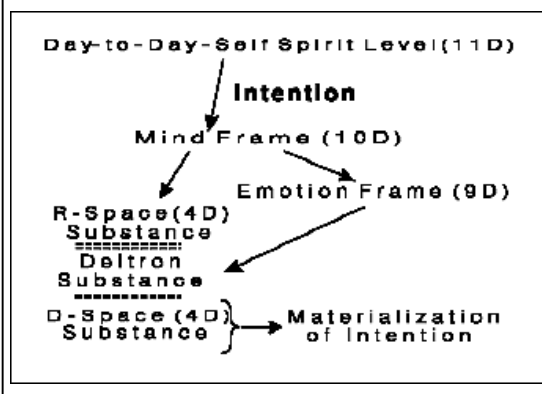
Perhaps the best example of the development of coherent energy emissions from humans comes from studies of QiGong masters. They appear to emit beams of infra red radiation (1 to 4.5 microns) from their palms[9] that have healing benefits.

(c) Mindsets: One of the most striking experiments concerning the power of one's mindset was carried out in the mid-1930's by a psychologist named Slater, who designed what might be called "upside down" glasses. Subjects were asked to continually wear these glasses that distorted their perception so that the wearer saw everything upside down. It was very disorienting for the wearer but, after about two to three weeks (depending on the wearer), there was a sudden "flip" and they saw everything right-side up. Then, if the subject permanently removed the glasses, the world was abruptly upside down again for about two to three weeks before the images returned to a normal perspective. Here, we see that the original mindset was so strong concerning the upright orientation of familiar objects that, when the special glasses inverted this orientation, a force developed in the brain to [seemingly cause neural dendrites to grow into a configuration that essentially create an inversion mirror in the optical information path. Once this neural structure was "hardwired," with concomitant software adjustment, it took the old mindset several weeks to deconstruct the special signal inversion network. We now call this "neural learning" and we humans do it all the time. It is how we build additional infrastructure into the various layers of our biobodysuits!

(d) The Cause/Effect Process: Via specific intentions, the in-the-biobodysuit aspect of our spirit self produces actions in the infrastructures of the various layers and these ultimately manifest as events in space-time. Specifically, the intention from the domain of spirit imprints an initial pattern on the mind domain (the innermost layer). The detailed intralayer connections transfer the imprint in a correlated pattern to both the magnetic monopole layer (second layer) and to the emotion domain layer (third layer) where it activates an important coupling substance, called deltrons, in this layer (see Figure 6). The deltrons allow coupling between the magnetic monopole substance of the second layer and the electric monopole substance of the first layer (outermost layer). This coupling agent acts much like the "toner" needed in a standard copy machine to produce a clear and legible copy. When the original intention imprint reaches the outermost layer of the biobodysuit, it activates the built-in mechanisms for action in the surrounding domain - physical reality.

It is via this process that we collectively and continuously create our future in space-time. Our individual responses to the events we perceive in space-time are in the form of thoughts, attitudes and physical actions (and probably reciprocal space actions). This is feedback to the mind and emotion domains which make incremental changes to the patterns that generated the initial events in space-time. The superposition of all the responses to the initial events from all of humankind leads to the new pattern at the mind level that generates a new set of events in space-time. Iteration of this incremental step, which can be considered as a single frame in the "movie" called the "River of Life," is how

Figure 6. Illustration of one possible process path whereby spirit produces action in the physical domain



we collectively create our cognitive reality and how our spirits learn the pros and cons of applied intentionality.

To summarize the biobodysuit metaphor: This a communication vehicle for understanding how our spirit-self interfaces with the various phenomena of our earth world and how, in the process, it transforms this earth world via our intentions. In addition, these intentions, by manifesting a spectrum of associated actions in our daily life, build hardwired infrastructures and software programs (both of which are changeable by subsequent sustained intentions) into the various layers of our individual biobodysuits so that more of our high spirit-self can enter, thus raising our consciousness. From this model one can realize that, on other life-worlds, although their spirit selves are composed from the same “stuff” as ours, the outer morphology of their biobodysuits will generally be quite different because their unique physical laws and their planet’s animal life-form development may have been quite different than ours.

So I perceive it to be!

Raised Symmetry Spaces, The Origins of Life-Force and the Healing System

In this section, I want to expand on the philosophical modeling given previously, [9,10] to show where our individual life force comes from, to show how we can use it to create healing spaces and how this fits into the metaphor “the outbreathing and the inbreathing of the All.”

I mentioned above that we create our collective future via our thoughts, attitudes and actions in the “now.” An old and popular adage in many societies is, “The end justifies the means.” With respect to co-creating a world wherein we, our children and our grandchildren would be happy to live, this old adage is exactly backwards! A more proper and more effective affirmation for our collective future would be: “The means we use to achieve our goals in life actually determine the ends we must eventually live with.” Thus, even when we have a proper set of goals, we must be very selective in the means we utilize to achieve those goals.

A case in point is our response to the Sept. 11, 2001 terrorist attacks. That particular “wake-up” call told us that we have a metastasized cancer in the body of humanity and that, if we want to restore that body to health, we must both excise that cancer and seek to understand the necessary life-style changes needed for humanity to not recreate the environmental conditions wherein such cancers naturally grow. Choosing suitable instruments for surgically excising this cancer with full compassion for neighboring “tissues,” and maintaining an uplifted spiritual/mental/heart-state during the process, is a growth opportunity for all of us. We are in the process of “becoming” and it is via this type of collective challenge that we show how collectively inner self-managed (on average) we have become. We should both remove the present terrorists and should examine our individual and collective inner selves to alter that within us which creates terrorists in the first place.

The old metaphor, “the outbreathing and inbreathing of the All” suggests a vehicle for an overview understanding of our collective path at the soul level (indestructible and eternal). This can be thought of as a single cycle in the evolution of God wherein we individual souls may have a multitude of re-embodiment cycles. At some point in this major cyclic process, everything is in a state of perfect coherence and no “thing” is discriminable in the whole – we are one! During the out-breathing phase of the cycle, a gradual unraveling of this coherence state occurs so discriminable beings and things unfold. Initially, these beings and things have no biobodysuits of any type to enwrap their spirit natures. As the process of decohering continues from the highest frequency levels towards the lower frequency levels of spirit, manifestations of individualized consciousness first enwrap themselves in a layer of mind-substance and experience a collective social culture from that type of biobodysuit perspective.

This would be a state of very high Gauge symmetry, not cognitively accessible from our readership's present Gauge symmetry state. As the decohering continues to lower and lower frequency levels, more discriminated beings and things manifest, the biobodysuits develop more layers and new social cultures develop at successively lower Gauge symmetry levels. Some of these cultures appear in present-day mythology and we call them "Lemuria," "Mu," "Atlantis," etc. However, it is likely that they were real cultures with their artifacts only accessible to us when we raise our Gauge symmetry state to the appropriate symmetry level.

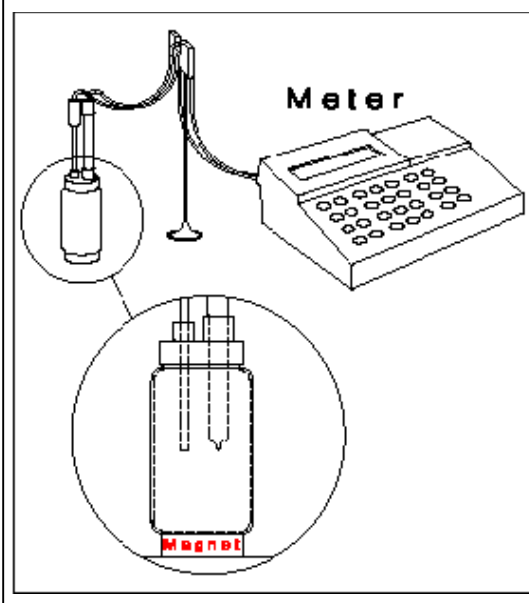
This decohering process, which many call the "fall of man" with "sin" overtones, has continued through the "big bang" with biobodysuit development to its present four-layer nature and its completely amorphous (random) physical vacuum. This has taken our spirit selves through the "brute" stages of human development and, at some point in the relatively recent geological past, the decohering phase of the cycle has stopped and the recohering phase of the cycle has begun. Thus, we are now in the "in-breathing" part of the process and can anticipate our spirits' experiencing higher Gauge symmetry states, less that four-layer biobodysuits and advanced social cultures on our journey "home" to the state of total coherence and optimum oneness!

I write these words because, now, we are beginning to consciously create higher symmetry spaces in laboratories, offices, homes, etc., and we need to become aware of the opportunity that lies ahead for all of us. The most tangible experimental evidence for this statement comes from the observation that, in a "conditioned" space compared to an unconditioned space, when one places a DC magnet under a jar of purified water and records its pH, as illustrated in Figure 7 [10], with the north-pole pointing upwards for 2-3 days and then reverses the magnet so that the south-pole is pointing upwards (for 2-3 days), we find that the pH change from one condition to the other is large in magnitude for the "conditioned" space but is zero for the unconditioned space (as it should be from conventional U(1) Gauge physics theory). This result can only occur if a

"conditioned" space is at a higher level of physics Gauge symmetry wherein magnetic monopoles, as distinct from magnetic dipoles, are somehow influencing the measurements. One consequence of this is that the thermodynamic free energy difference, ΔQ_G , between a higher physics Gauge symmetry state and our normal world's Gauge symmetry state is as illustrated in Figure 8.

This means that useful work can be pumped from any of these states X,Y,SU(2),Z, etc., to the U(1) Gauge symmetry world. Thus, if a single organ or system of the human body was elevated to one of these higher symmetry states at birth and the rest of the body was not, seemingly all functions of the body could be driven via this energy source to exhibit what we call life; i.e., the heart would pump blood, nerve synapses would switch on and off, electric currents would flow, the brain would be activated to direct various body processes, etc. Interestingly, experimental data shows us that there is at least one

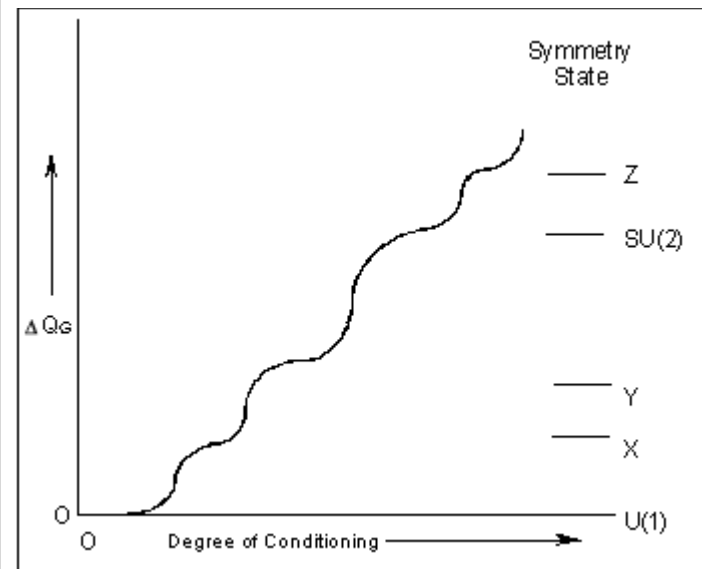
Figure 7. Experimental set-up for testing changes due to a DC magnet placed under the water vessel with either the N-pole or the S-pole axially and vertically aligned



important body system that is at one of these higher physics Gauge symmetry states!

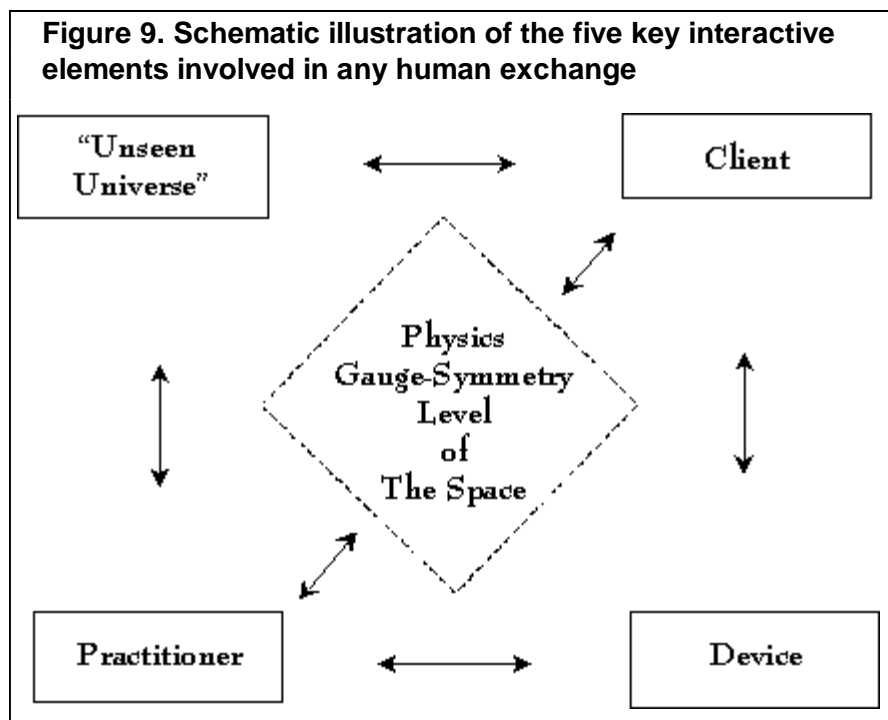
It is a fairly common experience in advanced kinesiology studies that a practitioner can slide a small circular DC magnet (with a central hole) onto the tip of his/her finger and, bringing this

Figure 8. Schematic illustration of free energy change, from the ground symmetry state, $U(1)$, as the degree of locale conditioning increases.



finger/magnet into the biofield of a particular muscle group of a patient, can either strengthen or weaken this muscle group depending upon which pole points towards the muscle group. The S-pole facing the group strengthens the muscle's response while the N-pole facing the group weakens the muscle's response. Thus, it is the acupuncture meridian system (in the reciprocal space layer, or first inner layer, of the human biobodysuit) that is at a higher symmetry state (probably the $SU(2)$ Gauge symmetry state). What the Asian culture has called Qi (or chi) for millennia is what flows in this meridian/chakra system driven by this Gauge symmetry "pump." This "pump" drives everything else in the

physical body and is what we call "the life force."



The general picture that I would like to leave with the reader as I close this section relates to how we operate in life with respect to another; whether as a minister, a healer, a medical doctor, an acupuncturist or just a spouse and parent. This picture is illustrated via Figure 3 for the practitioner/client interaction. Usually, all five components are intimately involved in the interaction even though the practitioner, utilizing some physical device, may only acknowledge that they and the client are involved. It is the practitioner's love, compassion, devotion to service and intent that can elicit the "unseen" assistance of the universe to co-raise the Gauge symmetry of the intervening space, allowing the intention to be more fully empowered. For instance, saturating the device with activated deltrons through mental intent is an important factor in the overall effectiveness of the process. It is via being fully appreciative of this entire operating system in all the processes of our lives that we can collectively lift the Gauge symmetry state throughout our entire world and move us forward into the next phase of our great adventure on our journey home.

Some {D-Space/Deltron/R-Space} Relationships and Their Consequences

I have explored the biobodysuit metaphor, its overall relationship to spirit development and how it changes through the unfoldment of the "Great Cycle." The "birthing" process and the "dying" process for humans involve, largely, just the two outer layers of the biobodysuit, the D-space substance and the R-space substance parts. The remainder is the soul which gains experience and infrastructure via both re-embodiment cycles and the intervening interludes in other domains of nature. Now it is time to gain some more detailed insight into the specific relationships that exist between the D-space layer and the R-space layer. That is the goal of this article.

These {D-space/Deltron/R-space} relationships are most easily and most clearly (for those familiar with this language of pure thought) expressed in terms of mathematical equations. While most of this readership will probably find reading this last part challenging, I follow that path of clearest communication. I will attempt to articulate the essential parts in digestible words and pictures, which the non-mathematical reader can follow.

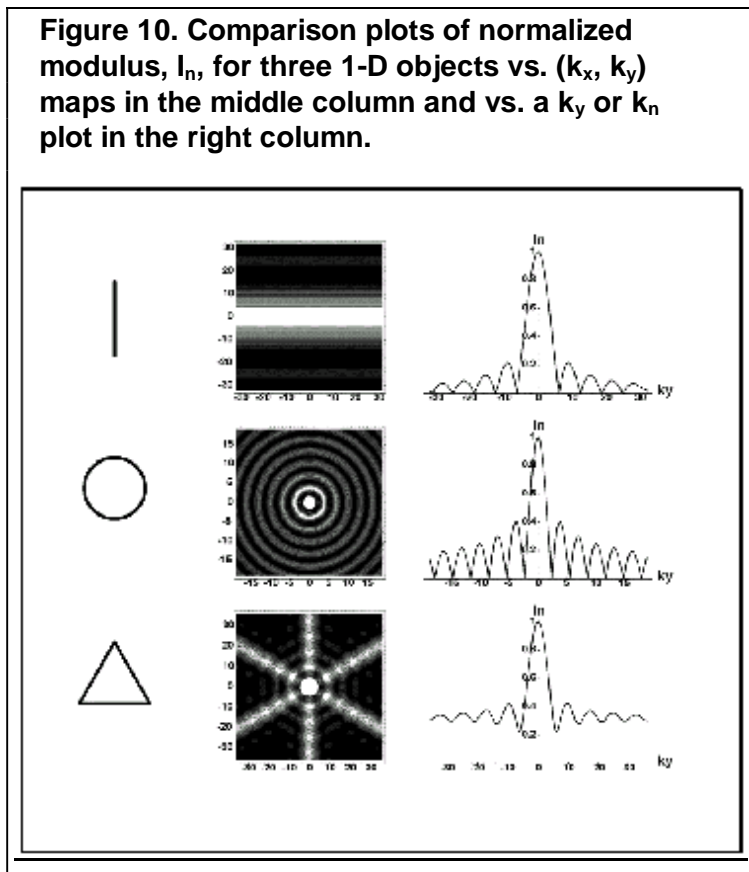
As mentioned above, I have proposed that a more appropriate frame of reference for viewing nature than distance-time is a framework composed of two subspaces that are reciprocals of each other. One subspace, which we call direct-space (or D-space), has a distance-time coordinate framework. The other subspace, which we call reciprocal-space (or R-space) has an inverse-distance and inverse-time coordinate framework. The latter coordinates can be looked at as frequencies and thus allow a more natural bridge to the higher dimensional domains of nature (emotion, mind and spirit). Thus, this combined dual subspace framework, which may be formally called a “biconformal base-space,” yields two distinct parts to any physical measurement; i.e.,

$$\begin{aligned}
 \text{Specific Physical Measurement} &= \text{D-space Part} + \text{R-space Part} \\
 &= \text{Local Part} + \text{Non-local Part} \\
 &= \text{Particle Part} + \text{Wave Part}
 \end{aligned}$$

This bottom expression has indeed been captured in today’s description of quantum mechanics (QM). However, because QM has been formally expressed in only a distance-time coordinate framework, these two parts are confusingly entangled and one is unable to clearly discriminate one portion from the other. The biconformal base-space approach allows one to (1) eliminate this particular kind of entanglement in QM, (2) make QM more understandable and (3) allow QM’s expansion to include the effects of human consciousness and human intention on physical reality. It is the deltron coupling between these two parts in the above word equation that allows (3) to be possible because human consciousness and human intention appear to interact directly with the deltron aspect. If negligible deltron activation is present then the magnitude of the R-space part is quite small but non-zero. If strong deltron activation is present then the R-space part can be quite large in magnitude and the physics Gauge symmetry level of the space can be raised.

Because these two subspaces are reciprocals of each other, mathematics requires that a particular quality in one subspace (density, form, potential, etc.) is related to its equilibrium conjugate quality in the other subspace by what is called a Fourier transform relationship (a unique mathematical equation). This means that, if the D-space map of that quality is known, the equilibrium conjugate quality in R-space can be calculated and vice versa. This is a remarkable forward step in our understanding because, now, we can begin to “see” what R-space looks like. Just as we give infants blocks of different D-space geometries to rearrange and play with in order to develop their cognitive capabilities and to understand geometrical relationships, so do we need to “see,” rearrange and play with D-space/R-space equilibrium conjugate maps to enhance our cognitive capabilities relative to this larger perspective of nature.

To illustrate the above statement, we consider object shape as our example. In particular, we consider the three D-space shapes: a line of length, L , a circle of radius, L , and a triangle of side, L , as shown in the left column of Figure 10, with all being of extremely small thickness (x-axis is horizontal and y-axis is vertical).



In the middle column, the R-space two dimensional (k_x -axis horizontal and k_y -axis vertical) amplitude maps of equilibrium conjugate shape are presented. And in the right column, the normalized amplitude (means the amplitude divided by the D-space volume of the particular shape) for a central cut of this map along the k_y -direction is given. These are the R-space results that one would calculate from the mathematics for these three D-space shapes.

The first important thing we note is that the R-space amplitude is not uniform but has a type of undulating character in the k_y -direction, with the normalized amplitude oscillating between unity (at the zero frequency point) and a minimum value at a series of specific k_y -values that are different for the different shapes. For two of these shapes, the amplitude of these R-space oscillations decays

to zero as one moves towards higher frequencies (larger values of k_y). However, the triangle is unique among shapes in that the minimum R-space amplitude is not zero and that it tends towards a constant value at large values of k_y . One presumes that this would make the triangle shape especially useful in physical devices designed to interact with the higher dimensional realms of nature. Finally, we must always remember that it is the deltron activation that empowers the Fourier transform and this means that, if this activation is independent of frequency, the R-space amplitude will just scale strongly upwards to larger magnitudes without any pattern change as the deltron activation level is increased. However, if the deltron activation is frequency dependent (we don't know much about this yet) then the pattern will also change.

The second important thing to note about these calculations is that, if we increase L , the R-space normalized amplitude patterns for the different shapes stay relatively unaltered, however the Δk_y spacing between adjacent minima in these patterns decreases inversely with the increase of L . This is one example of the type of reciprocal mirror that operates between these two subspaces; i.e., that which is large in size for D-space is small in size for R-space and vice versa. Thus, very small objects like atoms will exhibit patterns that extend to very large k_y -values while very large objects like a planetary system will exhibit an R-space pattern

that is confined to the very low frequency domain. This conclusion holds so long as one takes the centroid position of the D-space object as the origin for the (k_x, k_y) plot. However, if one wishes to choose the center of the earth as the D-space origin and consider the R-space pattern of the cosmos, the pattern for the most distant galaxies will be found in the ultra low frequency domain of R-space while the R-space patterns for closer-in galaxies will be found at slightly higher (k_x, k_y, k_z) -values. Once again we see this reciprocal mirror principle in operation here. Things that are far apart in D-space are close together in R-space!

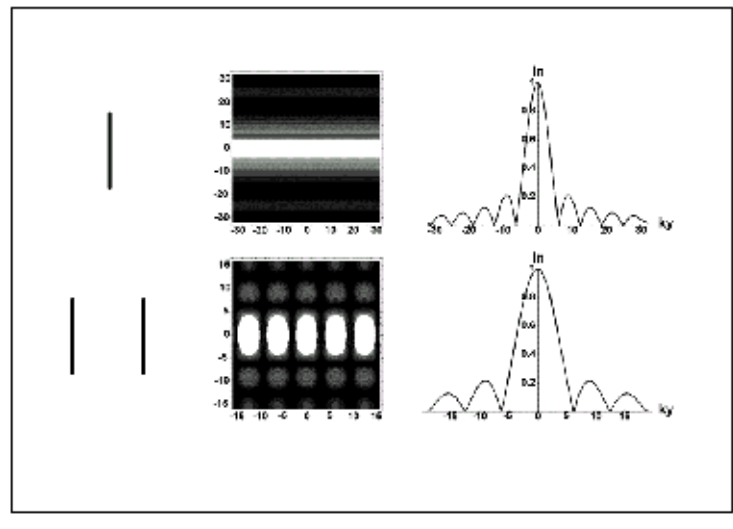
The third important thing to note about these calculations is the observation of a special kind of entanglement that occurs when one considers the R-space changes associated with the interaction of two D-space objects. For simplicity, we will just consider two identical parallel lines (or thin rods) of length L separated by a distance, l , as indicated in Figure 11.

Comparing the top row patterns with the bottom row patterns one notes that, although there is little pattern change in the k_y -direction, there is a marked pattern change in the k_x -direction; i.e., there is indeed a significant interaction between the two rods even though their D-space separation is well beyond the range of three of the four fundamental forces (gravity excepted). This result would probably not be noted experimentally in an unconditioned space but it would definitely be observable if the experiment was conducted in a conditioned space. What we are seeing here is the constructive and destructive interference

connection between the wave nature of two objects (which could be humans) as the D-space separation between them is changed. Once again, the mirror principle shows that, although separation exists at the D-space level, no separation exists at the R-space level so that “seeming” physical separation is an illusion because we presently only cognitively access the D-space portion of reality. When stronger and stronger deltron activation occurs, this R-space contribution to the experimentally measured interaction can be huge (often easily observed between humans). It is mathematically interesting to note that, for any particular k_x -value, at rod-rod separation distances, l , given by $k_x=4n\pi/l$ ($n=0,1,2, \dots$), the R-space normalized amplitude pattern for the two rods will be exactly equal to that for a single rod whereas, at $k_x=(2n+1)\pi/l$, this normalized amplitude will always be zero! I won’t go into it here but, if one takes a single rod and displaces it parallel to its old position by a distance, l , at time, t_1 , then, for all times greater than t_1 a similar R-space interference effect will be seen along the k_x -coordinate direction in R-space and suitable measurements in a “conditioned” space should reveal this effect.

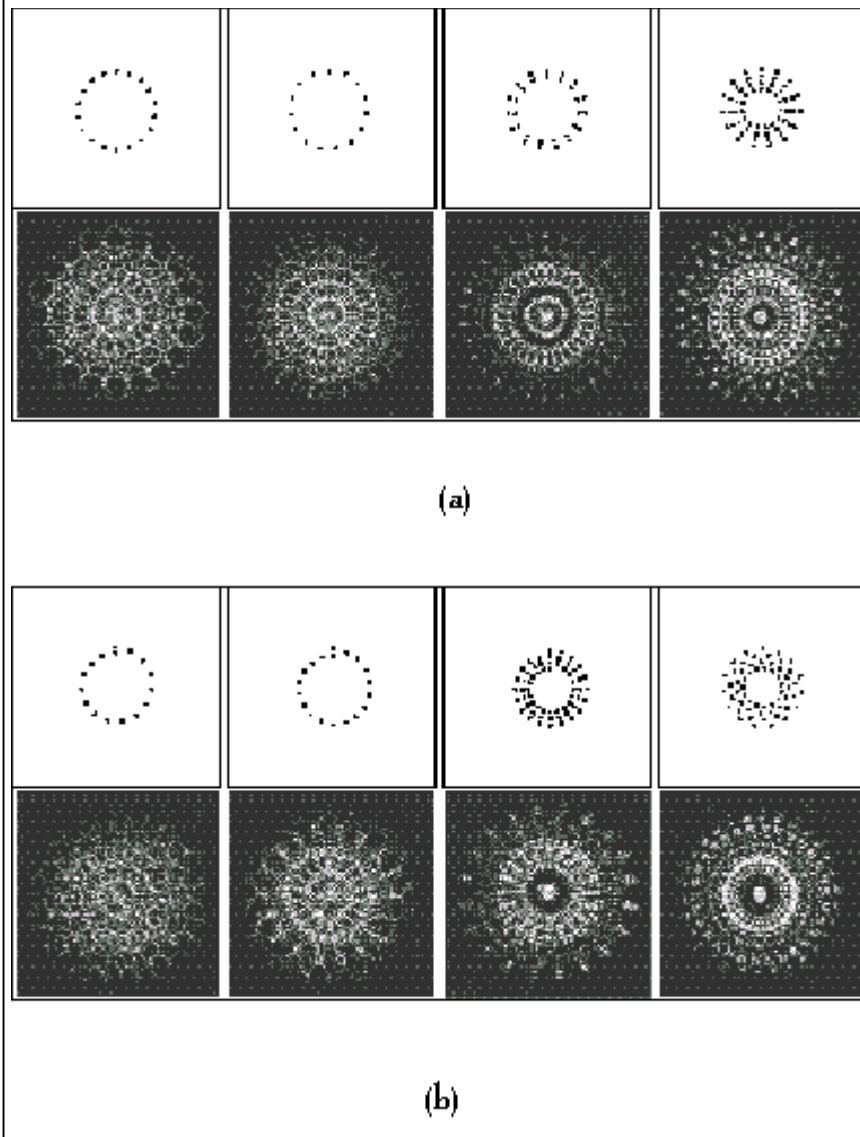
Before closing this article, I wish to show you some of the wonderfully complex R-space amplitude patterns that are associated with fairly simple arrays of simple D-space objects. The example I choose to illustrate this is a circular array of regularly spaced circles (like holes in a uniform solid background or solid disks in space). This result is shown in Figure 12.

Figure 11. As in Figure 10, the normalized modulus, I_n , for a single line object and two parallel identical line objects



What we see in Figure 12 is that the R-space interactions, from a D-space array of circular objects, result in mandala-like patterns of considerable richness. This correlation is important for us because many humans, while in deep meditation, often see such patterns on their internal viewing screens. This suggests that we have “hardwired” connections in our biobodysuits that allow us to cognitively access these two conjugate patterns. Pribram[11] has written extensively on the brain processes involved in visual imaging and has developed a holographic type of theory to explain them. He has shown that the very first place that the brain accesses any information concerning light impinging on the iris of the eye is at the operator neurons of the brain’s cortical columns. Further, this information pattern is almost identical with the R-space amplitude map conjugate to a uniform D-space disc of light.[9, 10] This suggests that this information conversion to the frequency domain appears to be ideal for subsequent brain

Figure 12. Composite figure of D-space-time hole patterns and their corresponding R-space diffraction patterns as representatives of their intensity patterns; (a) and (b) further illustrate increasing pattern richness as the array of holes in the mask become more complex.



processing and brain perception. It also suggests that some brain structure exists to operate on this basic data via an inverse Fourier transform type of process enabling us to see light patterns the way we think we do. [9, 10] Once again, structural elements are already present in our brains for us to cognitively access both D-space and R-space aspects of physical reality. I suspect that practice (a type of “muscle-building”) is all we need to eventually integrate this latent capacity into our cognitive skills. Since the {D-Space//Deltron//R-Space} relationships are crucial to a quantitative understanding of such topics as (1) Feng Shui, (2) remote viewing

and (3) distant healing, we should have lots of motivation for taking on this inner self-management discipline!

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