Editorial

THE MATTER OF ENERGY

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We have a new issue of the Journal, with new technical papers and once again, interesting concepts emerge from them. However, as a matter of fact, the concept of 'energy' as we use it in the healing arena needs more discussion and close observation. And the concept will naturally be based on the clinical and phenomenological experiments that will be forthcoming in the next few years.

The concept of energy is associated with definitions in physics and lets us look for some ideas there. Since the Newtonian days, energy is defined as the capacity to do work. Matter, when influenced by a field, such as the gravitational field, acquires energy. However, in the early days of quantum physics, the concept of matter itself underwent changes. Wave was thought to be a more basic property and it was popular to call the waves emanating from particles as 'matter waves.' Even Schrodinger, the early exponent of quantum mechanics, seems to have used the term 'matter waves.' This concept was extended to electrons which were considered to be particles up to that time. We have the following in the words of a physicist:

> Schrodinger was out to rescue classical physics. He insisted that electrons were truly classical waves, like sound waves, water waves, or Maxwell's electromagnetic light and radio waves, and that particle aspect was illusory. They were *matter waves.* Waves were well understood, simple to visualize, unlike the electron in the Bohr atom, jumping willy-nilly from orbit to orbit.[1] *(author's emphasis)*

The quantum story took a different turn than even Schrodinger envisioned, but that is another matter (or, a different wave!). Now the wave-particle duality

seems to be a fact of the world of physics and the line between the one and the other has almost disappeared—or at least, the language has become more fluid: you may call 'matter' a particle or a wave based on what you want to describe! The importance in engineering at least, is how much energy can we pump out of a system containing particle-waves so that, say, I may drive my car every morning.

Now, either a particle or a wave can have and hence provide, energy. However, laws are laid out clearly in physics as to how this energy is transmitted over large distances. Energy is sent through a medium (a high tension cable, fibre optic guide or free space) and could activate a device at the far end. Does this mean healing energy also follows the same physical laws?

Dr. Larry Dossey has eloquently argued for questioning the concept of energy in healing methods.[2] This is not to say that energy may not be involved in some way and at some stages of healing and in expressions of consciousness. The thrust of Dossey's argument is to transcend the dualistic image that energy concept pushes us into.

> Because "energy" implies a source and "work" implies a worker, energy- and work-based models of consciousness and healing seems to foster the "fall into dualism" about which the great traditions have perennially warned. Thus a koan for an energy- and work-based model of consciousness and healing might be: "Who is it that is *doing* the work?" or, "Who is it that is *sending* the energy, subtle or otherwise?"[2] *(author's emphasis)*

While non-dualistic perception is holistic and while the advice of Dossey is well taken (I myself being a proponent, if not a practitioner, of non-dualistic philosophy), it is still necessary to quantify the outcomes of 'energy work' in terms of some psychophysiologic measures. Further, without fear of being entrapped in a mechanistic web, we may still seek to understand the energy-based effects within a measurement paradigm.

Some of the papers presented in this issue of the Journal deal with these aspects of energy model and measurement. The first paper is the second part of a series on The Science of Connectiveness. The authors explore the possible '. . . interface between Mind and matter consistent with the concepts of quantum physics.' Scientific straight jackets of causality and reproducibility are discussed and contrasted with non-locality and randomness experienced in healing methods.

However, the question remains: "If two processes are similar, are they the same?" Quantum reality talks about nonlocality and interconnectedness; the workings of the mind seem to follow similar laws also. Then, can we conclude mind works in the quantum domain? Well, not necessarily. Perhaps there is something more implicate (to use Dr. David Bohm's terminology) than both mind and quantum physics. The authors promise to explicate the relationship of their model to human experience in the final part of their series.

The next paper presents an experimental study of a multimodal approach to treatment of depression, without any pharmacological intervention. The approach consists of cranial electrical stimulation, brain wave synchronization through photic stimulation at 10 Hz, two hours of exposure to classical and relaxation music, and a random assignment to wear either a "crystal" or a glass rod which is indistinguishable from the crystal. Double blind conditions are maintained in this crystal/glass assignment. The results were based on neurochemical tests and Zung tests for depression, taken prior to, at the end of and after three months of treatment. It is concluded that 61 of 88 patients who received crystals and 17 of 53 patients who received glass were improved. It is also stated that the outcome difference between the crystal and glass assigned group was highly statistically significant. The authors raise many questions, not the least among them a hope that some one else would replicate the experiments.

The third paper deals with carefully measured frequencies in EEG and their correlations with specific states of brain activation. The broad categories of delta, theta, alpha and beta states, while being useful, are not considered specific enough for identifying attentional, cognitive and somatosensory states. The authors claim that single frequency analysis of EEG could provide a type of precise identification not possible so far. This type of analysis is not difficult to carry out presently; however, the measurements need to be replicated for uniformity over subjects and specificity of the functions that are claimed to be represented.

In his Presidential Address, Dr. Elmer Green argues for personal ecology as much as for planetary ecology; similarly, self-regulation is as vital in maintaining health as interventional medicine. The traditional view of considering the body as an energy network, with mind intervening to change the energy patterns is also presented. The physiologic correlates that we wish to monitor during 'healing' should be carried out with caution and be specific to the healing mode

that the practitioner is attempting. If the healer is visualizing him/herself as the conduit of the subtle energies, then, there might be changes in the physiology of the healer. However, if the healer is working with the subtle energy to affect the patient directly (not mediated through his/her own body), then there may not be any change in the healer's physiology. Thus, the experimenter should work in collaboration with the healer, not simply as an uninterested, blind and deaf scientist. This principle has already been practiced by some of the authors reporting in our Journal, wherein the researcher, the healer and the patient have been co-authors. This is indeed an important 'holistic' approach in collecting accurate research findings in this area.

The final paper is a report by the late Dr. Edgar Wilson on experiments related to driving the brain through auditory pathways resulting in coherence and altered states of consciousness. There are apparently several methods of doing this; the visual and auditory pathways seem to be the easy access for the doors of perception to be opened. Frequency following characteristics of neurons in the brain have been used for changing EEG wave forms and hopefully, states of consciousness in people. Monroe Institute in Virginia has developed over the years, a procedure known as the Hemi-Sync method to drive the hemispheres of the brain into high frequency entrainment. Dr. Wilson concludes, in his own intuitive way, that the purpose of these ". . . and other processes of healing and psychic activity, and channeling, is to grease the transits of knowing." Though the paper is by no means complete, his legacy serves as a guide to those of us interested in "catching consciousness in a computer."

Thanks again to Vic Eichler, Ph.D., the artist-scientist, for an intimate and extraordinary view through a microscope. Is science still an art or, has art the qualities of science? All this, of course, is in our minds. Nature is both the creator and the destroyer; Vishnu and Siva of the ancient language; the expressions of all these are energies—subtle or otherwise. Or does it really matter?

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NOTES AND REFERENCES

1. Leon Lederman, *The God Particle* (Houghton Mifflin Co., NY, NY, 1933), p. 168.
2. Larry Dossey, But Is It Energy: Reflection on Consciousness, Healing and the New Paradigm, *Subtle Energies* 3,3 (1992), pp 69-82.

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