White Paper XX

Application of Psychoenergetic Science to "The Placebo Effect"

by
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Introduction

Since the days of Descartes, the unstated assumption of orthodox science has been that "no human qualities of consciousness, intention, emotion, mind or spirit can significantly influence a well-designed target experiment in physical reality". About 12 years ago, this author and his colleagues chose to seriously test this unstated assumption in today's world by carefully designing 4 target experiments[1,2] (see below) to which human intention was applied via the medium of simple electrical devices imprinted from a deep meditative state by a team of well-qualified meditators. All four results were robustly successful[1,2] so the unstated assumption of orthodox science is now in serious error. One of these has been replicated in several laboratories[3-6] and a new measurement system designed and used to quantitatively track the energetic progress of such experiments in these experimental spaces[7].

It is well-known that most of today's doctors and patients are under the impression that the placebo element in a standard medical, randomized, double-blind experiment is an inert object, unchanging in time during such an experiment. Thus, under this assumption, it is usually taken as a reliable standard for comparison with an experimental treatment. Because of this, many writers commenting on medical trial results have judged experiments whose results show treatment values similar in magnitude of effect to placebo values as being worthless and that the treatment just does not work! Certainly the recent review in this Journal[8] clearly shows the abundance of complex issues presented by the "placebo effect" which severely challenge our understanding of nature. The more lay-public designed magazine article[9] proposes to "tip the baby out with the bathwater".

We should note that this paragraph's content is at great odds with the previous paragraph's content.

To confound the fundamental issue a little further, let us recall that, in 1998, Enserink[10] wrote a short paper relating to the placebo effect. He pointed out that, when companies started testing drugs for treating obsessive-compulsive disorder (OCD) back in the early to mid-1980s, the placebo response rate was almost zero. As time went on, the response rate crept upward, up to a point where one could reasonably conclude that some clinical trials failed because of high placebo response rates (~70% in the following 1.5 decades).

From this author's perspective, what did this rapid change in the placebo response rate with time infer about the actual laws of nature, as distinct from our metaphysical assumptions about them and why has the magnitude of the placebo effect increased so remarkably in the last 30 years? Perhaps it is a change in the physics of our cosmos that we should be looking at as distinct from its chemistry. In this regard we should note that, in a somewhat similar time-frame, astronomy discovered (1) the existence of unknown dark matter and dark energy acting as very significant gravitational attractors of planets and stars in our cosmos and (2) unexpected observations of acceleration versus the expected deceleration of the observable galaxies at the outer envelope regions of the expanding cosmos. Perhaps the next section can shed some light on this conundrum.

Some Relevant Laboratory Experiments Involving Human Consciousness Effects

Returning to the first paragraph of the introduction, let us look at the four carefully designed and conducted experiments exploring the effects of human intention on the properties of materials in physical reality. These four target experiments were:

1. To increase the pH of a standard water sample (neutral, alkaline or acidic) by one full pH-unit without adding chemical components,
2. To decrease the pH of a standard water sample (neutral, alkaline or acidic) by one full pH-unit without adding chemical components,
3. To significantly (about 30% at $p<0.001$) increase the *in vitro* chemical activity of the liver enzyme (ALP) alkaline phosphatase via a 30 minute exposure to its intention-host-conditioned space lifted to the next higher level of physical

reality (from the U(1) to the SU(2) electromagnetic gauge symmetry state)[11] and,

4. To significantly (about 15% at $p<0.001$) increase the *in vivo* ratio of ATP/ADP in the cells of fruit fly larvae so that they would be more physically fit and therefore have a significantly (about 25% at $p<0.001$) reduced larval development time to the adult fly stage via lifetime exposure to its intention-host device.

All of these very successful experiments[1,2] followed the time-evolution pattern of Figure 1. Here, $Q_M(t)$ is the actual measured value of the particular material property being investigated as a function of time, t, of exposure of the experimental space to the intention-host device. As one can see, the starting value, at t = 0,

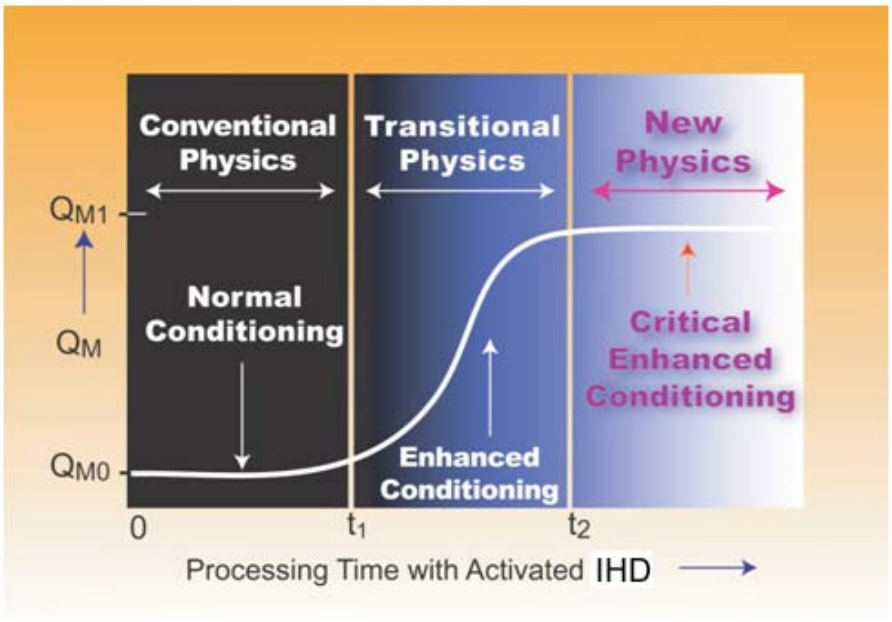

Figure 1. For any typical physical measurement, Q, the qualitative magnitude change, Q_M, is plotted versus the degree of locale conditioning produced by continued intention-host device use.

is Q_{M0}, our normal expectation value for our electric charge-based material world and nothing much happens until $t \sim t_1$, between one and two months. Then, the $Q_M(t)$ data begins to change in a sigmoidal fashion, always in the direction of the specific intention, to a value close to $Q_{M1} \approx Q_{M0} + \Delta Q_M(\text{intention})$.

Replication of the $\Delta pH = +1.0$ pH-unit experiment has been successfully conducted at 3 imprinted intention-host sites in the U.S. and by information entanglement at 5 U.S. and 2 European sites that were a part of the overall experimental system. This non-local

entanglement was sequentially observed first from 100 meters to 2-20 miles to 1500 miles and finally to ~5000 and 6000 miles[3-5]. In addition, a largely independent study was recently published[6].

During this replication period, we also learned how to continuously and quantitatively measure the excess thermodynamic free energy increase of the aqueous hydrogen ion, H^+, as the experimental space is raised from our normal space (the U(1) EM gauge symmetry state) to the next higher, SU(2), EM gauge symmetry state[7,12,13]. We also found that it was only the coupled state level (SU(2)) rather than also the uncoupled state level (U(1)) of physical reality that was influenced by the imprinted intention-host device.

One of the experimental signatures associated with "lifting" a space from the U(1) symmetry level, the uncoupled state, to the SU(2)[14] symmetry level, the coupled state, this author denotes as the manifesting of a DC magnetic field polarity effect. For our normal, uncoupled state, nature provides us with electric charge but only induced magnetic dipoles. Thus, if one places a cylindrical ceramic magnet under a pH-measuring vessel and continuously measures the pH with one magnetic pole (N or S) pointing upwards for 3 to 5 days and then just turns the ceramic disk over for another 3 to 5 days and continues measurement, for our normal U(1) state one sees no pH-effect whatsoever. This is because the magnetic force and energy of a magnetic dipole is independent of geometrical orientation in space. However, if one uses an intention-host device to lift the space from the uncoupled to the coupled state of physical reality, and performs the identical experiment one finds that, with the S-pole pointing into the water, the water becomes more alkaline; with the N-pole pointing into the water, the water becomes more acidic. Figure 2 gives one example

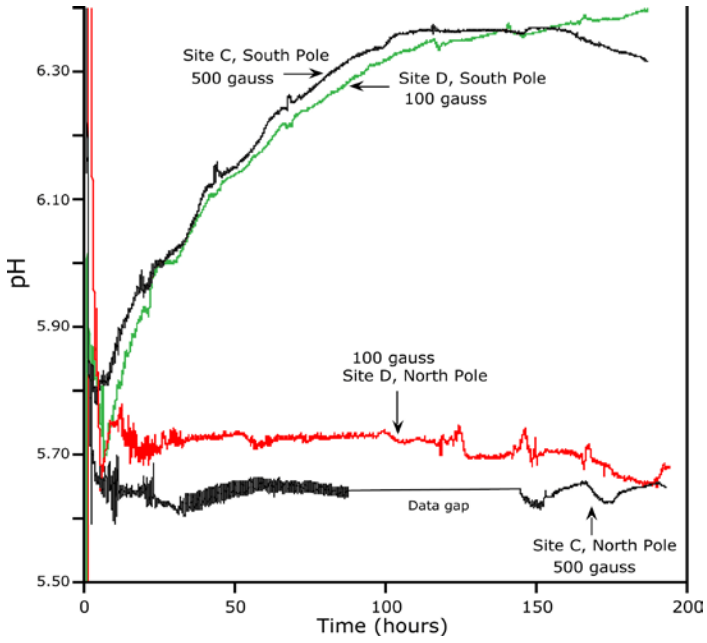

Figure 2. pH changes with time for pure water for both N-pole up and S-pole up axially aligned DC magnetic fields at 100 and 500 gauss.

of this behavior. We presently interpret this behavior to mean that, at the coupled state level (the SU(2) level), our measuring instrumentation is accessing individual magnetic charges[12,13]. Further, by using a simple bar-magnet and holding it within about a centimeter of muscle group body points, kinesiology tests[15,16] show that the S-pole pointing at the body points on humans greatly strengthens the arm-muscle while the N-pole greatly weakens the arm-muscle.

We deduce from this observation that the human acupuncture meridian system is already at the coupled state of physical reality. Thus, humans, with self-focused and directed intention, can significantly change the magnitude and character of the unique energies flowing in these meridians (some call it "qi" or prana) which, in turn, nourish the electrical energy flows in the rest of our physical body. Even unconscious intention associated with expectations should be able to activate this process.

The first point to note from all this is to return to Figure 1 and write a zeroth order approximate equation for a material property magnitude in a partially "conditioned" space after use of an intention-host device. In this case, $Q_M(t)$, is given by

$$Q_M(t) = Q_e + \alpha_{eff}(t)Q_m. \qquad (1)$$

Here, Q_e is our normal uncoupled state electric charge-based atom/molecule value, Q_m is our normal non-interacting magnetic information wave value altered by a specific intention and α_{eff} is the coupling coefficient with values between zero and unity. The α_{eff} contribution radiates into the space from the imprinted intention-host device and then the specific property of the material under study. As α_{eff} goes to zero, the coupled state of the space returns to our normal, uncoupled state of physical reality. However, as one "pumps-up" the space via the use of this "consciousness"-emitting device, the basic symmetry state of that space changes so that the second term on the right of Equation 1 begins to interact with the first term allowing the measured material property, $Q_M(t)$, to change in accordance with the specific intention utilized via the intention-host device process. Thus, one sees that a supposedly inert material can have one or more of its properties altered via a consciousness-related property.

It is this author's working hypothesis that the cosmic process appearing to happen and grow everywhere in amplitude in nature during this general time-period (~1980 to ~2010) so as to modify the magnitude of the "placebo effect", and the basic physics behind this section's experimental observations, are similar. Please recall that fifty years ago, we found it necessary to pump electric atom and molecule electronic states to an appropriately inverted population before we learned to trigger the lasing reaction of coherent light and recognized such coherent light sources also active in the cosmos. If this hypothesis is correct, how might we understand a theoretical mechanism of action for this placebo effect phenomenon.

Some Relevant Theoretical Modeling for a Placebo Effect

At this point in the story, it would be useful for the reader to look at Appendix A. For Appendix A to have relevance to the placebo effect considerations, it is important to recognize the fact that, in the proposed duplex space RF, although D-space substances are generally mathematically scalar quantities, R-space substances (being wave-like) generally exhibit vector[21] and often tensor mathematical qualities particularly in the presence of the "coupler" substance (α_{eff}) as in Equation 1. When a partially coupled state is present macroscopically for D-space and R-space substances, α_{eff} is greater than zero but less than one. For the simplest scalar/single vector case in Equation 1, we have

$$Q_M(t) \approx Q_e + \alpha_{eff}(t)R_m(k)\exp[i\theta_m(k)]. \qquad (2)$$

Here, Q_e has a scalar value, $R_m(k)$ is the amplitude of the vector as a function of wave number, k, (related to frequency), $\theta_m(k)$ is the phase angle of the wave, i is the imaginary quantity ($i^2=1$) and exp represents the exponential function.

For a more complex case such as a double-blind placebo experiment with doctor, D, treatment, T, placebo, P, and subjects, s, the D-space aspects of these four items can, most simply be considered as non-interacting scalar quantities; however, in an information sense, the R-space aspects must be added vectorally to form a system vector, $R_{MS}(k)\exp[i\theta_{ms}(k)]$ to yield

$$Q_{MS}(t) \approx \sum_{j=D}^{S} Q_{ej} + \overline{\alpha}_{eff}(t) \sum_{j=D}^{S} R_{mj}(k) \exp^{[i\theta_{mj}(k)]}. \qquad (3)$$

Experimentally, it is not $R_{MS}(k)\exp[i\theta_{ms}(k)]$ that one is able to measure but rather the intensity, $I_S(k) = R^2_{ms}(k)$, for the system vector. This quantity is obtained theoretically by multiplying the system vector by its complex conjugate, $R_{ms}(k)\exp[-i\theta_{ms}(k)]$. This is where serious entanglement between the four items (D, T, P, s) enters the picture!

To simplify the mathematics, yet illustrate this information entanglement process, let us just look at what happens to this second term on the right hand side of Equation3 as a consequence of this multiplication procedure to obtain $I_S(k)$ for a comparison. Neglecting k, it becomes

$$\overline{\alpha}^2_{eff}\left\{\left[R^2_{mD}+R^2_{mT}+R^2_{mP}+R^2_{ms}\right]+2\left[\begin{array}{l} R_{mD}R_{mT}\cos(\theta_D-\theta_T)+R_{mD}R_{mP}\cos(\theta_D-\theta_P)+R_{mD}\overline{R}_{ms}\cos(\theta_D-\overline{\theta}_s) \\ +R_{mT}R_{mP}\cos(\theta_T-\theta_P)+R_{mT}\overline{R}_{ms}\cos(\theta_T-\theta_s)+R_{mP}\overline{R}_{ms}\cos(\theta_P-\theta_s)\end{array}\right]\right\}. \quad (4)$$

Here, we see the crux of the issue. If the placebo acted in the experiment as an inert item, it would not be represented at all in the second square bracket in the above result. However, as can be readily seen, the contribution connected to the placebo, P, is

$$\overline{\alpha}^2_{eff}\left\{R^2_{mP}+2R_{mP}\left[R_{mD}\cos(\theta_D-\theta_P)+R_{mT}R_{mP}\cos(\theta_T-\theta_P)+\overline{R}_{ms}\cos(\theta_P-\overline{\theta}_s)\right]\right\}. \qquad (5)$$

The bottom line, here, is that, when a coupling agent is present in nature allowing the wave aspects to macroscopically interact with the particle aspects of a multi-item experiment, one can no longer assume that the placebo-item in the experiment behaves in an inert fashion. Rather, the placebo-item becomes information entangled with all other items in the overall experiment, including the “treatment”. Thus when one performs a double-blind medical experiment both with and without a placebo, via two, three-item, D-space separated, parallel experiments, they are not R-space isolated and therefore, one ends up with entangled information with the treatment-alone result can look very little different than the placebo result. This consequence does not mean that the treatment is not medically efficacious for humans, it only means that, in the types of experiments being conducted, the information entanglement issues dominate because of

the unforeseen coupler substance being present in large enough quantities to make every item become connected to every other item in the experiment both locally and non-locally.

Ultimately, the coupled state experiment is much more complex than presently appreciated and it will take considerable effort for orthodox science to sort things out properly. However, in the meantime let us not continue making the mistake of rejecting a medical treatment because its presently measured efficacy is little different from that produced by the placebo in the entangled experiment!

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Appendix A

Appendix A: Some Brief, Relevant Quantum Mechanical Considerations

1. In the 1890's, Planck showed that electric charge-based materials exchanged radiant electromagnetic (EM) energy in small discontinuous rather than continuous steps. This was eventually shown to relate to discrete EM photon exchanges between the electron energy levels in atoms and molecules and introduced us to the word "quantum".

2. In the 1920's, the time-period when today's quantum mechanics mathematical formalism was mostly developed, Dirac taught us where electrons came from. His new concept was that positive energy particles and their antimatter partners originate via an appropriate cosmic ray collision with the stuff of the physical vacuum, assumed to be filled with negative energy states of some type (see Figure A.1). Although orthodox science finds the concept of negative energies anathema to them, if they recall that bound energy states resonant in some form of potential field are always negative relative to the dissociation energy of those bound states, they will be less skeptical.

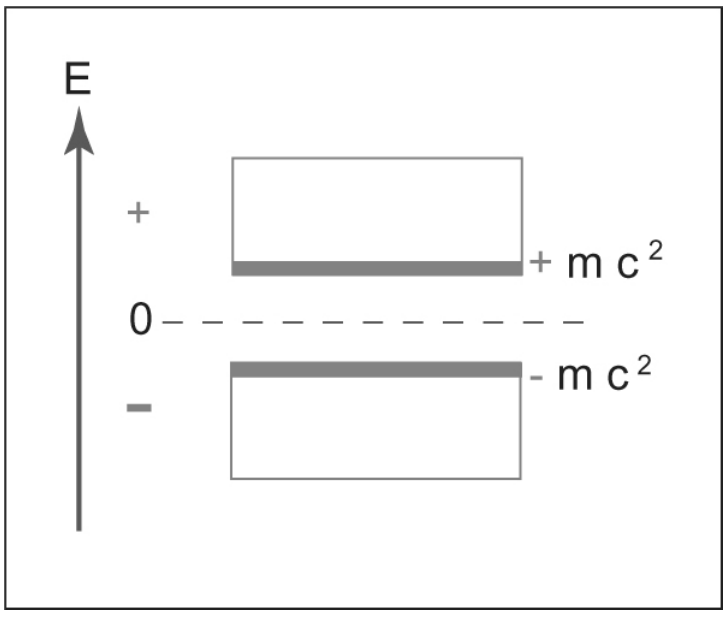

Figure A.1. Schematic energy spectrum associated with the Dirac Equation.

3. World class orthodox scientists like John Wheeler, David Bohm and others predicted in the last century that, for QM

(quantum mechanics) and RM (relativistic mechanics) to be internally self-consistent, the physical vacuum must contain a latent energy density of ~10^{94} grams per cc with each gram convertible to energy via Einstein's $E=mc^2$ relationship. Expressed more pictorially, this means that 1 cubic centimeter of physical vacuum contains trillions upon trillions of times more latent energy than all the mass of all the planets, stars and cosmic dust in our cosmos sphere out to a radius of more than 15 billion light years. Thus, tapping the physical vacuum for both energy and understanding will be a large part of humanity's future.

4. Returning to the 1920's, a key cornerstone of today's QM comes from de Broglie's concept of the particle/pilot wave. See Figure A.2a. This is what orthodox science uses but it

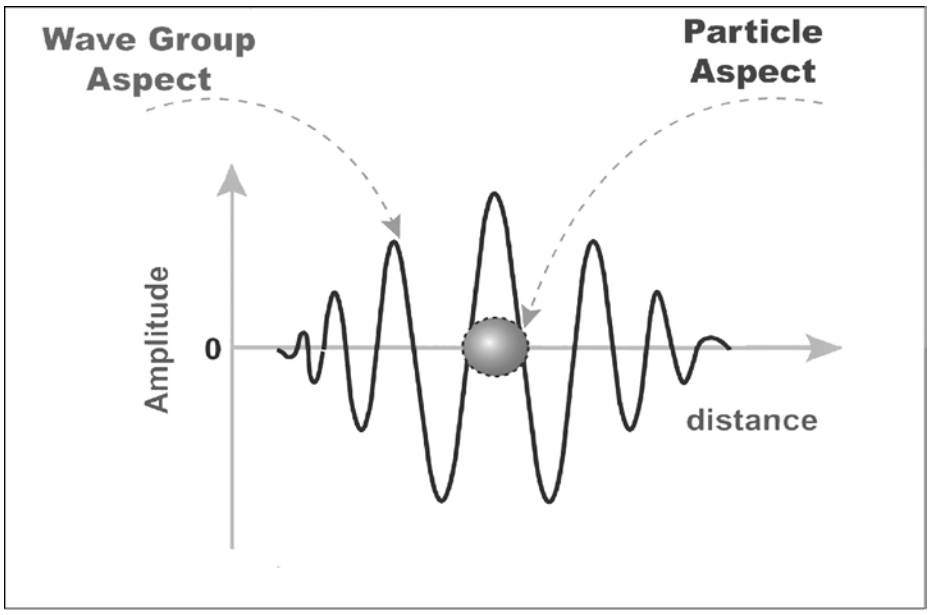

Figure A.2a. The de Broglie particle/pilot wave concept of the 1920's, for which he won a Nobel Prize, proposed that every particle had a group wave envelope enclosing it and moving at the particle's velocity. [however, faster than EM-light, c, unseen pilot waves of the physical vacuum move through the group from left to right at velocity $v_w > c$].

neglects relativistic considerations (see below). Harrison[17] shows us that the assumption of simultaneous existence of particle and wave behavior allows one to calculate all the fundamental equations in today's QM.

Unfortunately, the waves that human cognition access in this life are not the types of waves drawn in the textbooks.

Rather, the waves actually accessed by human cognition are particle density and particle flux density modulations.

Interestingly, Eisberg[18] showed us fifty years ago that, using both simple QM and RM together, one can see that Figure A.2a is not the complete picture. When RM is also taken into account, a superluminal wave is required as in Figure A.2b that continuously recreates the group wave in Figure A.2a as it moves along at the same velocity as the particle (see Figure A.2.b).

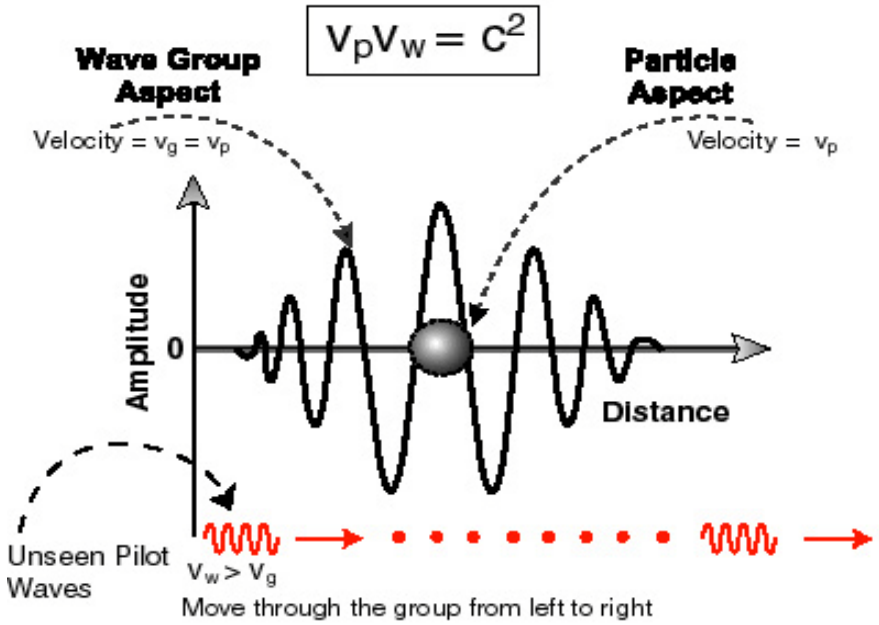

Figure A.2.b. Schematic drawing of true pilot waves.

This true pilot wave cannot be experimentally observed with today's instrumentation because, in that instrumentation, all orthodox signals must travel at v<<c, the velocity of an EM light wave in vacuum. However, now we have the dichotomy with the group wave and the particle travelling at $v_g = v_p < c$ while $v_w > c$ is acting as the true pilot wave. Eisberg's[18] analysis also showed that $v_pv_w = c^2$, thus, since $v_p < c$, always, $V_w > c$, always.

This dichotomy can be simply resolved if nature is able to provide a moiety, from outside of spacetime, that can travel both slower than c to interact with the EM particle as well as the group wave, and faster than c to interact with the true pilot wave (see Figures A.2). At the simplest level of an expanded QM, science appears to be required to deal with the serious possibility of subluminal EM matter interacting

indirectly, via an intermediary substance (see Figure A.3), with super luminal substance matter and thus that, in the "placebo effect", once again a placebo does not necessarily behave in an inert fashion.

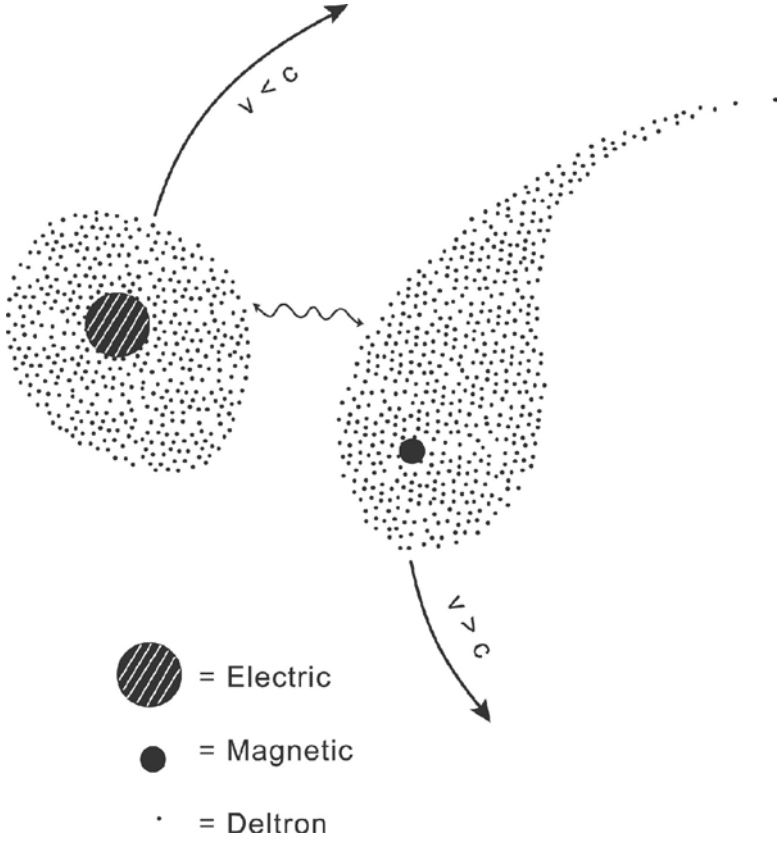

Figure A.3. A higher dimensional level of substance, labeled deltrons, falling outside the constraints of relativity theory and able to move at velocities greater than and less than c, acts as a coupling agent between the electric monopole types of substance and the magnetic monopole types of substance to produce both electromagnetic (EM) and magnetoelectric (ME) types of mediator fields exhibiting a special type of "mirror" principle relationship between them.

5. To complete the relativistic QM picture, the founding[19] fathers of QM would have been wise to have cast its formal structure in a duplex RF consisting of two subspaces, one for particles and the other for waves, rather than in a distance-time-only RF.

In a duplex RF, consisting of reciprocal, four-dimensional subspaces, one of which is distance-time, (with labels (1) Direct space or D-space and (2) Reciprocal space or R-space), the reciprocals of distance and time, respectively, are number

per unit distance or a spatial frequency and number per unit time or a temporal frequency. Further, because of the reciprocal character if these two subspaces, a material quality in one subspace requires the existence of an equilibrium conjugate quality in the reciprocal subspace. These two qualities are related to one another via “coupler substance” modulated Fourier transform pair relationships[19] when thermodynamic equilibrium holds (see Figure 4). Only when sufficient coupler substance is present can the kinetics of exchange be rapid enough to allow thermodynamic equilibrium to be established.

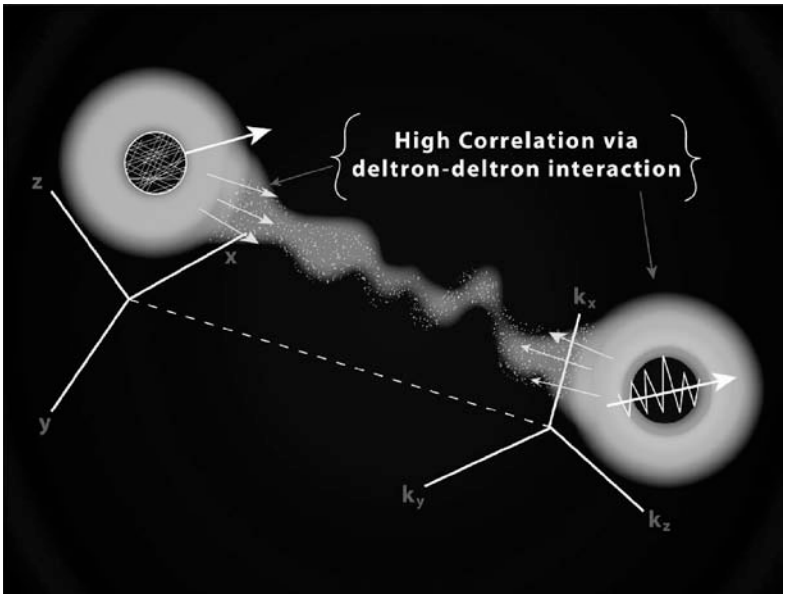

Figure 4. Illustration of how deltron-deltron coupling allows the two unique levels of physical reality to interact with each other.