

**A White Paper on
The Law of Cause and Effect
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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, in order to grow in coherence, in order to develop our gifts of intentionality and in order to ultimately become what we were meant to become -- effective cocreators with our spiritual parents.

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.

All of these inner layer substances function in what we presently call "the vacuum" and, 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 (gravity, electromagnetism, short range and long range nuclear forces) 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 layers of the vacuum.

In terms of some of the characteristics of these suits, 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 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. (1,2) This means that such a capability is a natural part of the multidimensional human genome and 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 processes at the outer layer of the biobodysuit level for gaining various athletic, artistic or strength coordinations. Now, we want to extend such efforts to the emotional and mental levels as well -- 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 -- The oldest and best known. It focuses on the brain in order to still the mind and then make significant contact with our larger self.

(2) QiGong -- 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 -- The newest, which focusses on the heart in order to still the mind and then make significant contact with the larger self.

There are a variety of other procedures, 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(1,2) which involves becoming more coherent and therefore more conscious.

To me, consciousness is a concomitant 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" self-help process is the way we grow. 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!" 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 creation) 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 contrast 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 ($1/\text{distance} = \text{number per unit distance} = \text{frequency}$ and $1/\text{time} = \text{number per unit time} = \text{frequency}$). Thus, this coarsest level of the vacuum is a frequency domain (spatial and temporal) and, there, there is no separation between us. There, we form a unity, and the events that occur in that 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.
- (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 and
- (3) Perhaps most important of all is that 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 and thick that it is almost impossible to tunnel through them and break free of this confining mindset!

Now, let me 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 ($\sim 10^{94}$ gms/cc). This vacuum energy density is so large that the intrinsic total energy contained within the volume of a single hydrogen atom ($\sim 10^{-24}$ cm³) is more than one trillion times larger than that contained in all the physical mass (mean mass density $\sim 5 \times 10^{-28}$ gms/cm³) 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 (~ 1 watt/cm³). 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 (a laser) 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 (~6000 watts/cm²). 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. (1) They appear to emit beams of infra red radiation (~1 to 4.5 microns) from their palms 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. (1) Subjects were asked to continually wear these glasses that distorted one's perception so that the wearer saw everything in an upside down configuration. It was very destabilizing 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 created an inversion mirror in the optical information path. Once this neural structure was "hardwired", 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(1) 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. 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. (1) 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. (1) Iteration of this incremental step, which can be considered as a single frame in the "movie" called the "River of Life", is how we collectively create our cognitive reality and how our spirits learn the pros and cons of applied intentionality.

(e) Some Experimental Evidence: Our experimental studies, carried out between January, 1997 and January, 2000, deal with IIED's(1) (Intention Imprinted Electrical Devices). We start with two physically identical, simple electronic devices housed in plastic cases about 7" x 3" x 1" in size (3 oscillators in the 1-10 megahertz range with output power of less than 1 microwatt at about 3" from the device). We take one of these devices, wrap it in aluminum foil and place it in an electrically-grounded Faraday Cage (FC). This is our control device. The other device is imprinted with a specific intention for a particular target experiment and then also wrapped in aluminum foil and placed in its own FC until the next stage in the process. The FC's and aluminum foil are needed to keep information transfer from occurring between the IIED and the unimprinted control device. The next stage in the process was to ship the wrapped devices on separate days via Fed Ex 2000 miles to a laboratory where others place them in individual FC's until they are used in specific target experiments. The typical way in which the devices are used in an experiment is to place one or the other about 6" from the active center of the experiment and just turn it on for the duration of the experiment. We have found that the experimental results with the specific IIED change robustly according to the imbedded intention as

compared to use of the control device.

The actual imprinting is carried out by four accomplished meditators who exhibit a high level of inner self-management at mental and emotional levels. On entering a deep meditative state, they mentally cleanse the area surrounding the device to create a "sacred space" and, when accomplished satisfactorily, they first state and then mentally hold the specific intention for about 10-15 minutes. Then they release the intention and mentally seal the device before returning to their normal state of consciousness.

Four target experiments have been carried out to date:

(1) The intention was to increase or decrease (a separate device) the pH of purified water by one full pH-unit. This is a change in hydrogen ion concentration by a factor of ten. We have been completely successful in achieving these goals with a pH- measurement accuracy of + 0. 01 pH-units. Thus, here, we are not searching for a weak signal down amongst the noise because our results are about 100 times the measurement accuracy -- a very robust result indeed!(3)

(2) The intention was to increase the [ATP]/[ADP] ratio in developing fruit fly larvae so that they would be more fit and thus have a significantly reduced larval development time, T1/2, to the adult fly stage. Experimentally, we found that both the [ATP]/[ADP] ratio and T1/2 changed significantly (about 10%-20%) when the IIED was used compared to the control. All of this yielded excellent statistics with $p < 0. 001$. (4,5)

(3) The intention was to increase the in vitro thermodynamic activity of the liver enzyme, alkaline phosphatase (ALP) by a significant amount. This was achieved with an increase of about 20% for the IIED compared to the control device and, once again, the statistics were excellent ($p < 0. 001$). (6)

(4) The intention was to condition some significant volume of local, physical space around the activated IIED so that a significantly stronger coupling occurs between the electric monopole layer of nature and the magnetic monopole layer of nature. We have found that the effect of DC magnetic field polarity (North Pole vs. South Pole) is zero in an unconditioned, normal space (as is should be from conventional physics) but it can be quite large in a

conditioned space. Thus, the infrastructure of the vacuum has been altered to reveal a higher level of symmetry existing in what was, heretofore, the "unseen" domains of nature (new physics).

These are all very remarkable results which are certain to confound our physics, biology and medical colleagues. However, the experimental data speaks for itself in spite of the entrenched belief systems held by others.

In closing this white paper I wish to add that, the more I work with these concepts and experiments, the more I come to feel that there is only one reality being constantly expressed by nature but that we have limited access to it. Our access is limited by our level of cognitive development and this, in turn, is limited by the quality of our focused intentions to develop more infrastructure in the various layers of our biobodysuits.

References

1. W. A. Tiller, Science and Human Transformation: Subtle Energies, Intentionality and Consciousness, (Pavior Publishing, Walnut Creek, CA, 1997).
2. D. I. Radin, The Conscious Universe: The Scientific Truth of Psychic Phenomena, (Harper Edge, San Francisco, 1997).
3. W. E. Dibble, Jr. and W. A. Tiller, "Electronic Device- Mediated pH Changes in Water", J. Scientific Exploration, 13 (1999) 155.
4. M. J. Kohane and W. A. Tiller, "Energy, Fitness and Electromagnetic Fields in Drosophila Melanogaster", In Press, J. Sci. Exploration (2000).
5. W. A. Tiller, W. E. Dibble, Jr. and M. J. Kohane, "Towards Objectifying Intention Via Electronic Devices", Subtle Energies and Energy Medicine, 8 (1999) 103.
6. M. J. Kohane and W. A. Tiller, "On Intention-Induced Increase of In Vitro Enzyme Thermodynamic Activity", To Be Published.