



concepts...Despite the paramount importance of...electromagnetic systems in diagnosing illness, they are regarded by the medical community as epiphenomena that have no intrinsic function...[However] oscillations in biological systems are ubiquitous...such oscillations play an important role in biochemical regulation (Frolich, 1968)...[This] digitizing [of] information [allows] a more accurate signal transfer by protecting the signal from the 'noise' of surrounding...cellular processes (Rapp, et al, 1981)...Many of the molecules in the body are dipoles [incorporating both positive and negative charges]...Atoms on dipolar molecules oscillate, creating electromagnetic waves that can be amplified by water (whose molecules also have a dipole moment)...[T]he structure of dipoles would allow them to align with other dipoles in 'strings'...[T]he acupuncture meridians [could be] strings of dipoles held together by their electric charges." (Knox, 2000, p. 14) "...[A] perturbation at a particular point in a meridian might be associated with a specific range of chemical changes...[P]hysical changes in energy systems would precede chemical changes... [C]omponents with electric dipole oscillations interact through nonlinear long-range Coulomb forces..." (Knox, 2000, p. 15)

Turning to quantum field theory, there are two features which biology and medicine must consider: "...quanta, the particles that constitute [the field]; and the phase, which determines how the different simultaneous trajectories of the quantum object must be superimposed...[These] cannot be simultaneously known...Focusing on particles and their location...is...what biomedical science does...[Thus] we preclude (by definition) our possibilities of recognizing the importance of the corresponding phase relationships in biological functioning...[T]he molecules we are studying emerge from quantum wave dynamics and ...underlying mathematical relatedness is essential to understanding them...If we ignore the energy aspects of matter, and thus the laws that apply to the inherent wave forms, we may have a great deal of difficulty understanding some off the material phenomena that we observe. Or we may simply 'not see' some very important phenomena at all...[B]ioelectrical systems are an integral part of human physiology and...they have important biological functions. Ninety percent of skin points of particularly high conductivity coincide with traditional acupuncture points. (Chen, 1996)...Furthermore, electromagnetic phenomena outside the body can influence physiological functioning within it...(Binderman, 1985)" (Knox, 2000, p. 15-16)

"Thus, there are three basic facts that are currently being ignored...(1) Ubiquitous bioelectrical phenomena in the human body, which are either ignored or treated as epiphenomena. (2) Documented effects obtained from needle locations that are not consistent with a mechanistic role for the neurophysiological and neuroendocrine systems that are purported to explain them. (3) Chemical properties are determined by the laws of physics, and experimental physics has demonstrated that matter and energy are the same fundamental substance." (Knox, 2000, p. 16)

Knox proposes three hypotheses:

"Hypothesis 1: Biological ubiquitous electromagnetic systems have potential for use in the treatment and prevention of multiple human diseases. Abuse of these systems...can result in disease."

"Hypothesis 2: The mechanism of acupuncture is fundamentally different from any currently known treatment in western medicine. Its demonstrated neurophysiological and biochemical efficacy is achieved not through manipulation of matter but through the manipulation of energy. The mechanism of energy meridians may involve dipole 'strings.'"

"Hypothesis 3: There are two primary approaches to the treatment and prevention of disease: Approach 1: Apply matter to 'fight' matter [modern "scientific" medicine]...Approach 2: Regard the primary cause of matter as its underlying energy structure...Restore the body's innate ability to heal

itself by restoring balance in this [energy] system...The primary characteristic of this method is that it targets the whole body and local areas of concern change automatically as balance is restored." (Knox, 2000, p. 16)

In conclusion, Knox states "...[T]he accuracy of scientific data depends entirely upon the nature of the questions that spawn the hypotheses. Variables that are excluded from the original hypotheses will not be included in the experiments and will not appear in the results...[C]oncentration on the particles renders the wave aspects undetectable." (Knox, 2000, p. 17)

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