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**CANCER AND THE UNRESOLVED HEALTH ISSUES
IN THE BIOLOGICAL EFFECTS OF EM FIELDS AND
RADIATION**

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**CANCER AND THE UNRESOLVED HEALTH ISSUES
IN THE BIOLOGICAL
EFFECTS OF EM FIELDS AND RADIATION**

Largely taken from the author's presentation, "Mechanism for Long-Term Cumulative Biological Effects of EM Radiation," 70th Annual Meeting of the Alabama Academy of Science, University of Alabama at Huntsville, 25 March 1993.

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Abstract

Both postulates in the conventional EM bioeffects model are in error, as is the classical electromagnetics model (CEM) itself. Major errors in CEM are presented. The QM view is taken that all EM phenomena are caused by the potentials, not the force fields. Using the Whittaker/Ziolkowski (WZ) internal structure of the scalar potential, Bohm's quantum potential and an engineerable variant of his hidden variable theory emerge. A strong candidate emerges for the internal mechanisms used for mind, thought, long term memory, and deep cellular control by Popp's master cellular control system. An environmental negative feedback mechanism is stated for long-term, cumulative causative mutation, yielding Sheldrake's morphogenetic field, which is a species quantum potential. Utilizing the new EM bioeffects model, Kaznacheyev's demonstration that any cellular death or disease can be caused electromagnetically is explained. A new definition for cancer is advanced, as is a long-term cumulative mechanism that causes it. The mechanism for [Priore's demonstrated cures of terminal tumors](#) in laboratory animals under rigorous scientific protocols is explained. A solution for the major cumulative mechanism for biological effects of EM fields and

radiation is presented. A self-targeting mechanism is presented whereby complex WZ EM biwave pumping of the "cell as a nonlinear phase conjugate mirror material" produces an exact EM antidote signal for the specific cellular disease. It is argued that inexpensive, quick, nondebilitating, cures can be developed for most major dread diseases, including cancer, arteriosclerosis, and AIDS. Priore's remarkable and previously unexplained cures of terminal tumors in lab animals are cited as examples of applying the new model, albeit unwittingly.

The Basic EM Bioeffects Model Is In Error

As is well-known, the field of EM fields and radiation effects on biological systems is actually in something of a shambles. In over 40 years of studies and experiments by careful researchers, the results are inconsistent, contradictory, and usually difficult or sometimes impossible to replicate. Attempted replications often give contradictory results, erratically. Researchers cannot rigorously answer even the simplest question, such as "Does power line radiation contribute to the incidence of cancer and leukemia, and if so, how and under what circumstances?" Causative mechanisms have so far eluded research. Powerful vested interests fund many of the studies. Consequently a great deal of controversy exists in the field. Opinions and positions range from the "microwave oven" position that "if it doesn't appreciably heat tissue, it doesn't harm biological organisms," to the "total fear" position that "any and all non-ionizing radiation is harmful; we just don't know by what mechanism." Legal actions to limit human EM radiation exposure are increasingly being initiated by concerned citizens' groups.

What has actually been "proven" by the nearly fruitless EM bioeffects effort to date is that the fundamental EM bioeffects model being utilized by the researchers is totally inadequate for the *task intended*. If that is true, then 40 more years of continuing to apply the same inadequate model isn't going to make very much additional progress. Further, if the fundamental model is faulted, then what is needed is a detailed examination of *the* model to discover and correct those foundation faults.

In tackling this model foundations problem, I have performed a systems engineering layout of the fundamental EM bioeffects model, and stated its two major postulates. Both postulates turn out to be in

error! Immediately one can easily see *why* the field is in such a state of confusion. However, no true systems engineer would stop there. I have also performed a systems engineering layout of precise corrections for the two postulates, thereby correcting and extending the model so that it can yield consistent, replicable results and causative mechanisms. All of this is a rigorous procedure, and straightforward systems engineering methodology.

However, the results point to profound changes, which I have been immersed in deeply studying for quite some time. Out of this approach has emerged something quite fundamental: *a strong candidate for the internal mechanisms used for mind, thought, long term memory, and the deep cellular control system for all cells of the body.* A mechanism for species adaptation also emerges that is quite capable of explaining (and yielding) long-term directed mutation, including the "species jump," where a species such as a bird emerges in short order (not gradually) from a species such as a reptile. The known "species jump" has been a deep mystery to evolution theory, which simply could not explain it. Another thing that has emerged is a startling new *electromagnetic* causative mechanism for cancer, leukemia, etc. At the June 1993 Brain-Mind Symposium in Los Angeles, I will present that exact mechanism. The mechanism is capable of laboratory test, and validation or falsification. We will also present an entirely new approach to EM effects on biological organisms, and present the major new mechanism involved. The new mechanism has fundamental application to the theory of diseases, and offers potential curative mechanisms for dread diseases such as cancer, arteriosclerosis, and AIDS. I explain some of the necessary background in the following paragraphs.

Classical Electromagnetics is Seriously Flawed

As is well-known, there exist severe contradictions between classical electromagnetics (CEM), general relativity (GR), and quantum mechanics (QM). As presently constructed the three disciplines cannot be unified, even by Herculean efforts. Particularly with respect to the primary causative agents for electromagnetic phenomena, the foundations of QM and of CEM are in profound disagreement. CEM assumes *the forcefields* as primary causes, paying only lip service to the potentials and treating them as primarily mathematical conveniences. QM, on *the* other hand, has long since [since 1959] shown that the force fields are simply *effects*

in and on the charged particle system, and are not causes. Instead, QM has shown that the *potentials* are the primary causes of all EM phenomena. In charged particle systems, potentials can interfere and cause observable EM phenomena such as the Aharonov-Bohm effect in the complete absence of the force fields. Herein lies *the* reason for the present dire straits of EM bioeffects research. We explain further:

CEM theory was originally formulated by James Clerk Maxwell in terms of quaternions. Note that quaternion algebra has a much higher topology than either vectors or tensors, the mathematics in which CEM is presently expressed. None of the present "Maxwell's equations" _ universally taught as due to Maxwell _ ever appeared in anything by Maxwell himself. Depending upon what you wish to call a fundamental equation, Maxwell's true equations are the numerous *quaternion* equations included in one almost incomprehensible chapter of his 1873 book. The present four "Maxwell's Equations" are in fact due mostly to Oliver Heaviside, and to a lesser extent to Gibbs and Hertz. The major player was Heaviside, a very brilliant but self-educated man who never attended University.

At the time Maxwell's book was published, Heaviside was just teaching himself calculus and differential equations. Seeing the book, he was electrified by it, and Maxwell became his undying hero. Maxwell died not long after, of stomach cancer.

Heaviside believed _ as did almost every scientist at the time _ in the older medieval tradition that *forces* were the causes of all physical effects. He had great difficulty with the potentials, stating that they were "*mystical and should be murdered from the theory.*" We know today in modern quantum field theory that forces are effects, not primary causes of anything. In fact, it is the exchange of virtual particles with a mass that generates all forces upon it. As is well-known to foundations physicists today, "force" does not exist without the mass present to be acted upon, and without the action of a potential gradient upon the mass. We know that there are no force fields in the vacuum, and hence potential gradients in the vacuum are not forces, even though they are commonly assumed to be. CEM has not been corrected for these glaring defects: it prescribes force fields in the vacuum, and it prescribes that potential gradients are forces, even in the absence of any mass for the gradients to act upon.

Heaviside also abhorred the quaternion theory. The coupling of a scalar component with three directional components was, in his

view, "mixing apples and oranges." He knew that engineers would never master Maxwell's use of quaternion mathematics because of its difficulty. Consequently, Heaviside simply chopped off the scalar component of the quaternion and discarded it, then formulated this new "truncated to a vector" version as a much simpler mathematics, albeit of decreased topology. What he unknowingly threw away was the ability of the quaternion theory to capture an *internal* deterministic, vectorial EM structure of the scalar potential. *[It turns out that he also discarded the unification of EM and gravitation by throwing out the scalar component, but that is outside the scope of my presentation.]* Years later as a lonely recluse in a small upstairs apartment, Heaviside turned back to quaternions to work on a theory of gravitation, according to papers found hidden beneath the floor of his study many years after his death.

Learned journals of the day would not accept Heaviside's papers for publication, because of the assumed "brutality" of his mathematical methods. So Heaviside began publishing very practical papers in a technical magazine, for the time roughly equivalent to *Scientific American* today. These practical papers gave transmission line theory, transformer theory, etc. _ things very useful to the early would-be "engineers" who were struggling with installing telegraph lines, undersea telegraph cables, etc. The vector mathematics utilized by Heaviside was much easier to understand and apply, and his work was eminently practical. Consequently it was eagerly seized upon and applied. The result was that Heaviside's EM model became the ipso facto CEM standard. Note that, at the time, only about 30 or so scientists in the world were truly "learned" in EM _ either from the vector standpoint or from the quaternion standpoint. Further, not much *practical* work was being done by the few quaternion practitioners.

A short "debate" over whether EM should use Maxwell's quaternion model or the Heaviside/Gibbs vector model occurred prior to the turn of the century, mostly in the journal *Nature*. It never involved over a handful of scientists, and it wasn't much of a debate. The vectorists simply threw out the quaternion EM theory and adopted the vector theory of Heaviside and Gibbs. Note that this represented a substantial curtailment of Maxwell's actual theory. *In other words, you can actually do a lot more in and with EM fields and circuits than what now appears in "modern" EM theory, and "modern" EM analysis won't even show it.* Barrett's Oscillator-Shuttle-Circuit analysis of Tesla's actual patented circuits shows this clearly and resoundingly. Also, *living systems utilize the discarded subset of EM for their most vital control functions, and the present theory and*

methodology will not detect or "see " this. Thus this curtailment alone has resulted in the profound crippling of the conventional EM bioeffects model and efforts to apply it.

The Present CEM is a Flawed Subset of Nature's Electromagnetics

So we have several serious things that are quite wrong with current CEM theory. First, the theory (and its practice) are *artificially* limited to only a subset of the real EM that can be achieved and utilized. The present CEM unwittingly excludes the very type of EM utilized by living systems for their deepest control functions. It also excludes electrogravitation. Second, Maxwell's theory was actually based upon the assumption of a *mechanical (material) ether*, which meant that he could logically assign material forces to the "vacuum" or "ether fluid." Heaviside's translation (and curtailment) to vectors did not charge this "material ether" and "force field in vacuum" assumption.

However, in 1887 the Michelson-Morley experiment resoundingly destroyed the notion that the ether is material. If the ether were truly a thin material fluid, then forces and EM force fields would indeed exist in it. Since the ether is not material and forces exist only in, on, and of matter, no E-field or B-field exists in the nonmaterial vacuum; none ever has, and none ever will. In his three volumes of physics, Feynman pointed out that only the *potential* for the EM force fields exists in the vacuum; the only thing that exists in vacuum is *potentials*, after all! The vacuum is just a fantastic collection of interfering potentials and potential gradients.

Rigorously, the E- and B-fields we detect with our instruments *exist only in the electron gas in the probes we utilize*. This is well-known to a few foundations physicists, but the CEM model has never been corrected for these foundations errors.

Note that the loss of the material ether also falsifies one of the three key assumptions in modern potential theory: the notion that the gradient of the potential comprises a force field. We know today that the CEM equation $E = -\nabla\phi$, is actually incorrect *for the vacuum*. It is correctly *measured*; since that is exactly what is detected when the vacuum $\nabla\phi$ potential gradient couples to the free electrons in our detecting/measuring instruments. What we detect as E, however, is actually $[(\nabla\phi \bullet (e^-))]$, or the potential gradient coupled to the

electrons, including their masses. Specifically, we do not detect the nonmaterial (VO that actually exists in the vacuum. We detect electron wiggles in the free electron gas in the conductors of our instruments; we do not detect "vacuum wiggles" per se.

Neither Maxwell's quaternion EM equations nor Heaviside's vector EM equations include electron spin effects, but actually model electricity as a "thin fluid." Hence the EM equations of either model are *fluid dynamic* equations. Specifically, the measured transverse EM waves exist in the electron gas of our detectors; any detector detects only its own internal change, *not* the external agent that interacted and caused that internal change. While the "signal" races down the conductors in our probes and sensors at essentially the speed of light, the "free" electrons in the electron gas in those conductors are *longitudinally* restrained. The electrons must essentially move laterally from their initial distribution inside the conductor to its skin, then "slip" slightly down the wire on the skin at only the electron drift velocity, which is a fraction of a centimeter per second. The spinning electrons in the electron gas, being longitudinally restrained, act as *gyroscopes*. When disturbed by an interacting force, they precess. It follows that the lateral motion of the electrons inside the conductors of our detectors is just this "electron precession." It also follows that the direction of the disturbing force must be at right angles to the electrons' measured transverse precession movement. Rigorously, EM waves in the vacuum thus are *longitudinal*, not transverse. We *measure* transverse waves in our detectors and instruments because we are detecting and measuring the *electron precession waves in the free electron gas in the conductors of those instruments*. But as Tesla pointed out, there are no Hertz waves in the vacuum; instead, EM waves in the vacuum are longitudinal "sound" waves, or *waves of rarefaction and compression of the medium*. From modern QM we also know what the medium is: it is a flux of virtual particles. Again, as can be seen, the CEM model is seriously in error in its representation of EM waves in the vacuum.

We will not pursue this further; it is well-known to a few physicists in foundations work (but not to most electrical engineers and electrical physicists!) that classical EM theory is seriously flawed, and that it should be upgraded to correct those flaws. As is well-known in QM since 1959, it is the potentials that are the actual causes of all EM phenomena, and the potentials can interfere to cause real EM effects in charged particle systems, even in the absence of the force fields. The Aharonov-Bohm effect is an

example, as are several other derivative effects well-established in the literature. What has been ignored even in QM, however, is the *organized internal structure* of the potential, even though the original (vector) discovery by Stoney occurred in 1897 and was extended by Whittaker in 1903.

This internal structure of the scalar potential had been implicitly present in Maxwell's 1873 quaternion theory, as an integral part of the scalar component of the quaternion resultant of the interaction between two or more quaternions. In quaternions, a scalar entity may be regarded as a special quaternion entity whose translation has been reduced to zero. A vector entity may be regarded as a special quaternion entity all aspects of which are translating, and no nontranslating aspect is present. Thus the scalar quaternion entity may be totally composed of vector components, so long as they sum or multiply to a zero translation resultant but possess a finite nontranslating magnitude.

The Scalar Potential Has an Internal Bidirectional Wave-Pair Structure

In a profound but ignored 1903 paper of enormous consequences, E. T. Whittaker decomposed the scalar EM potential into a harmonic set of bidirectional wave pairs, extending the original 1897 work of Stoney. Each wave pair consists of a wave and its phase conjugate replica (its "anti-wave" or "time-reversed twin"). Thus the scalar potential has a rich internal biwave structure. [Further, one can *make* a scalar potential by simply assembling the necessary multiple waves, and one can alter the internal structure of the potential at will by altering the waves utilized in the assembly process.] In 1904 Whittaker published a formidable second paper, showing that all of CEM could readily be replaced by scalar potential (*hidden multi-wave*) interferometry. In other words, scalar EM is far more basic and extensive than is the present CEM with its emphasis upon the force fields.

E.g., you can alter the internal structure of the Schroedinger potential, and place deterministic biwave "hidden variables" inside. You can then "engineer" these hidden variables _ and consequently the Schroedinger potential _ by external means. In other words, you can even accomplish *at least limited engineering of quantum change itself*. This of course reduces the Gibbs statistics (which assumes a

totally random quantum change) to a special case, and provides a more general case of chaotic quantum change, which is still statistical but may contain hidden order. Note that this statement is experimentally testable. It also resolves the greatest problem in quantum mechanics today: the problem of the missing chaos (hidden order).

In 1989 Ignatovich placed a paper in the *American Journal of Physics* pointing out a similar internal biwave structure of the Schroedinger potential, but none of our scientists seems to have realized the profound implications. *If we apply these proven mathematical extensions of electromagnetics, we are now dealing with a higher topology hidden variable theory, along the lines shown by Bohm, but one that is engineerable on the lab bench.*

Ziolkowski's Extension Allows Hyperspatial Communication

In 1985, a brilliant EM scientist named Ziolkowski independently rediscovered Whittaker's internal biwave harmonic decomposition of the scalar potential. He also extended the "internal structure" theory, to encompass not only the sum set but also the product set. Since the product of waves represents modulation, Ziolkowski's brilliant work provides the setting for *direct information communication capability* in the internal structuring of the scalar EM potential.

Further, this internal channel is in the virtual state, so one is accomplishing virtual state engineering, in the sense of the vacuum engineering posed by Nobelian Lee. If one uses a 4-space Minkowski model, the Whittaker/Ziolkowski channel information may be viewed as *subspace* communications. If one utilizes an n-space Kaluza-Klein model, where n is greater than 4, then the Whittaker/Ziolkowski channel information may be viewed as *hyperspace* communications. *Living systems already use this inner EM channel.*

Living Systems Use the Internal Channel Communication

It turns out that living systems utilize precisely the Whittaker/Ziolkowski (W/Z) mechanism for their deepest functions and control systems _ including mind, thought, long-term memory, and the master cellular control system (MCCS) discovered by Dr. Popp of Germany. What we are stating is that, for the very first time, *we now*

know where and how the mind's "deepest software" is, its fundamental mechanism, and how to go about programming it directly. However, we first must develop new measurement instruments.

Unfortunately, present EM instruments are almost all only "electron-wiggle" detectors; they detect only the *translation of electrons*. A *gradient* in the potential will couple to electrons and translate them. The *gradient-free* potential does not translate electrons, and it is the internal biwave W/Z structure of that gradient-free potential that we need to measure. Presently no known instrumentation will do that.

However, if two different scalar potentials are interfered [Whittaker 1904], their interference reproduces potential gradients [normal "force field" EM], which *do couple to electrons and translate them*. In fact, potential gradients (which in CEM are erroneously called "force fields") were already shown by Whittaker to be entirely due to the interferometry of two scalar potentials. So new "scalar interferometry" instruments must be developed to "unfold" the internal contents of the scalar potential as gradients, and then utilize normal instrumentation to measure those interference gradients and calculate the potential's internal structuring. One form for the detector is the use of a standard potential (with a known internal biwave structure) inside a Faraday-shielded chamber, so that the test gradient-free potential (which penetrates such a cage) interferes with the standard potential inside the cage to produce gradients therein. A probe in the interference zone detects the gradients as electron translations, which are conducted externally to amplifiers, meters, spectrum analyzers, computer programs, etc. The end result is the determination of the internal WZ structure of the test potential. Other detector types are possible; this is just a "straightforward" type.

Thoughts, Mind, Memory, and Cellular Control Are Measurable

What we are saying is that, by developing the proper instrumentation, it is possible to directly detect and examine thoughts, memory, and deep control system functioning of the biological organism, including the deep internalistics of its personal quantum potential. We are speaking of the pending emergence of an experimental science, not just a speculation.

However, we are dealing now with a form of "hidden variable" theory, but one that is engineerable and testable. So we will become directly involved with Bohm's *quantum potential*, both experimentally and theoretically. A quantum potential can connect widely separated systems by instantaneous effects, as if the systems were not separated but were located together as a single system. Further, the quantum potential does not have a single localized source. Suffice it to say that in 1991 I published the discovery of how a quantum potential is actually created. If one utilizes the proven "self-targeting" or iterative phase conjugate shooting mechanism from the Strategic Defense Initiative, and applies it to the WZ waves internal to the scalar EM potentials from two separated charges, then in a dense signal environment the self-targeting interaction may be initiated, so that the separate potentials merge into a single nonlocalized or "spread-out" potential consisting of laser-like beams between the charged particles comprising the separated systems involved. In that case, part or all of any EM change in one system is immediately experienced in the other systems participating in the effect. The communication is superluminal. The limitation to luminal velocity applies only to the "surface gradient" of a potential, not necessarily to the bidirectional waves in its WZ internal structure. Those internal waves are in either hyperspace or subspace, depending upon whether one models the situation in more than four dimensions or in only four.

The point is, *the quantum potential also has a W/Z internal structure*. And that structure can be deliberately created and engineered by external means. Action at a distance is not only possible but engineerable.

Living Systems and Quantum Potentials

It turns out that the living organism utilizes a quantum potential _ a *special scalar potential connecting all its internal atomic nuclei* _ for its volition, deep control, and mind and thought processes and operations. This can even be taken as a flat definition of a living system. A living system utilizes internal WZ structuring of this scalar potential connecting all the atoms (nuclei) of its body mass, for its deepest control processes. Any system not having or doing this is not a living system. This also resolves the age-old philosophical question of how mental *intent* can cause physical response, but that is beyond the scope of my presentation. It also

explains why viruses can be precipitated out of solution as a crystal, and the crystal stored for decades. Then when the crystal is redissolved, the individual viruses separate and resume their "living" state. Suspended animation of the viruses results when their physical matter and its quantum potential remain intact, and the stored WZ structures in the quantum potentials on the atomic nuclei of that matter remain the same.

It further turns out that the species itself has a much weaker (at a deeper level topologically) quantum potential connecting all its members (all the atomic nuclei in their bodies). This corresponds to Sheldrake's morphogenetic field _ that field is just a *species quantum potential*. Jung's collective unconscious, e.g., can be directly expressed in this model scientifically and testably _ but again that is beyond the scope of this presentation.

Newton's Third Law Requires Forces to Occur in Opposite Pairs

Newton's third law is a sleeping tiger, with surprising implications when awakened and explored. For example, it rigorously requires that forces (including EM forces) must occur in opposite pairs, This alone falsifies the CEM notion that *oscillating "singular-force"* electric and magnetic waves appear in either a material ether or physical matter. At least two waves must exist, the wave and its opposite or *antiwave*. Further, the wave and antiwave must be intimately coupled. Heretofore the antiwave has simply been ignored, or when anyone pointed out that it was present in our detectors, it was just considered to be "Newton's third law reaction wave." "Newton's third law" was just mysteriously invoked, as if it had no causative mechanism. Yet in quantum field theory the cause of all forces is the absorption or emission of *virtual particles*. The cause of all mechanical and electromagnetic forces is the absorption or emission of virtual *photons*. So Newton's third law for mechanical and electromagnetic reactions must also be due to the exchange of virtual photons. In other words, there was an extra half of the "something" in the vacuum that interacted with our detectors and gave us the "free electron gas's transverse precession waves. That "extra half" was exactly equal and opposite, and interacted in the atomic nuclei of the conductors and the mass of the instrument to give a set of physical Newtonian recoils. That half is equal and opposite to the half we actually recognized. The point is, equal and

opposite forces actually interacted with our instrument. Thus a stress wave interacted with it, not a unitary oscillating wave.

What occurs in vacuum must be a stress wave, not a unitary force field wave. In short, as stated (but not elaborated) by Feynman, it is a *potential* wave, or an oscillation in the potential gradients and magnitudes, not the force fields. Since in modern theory force is an *effect* and not a cause, we interpret and extend Newton's third law to state that the *causes* of all forces must occur in opposite pairs also. Thus the cause of an EM force field must be the interaction of two scalar potentials _ just as Whittaker's 1904 paper proves.

In quantum field theory any mechanical or EM force is caused on a mass by absorption and emission of virtual photons. Accordingly, let us examine the smallest possible EM or mechanical "force" _ that one caused by the absorption of a single virtual photon. Newton's third law requires that two photons (the causes) must occur, not one. Further, in all cases, the one must be the exact antiparallel to the other. The only thing always meeting that condition for a photon is its exact antiphoton _ its *time-reversed, phase conjugate replica twin*. But a phase conjugate *replica* photon must also superpose spatially with its parent photon _ that's what phase conjugate replicas normally *do*, according to the distortion correction theorem of nonlinear phase conjugate optics. Thus instead of the conventional "single photon" interaction, the actual vacuum entity engaged in the interaction with an atom is a *coupled photon/antiphoton pair*. A coupled photon/antiphoton pair has spin-2, hence is a *graviton*.

Gravitons and Graviton Interaction

So arguably "photon interaction" has been *graviton* interaction all along. In the interaction with an atom, the graviton splits into a photon and an antiphoton. The photon usually interacts with the electron shells, being absorbed by an electron to raise its energy level, then re-emitted and scattered outward from the atom. This absorption and scattering of photons _ *containing their components of energy and time* _ from the electron shells of the atom creates movement of the atom through external observer time. The photon interaction between a mass and its environment creates the forward flow of time for that atom and its seemingly entropic external (photon interaction created) universe.

The antiphoton half of the graviton is time-reversed, which we see as *spatially* reversed. Consequently we see it move in the opposite direction to its externally-directed photon twin. So the antiphoton focuses inward and interacts with the atomic nucleus, providing the Newtonian third law recoil of the atom. The blithe assumption of an "automatic" third law reaction force has always concealed the fact that the so-called *photon* interaction is actually a *graviton* interaction. Further, the positive charge of the atomic nucleus is due to the time reversal interactions of antiphotons with the nucleons, which reverses the charge from that of the negatively charged electrons in the atom's electron shells.

Proof: Excising the Antiphoton Violates Newton's Third Law

This graviton interaction hypothesis is testable. Note that, if the hypothesis is correct, then when an atom or mass emits antiphotons or antiwaves (phase conjugate photons or phase conjugate replica waves), it means that the inward-burrowing antiphotons have been "tricked" into coming out of the atom instead, so they can comprise the time-reversed wave. If they come outward instead of going inward when they split from the parent gravitons, they do not interact with the nuclei to cause their recoil. In that case, there would be no recoil. And indeed, so it is. *In a phase conjugate mirror material, the mirror does not recoil when it emits a phase conjugate replica wave, even a powerful one due to powerful pumping.* This is not true when the mirror material emits a pseudo-conjugate wave. A pseudo-conjugate mirror, e.g., emits an ordinary "time-forward" wave with a distorted wave front, so that it will "retroreflect" in a manner similar to the phase conjugate replica wave. However, the pseudo-conjugate wave is not a true time-reversed wave. Consequently, the mirror will recoil when it emits the pseudo-conjugate wave, because the antiphotons from the graviton interaction still penetrate to the nucleus and interact there, while the time-forward photons constitute the pseudo-conjugate wave actually emitted. This is experimentally verifiable. Among other things, it establishes that there exist differences between the photon and the antiphoton.

Looking at the photon aspects of this, one realizes that one must be very careful in applying the conventional assumption that the photon and the antiphoton are identically the same. Actually they are not the same "internally." The photon can be thought of as carrying or

consisting of $(+\square E)(+\square t)$, while the antiphoton can be thought of as carrying or consisting of $(-\square E)(-\square t)$. Thus both have positive spin, but differ in their internal components. The lack of recoil in a phase conjugate mirror that emits a true time-reversed replica wave is already in the literature, though derived by statistical quantum mechanical arguments. It has also been pointed out by other physicists that all measurement/detection is actually binary, but that the "internal energy" half is almost always ignored [it's just considered to be "Newton's law", automatically revoked, and swept away in that euphemism.].

Graviton Lattice Structure of the Scalar Potential

When we examine the WZ structure of a scalar potential, in each biwave the wave and antiwave are phase conjugates. It follows that the photons in the wave and the antiphotons in the antiwave are phase conjugates also. This means that, as the two waves flow through each other spatially, photon/antiphoton pairs continually couple and uncouple. Hence gravitons continually couple and uncouple. Further, since the wave pair frequencies are phaselocked between pairs, *the scalar potential is a phaselocked lattice of statistical (continually forming and unforming) gravitons.*

Let us now consider the interactions of an organism with environmental photons as the interactions of the organism with environmental *gravitons*, and specifically with graviton lattices.

Cumulative Buildup in the Quantum Potential of the Antisignal

If the *photon half (of the graviton interactions)* in the electron shells of the living body are considered as environment signals/interactions, then precise *antisignals* or anti-interactions, constituting perfect negative feedback from all of an organism's physical environmental experiences, are experienced in the organism's atomic nuclei. Note that there they have partially affected the internal structuring of the quantum potentials _ both the personal quantum potential and the species quantum potential. The point is, *cumulative negative feedbacks (exact phase conjugates) for all the environmental experiences and stresses an organism experiences, build in both the personal QP and the species QP of*

that organism. A part of the entire species' cumulation of species-common antisignals also exists deep in the quantum potential of the living biological system.

So for any protracted stress experienced by the organism, in its personal QP a coherent cumulative negative countermeasure feedback _ one which by its time-reversed nature would reduce that stress _ continually builds. The phase conjugates of the "well-rounded" or highly varying stresses of multiple types will tend to mostly balance or "zero out." However, a sustained stress of one kind will result in coherent cumulation and increase in the "signal-to-noise ratio" of the amplitude of the antisignal for that particular stress, compared to the amplitude of the average of all the antisignals experienced. This is similar to the case where, in a sea of radar noise, a coherent radar signal were continually present and integrating coherently. Continual coherent integration, of course, results in continual increase of the signal-to-noise ratio for the coherent signal, and eventually it emerges from the "sea of noise" as a discernible [in this case, observable and physical] antisignal.

This "cumulative kindling of antisignals" occurs in both the personal QP and the species QP; however, the species QP is many, many orders of magnitude less than the personal QP. Hence much greater time is required for "kindling" of species changes (evolution) than for kindling individual countering adaptations.

Exercising to get in shape is a simple example of physically stressing the body cells so that the high-level feedback mechanism in the MCCS will kindle appropriate antisignals and order the cells to adjust their functioning in a fashion such that the level of performance being called for can be accomplished more easily, thus reducing the stress level. The adaptive mechanism ordering the adjustment of the body cells is the coherent negative feedback in the personal QP, created from the stress signals from the sustained "workout" exercises. This is a fairly rapid, "high-level" mechanism; many other much slower (and some much faster) feedback reaction mechanisms also exist.

Hypoxia As a Result of Interference With Hydrogen Bonding to Hemoglobin

We now point out the recently discovered water H-bonding effect on

the hemoglobin in the blood, where the H-bonding activity increases the ability of the hemoglobin to carry oxygen. Some 60 or 70 water molecules surround the hemoglobin molecule, engaging in extensive H-bonding interactions with it, which substantially increases the hemoglobin's purely chemical ability to bind and transport oxygen. Importantly, contamination of this water in the blood fluid drastically affects this H-bonding benefit, and reduces the hemoglobin's ability to carry the extra oxygen. Thus contamination of the internal blood fluid by chemicals, agricultural pesticides, smoke, etc. directly and dramatically lower the oxygen availability to the body's cells, resulting in a continuing "oxygen hungry" state (hypoxia) in most of the body's cells.

It also is now known that H-bond structuring of water is highly dynamic and constantly adaptable, and it possesses a high degree of internal order. A conglomerate of H-bond structures in an area or a volume can be considered an *H-bond potential*, since the gradient oppositions sum to produce stress potentials. Thus in the H-bonding fluid surrounding the hemoglobin molecule, there exists an H-bond scalar potential, and by Whittaker/Ziolkowski (W/Z) decomposition it has a multi-wave structure. Any and all contamination of the fluid _ including by electromagnetic fields and signals, chemicals, etc. _ alters the H-bonding structuring and hence the internal W/Z structure of the H-bond potential. *The end result of adulteration of the H-bonding structure of the blood fluid is a condition of hypoxia induced in the cells of the body due to reduced oxygen transport by the hemoglobin of the red blood cells.*

Any single EM signal is the result of the interference of two scalar EM potentials, as shown by Whittaker. It is the result of the interference of the *internal EM wave structures* of those scalar EM potentials. Multi-signal EM radiation must be regarded as interference of multiple pairs of scalar potentials. These interfering potentials penetrate to the atomic nucleus in the body, and thus interact with the internal personal quantum potential utilized by the body in its deep cellular control. Also this multi-signal EM radiation, *no matter how weak*, directly interacts with the H-bonding structure of the H-bonding blood fluid. Even single-signal EM radiation still forms opposite pairings with the weak fields already existing in the body, thus also forming W/Z structured potentials. From the interferences in the body of multiple such potentials and their internal structures, there also are created gradient (force field) interactions upon the blood cells and the hemoglobin. In short, low-level background EM radiation can also interact with the H-bonding

of the hemoglobin to seriously lower its oxygen transport capability, just as any other contaminant. The denser the external environment, the greater is the interferometry and the interference with the hydrogen-bonding augmentation of oxygen transport. It follows that, when thrust into a truly dense signal environment, some exposed individuals may receive a "cumulative H-bonding interference dosage" that, when added to their existing prior dosage, is sufficient to result in physical symptoms "ordered" into the cells by the antisignals kindled in their quantum potentials. In the recent Gulf War, many Americans were suddenly thrust into one of the densest EM signals environment in history. Shortly after returning from that ultrashort conflict, many of these exposed veterans have experienced delayed health changes presently known as "Gulf War Syndrome." While the military has attempted to portray this syndrome as "stress-induced" emotional trauma, most of these veterans when tested are found to be emotionally stable. Further, there was much less combat stress on our troops in the Gulf war than in WWII, the Korean War, or the Viet Nam War, as shown by less than 200 combat deaths! Essentially the war was almost a "shooting gallery," and so combat stress is simply not viable as a proposed causative agent for the Gulf War Syndrome.

Chemical, Mechanical, and Electrical Interactions are Electromagnetic Anyway

Indeed, chemistry is largely due to electric charge and charge distribution anyway. So if we view the physical contaminants in the blood view *chemically*, they are caused by electromagnetic means at root basis. Thus even the "chemical" contaminants interact electrically and via potential (multiwave) interferometry with the H-bonding potential. Further, in quantum field theory, all mechanical forces are due to the exchange of virtual photons, and hence also are *electromagnetic at their very basis*. The bottom line is that all chemical, mechanical, and electrical interactions are in fact electromagnetically caused. Further, since both the internal and external structures of the potential are engineerable, the mechanical and electrical forces on the mass particles _ and the virtual photon exchanges causing these forces _ are directly engineerable. *All of these chemical, mechanical, and electrical interactions in the cells can be affected and even engineered electrically. This is true from the atomic nucleus, to molecules, to material lattices, to human cells, to tissues, and even to the mind and long-term storage templates (internal WZ structured forms in the QP) in the biological organism.*

As can be seen there are many other weaker, direct interactions of "force-field" radiation; however, here we are interested in the interaction of that radiation with the inner structure of the H-bond potential', to reduce the oxygen transport capability of the hemoglobin. *In any case, the total sustained interaction of chemical and physical contaminants and EM fields and radiation can result in a sustained oxygen-deprivation (hypoxia) condition for the body cells, even to a dramatic degree.* Further, by graviton interaction, a *sustained, cumulated set of antisignals is also automatically generated in the personal quantum potential as a set of negative feedback signals to take corrective actions to alleviate the oxygen depletion condition.* Note that the cumulating antisignal condition is general and affects the immune system and its cells as well.

The Example of Smoking

Obviously the tars, particles, and nicotine of the smoke inhaled by the smoker dramatically contaminate the fluid in the smoker's lungs, in the very place where the hemoglobin of the red cells is taking on oxygen. Drastic interference with the H-bond stimulus of the hemoglobin occurs. The result is an immediate and dramatic reduction of the oxygen-transport capability of all the hemoglobin in the red cells as they pass through the contaminated lungs and are exposed to fluid contamination. An immediate oxygen-deprivation condition thus is created in the body. Due to the magnitude of the stressing signal, the major portion of the antisignal is also of substantial magnitude _ hence immediate counteraction orders accumulate in the personal QP, specifically in Popp's master cellular control system. So very rapidly the body has negative feedback countersignals from the central cellular control system, ordering the body to take actions to reduce the cellular need for oxygen. The metabolism is lowered, the body relaxes, and the appetite is suppressed; all counters to the cells' hypoxia condition by lowering the cellular requirement for oxygen.

In spite of heroic "high level antisignal" physical cellular compensations to reduce the use of oxygen, however, the condition of cellular oxygen shortage may still continue, in the case of the smoker or substantial environmental contaminants such as secondary smoke. So in addition to the prompt countersignals, additional much-

weaker countersignals are also slowly accumulating in the personal quantum potential's central cellular control system.

Cumulative, Deep, Long-Term Countering Signals

We now need one additional bit of information. In addition to its personal quantum potential, a biological organism also is connected to a species quantum potential joining all the members of its species. This is a much weaker quantum potential; nonetheless, potentials superpose, so one small "part" of the personal quantum potential is actually the species quantum potential _ in other words, Sheldrake's morphogenetic field. Deep within its own personal quantum potential the living system also possesses all the cumulatively ordered steps (species antisignals that were implemented) of its species evolution. *With very long coherent cumulation, countersignals can be stimulated in the individual bio-organism's quantum potential _ and in its deep cellular control _ that are counters to the original signals that ordered directed mutation and the primeval evolution of the constituent cells themselves.*

In a sustained cellular hypoxia stress environment, the "do whatever is necessary to reduce oxygen usage" countersignals will continue to cumulate from successively deeper levels in the QP over an appreciable time. These continue to slowly "kindle" after the "first high-level antesignal actions" that cumulated past the "noise" (quantum) threshold reached their limits of physical reactions and are still insufficient to resolve the problem. As the hypoxia stress in the cells continues, then much weaker but coherent countersignals that trigger deeper cellular adaptation actions eventually have time to cumulate past the quantum threshold to the observable state. These long-term cumulated antisignals come from much deeper, even from the species quantum potential itself.

These cumulating deep countersignals are phase conjugates _ *reversals, or dedifferentiation commands* _ of the previous directed mutation signals that ordered evolutionary changes in their predecessor cells in the far distant past. *These long-term antisignals thus contain a signal to reverse the original cumulative countersignals in the cellular species potential that caused the cells early ancestral anaerobic cells on earth to change (differentiate) into largely aerobic cells, after the earth's atmosphere acquired significant amounts of oxygen. In short, a deep signal is slowly*

cumulating that, when it emerges, will order the dedifferentiation of the affected cell back down the evolutionary road toward the anaerobe. The first steps are reductions of centralized cellular control, including growth control.

In other words, under sustained cellular hypoxia a countermeasures signal to the cells, ordering them to dedifferentiate back toward the anaerobic state, is slowly building in the personal quantum potential from a much weaker, lower level "under the common countersignals noise level" all the while. If significant oxygen-deprivation continues for a sufficiently long time, this deep countersignal eventually emerges in Popp's MCCS system in the personal QP, *ordering the affected cells to dedifferentiate back toward their anaerobic state.* The first step back is to break away from centralized control by the higher organism _ which results in individual "tumorous" or "uncontrolled" cells. *From sustained cellular hypoxia there exists a slowly increasing precancerous state, even years before the outbreak of physical cancer.* This precancerous state has great influence upon the "single cells" of the organism, which includes the cells of the immune system. Thus the precancerous state is characterized by increasing errors in, and slow weakening of, the immune system. Arthritis and similar debilitating immune system disorders appear to be largely the result of this "precancerous" long-term cumulation.

Note that the most stressed cells in the body automatically provided the greatest magnitude of "negative feedback input." Notice also that the feedback is a phase conjugate replica; it therefore "backtracks" its initiating stress input signal. In short, the degree of feedback antisignal received by a cell or group of cells varies according to the degree of stress they experienced. Thus those cells sustaining the longest and greatest stress get this drastic dedifferentiation countersignal first. E.g., this accounts for the (usual) localization of the resultant tumor in the lungs of a smoker, at least initially. It also accounts for the stress-damage mechanism for such disorders as arthritis.

A New Definition of Cancer

In the new model being advanced, *cancer and leukemia are centrally-commanded. final, desperate. "first-step dedifferentiation" adaptive attempts by the stressed. affected cells experiencing sustained oxygen shortage (hypoxia) to reverse their cellular*

evolution and return to the anaerobic stage of their distant ancestry.

The cause of cancer and leukemia _ and indeed of all diseases _ is *electromagnetic* in nature, and it can be straightforwardly treated and cured *electromagnetically*, if one utilizes the extended W/Z aspects of the higher topology EM actually written by James Clerk Maxwell. This statement is based on experimental proof; it is not conjecture. We discuss that proof below.

As we saw, in general the strength of the cumulating countersignal inversely depends on the distance in the body of the affected cells from the source of greatest contaminant stimulation. As the deeper "dedifferentiation" countersignal reaches the quantum threshold in the most affected area, a small group of localized cells located there take the first step back along the "single-anaerobe to single aerobe to multiple aerobe" evolutionary chain. That first dedifferentiation step breaks the cells away from centralized control of the MCCS in the personal quantum potential. Those dedifferentiated cells become independent cells or a small independent cell-groupings. They constitute a *tumor*, or *leukemia* if occurring in the blood cells. They simply are no longer under the control of the body's MCCS in the personal quantum potential, even though the body's logistical services (nutrients, oxygen, etc.) continue to be furnished to them.

At this point the tumor becomes an independent cellular organism, living in an environment where its body host continues to furnish its food and oxygen, and its host's immune system cells do not recognize the altered cells as foreigners to be attacked and destroyed.

Consequently there is no "large organism" central control of the tumor's growth, and the tumor cells divide and multiply apace. This loss of centralized growth control and the resulting unchecked cellular division and replication is in fact recognized by scientists as the major distinguishing characteristic of cancer and leukemia. With central control lost, groups of cancer cells or individual cancer cells may break away and travel to other locations in the body via body circulation systems. This results in metastasis, the spread of the cancer to other sites in the body, where they continue to be recognized as "self" by the immune system cells and continue to be supplied with oxygen and nutrients for continued growth.

The Tumor Has Become a Parasite Organization

Think of it this way: In a living body, each cell is already a single, independent, living creature all its own. It even has its own small "personal quantum potential" _ we have argued that that is an *a priori* condition of being alive. However, each cell in a multicellular organism normally is under a centralized electromagnetic control system (which functions in the organism's higher-level personal quantum potential), so that the organism lives and functions as an overall higher-level unit. If a cell (or group of cells) has separated from this centralized EM control, but is still living and functioning, then obviously the cell is no longer under the whole organism's MCCS and personal quantum potential. However, it still possesses its own control system, and its own personal QP. If the breakaway is by a small group of cells, then they are loosely under a "small group" quantum potential and MCCS as well. That is, they have gone from "large-scale central control" to a "much lower" level of centralized cellular control, accounting for the "tumor as an individual multicellular entity." Nourished by the host body, the new parasitic organism _ the tumor _ grows at an unchecked rate. Again, we argue that *the problem is electromagnetic in nature, and it can be "fixed" electromagnetically.*

The Cumulative Pre-Cancer State

With this picture of the long-term cumulative causative mechanism for cancer and leukemia, a far better picture of the pre-cancer state has emerged. The pre-cancer state is a hidden EM change of state comprised of a *cellular dedifferentiation order*, back down the species' cellular evolution trail, and the magnitude of that change of state is slowly increasing inside the organism's quantum potential. The eventual observable cancer is an actual cellular dedifferentiation due to the localized breaching of the quantum threshold by this cumulating hidden EM dedifferentiation order to move away from centralized control and back toward the anaerobic cellular state.

Becker's Profound Experiments

It has already been experimentally shown that very minute amounts of direct electrical currents, e.g., can cause cellular dedifferentiation and redifferentiation. In breathtaking work of Nobelian quality, Becker has proven that even picoamperes of localized electrical

current are sufficient to cause cellular dedifferentiation and redifferentiation, even repetitively. Incredibly, he proved that this was true for red blood cells, which first dedifferentiated to more primitive cells, the redifferentiated to precursors of cartilage cells, then redifferentiated to bone cells in a "bone fracture" area and healed the bone fracture. Since picoamperes can be generated by the cumulative countersignal mechanism (via Whittaker scalar interferometry), directly affecting the MCCS and the cells as well, then the connection between scalar potentials/potential interferometry and *dedifferentiation* mechanisms assumed to be involved in cancer and leukemia essentially follows from interpretation of Becker's pioneering work. To further strengthen the assumption, Hsue has recently (1993) shown that a DC voltage is in fact equivalent to two bidirectional EM traveling waves _ which directly indicates a WZ type implication in Becker's profound work itself. Thus Becker actually utilized a hidden, bidirectional WZ wave structure inside the voltage gradient between his electrodes in his DC current dedifferentiation and redifferentiation of blood cells. He conclusively demonstrated that cellular dedifferentiation and redifferentiation _ both of them *genetic* changes _ can in fact be caused by such an internal biwave EM structure of a steady, persistent scalar potential gradient. Further, he demonstrated that *these El~-induced cellular genetic changes can be self-targeted toward reversal of the specific damage condition, even though several successive genetic changes may be necessary m reach the ultimate cellular genetic form required for healing.*

Pre-Cancer State and Prognosis For Treatment Effectiveness

To summarize, whenever a cancer or leukemia detectably exists, regardless of the cancer site, a pre-cancer state also exists in the remainder of the body, and the immune system is affected generally. Further, this pre-cancer state pre-existed the actual emergence of the tumor itself. The new EM bioeffects model also sheds light on the probable effectiveness of conventional treatment, and probability for a "cure" that lasts for the rest of the patient's life.

If the cumulative countersignal slowly kindling in the remaining pre-cancer state is sufficiently below the quantum threshold, then conventional treatment of the cancer _ such as excision _ can eliminate the tumor, and no other tumors may then develop before the normal physical death of the body, even though slow increase of

the pre-cancer state continues. In other words, in that case the cumulative antisignals in the pre-cancer state locations other than the original cancer site never reach the quantum threshold prior to the natural death of the patient. On the other hand, if the cumulating antisignals in the pre-cancer state generally are very close to the quantum threshold, then recurrence of the tumor is highly likely. In the first case the curative prognosis is excellent; in the second case it is poor.

Also, we point out that many present treatments (such as nuclear radiation) themselves cause significant stress on the body and its cells and further deterioration of the immune system. They also generate an additional "antisignals" level in the personal quantum potential, resulting in an actual *increase* in the level of the pre-cancer state in the organism. If the combination of the pre-cancer state at time of treatment, plus the increase in the pre-cancer state due to treatment, is sufficient to breach the quantum level, then that treatment will prove to be of little or no avail to the patient. The tumorous condition will recur, and sometimes massively (the tumor metastasizes), regardless of whether further treatment is given or not. In that case the patient will die, unless somehow the pre-cancer state is lowered, the tumor cells are reverted back to centralized cellular control, and the immune system is restored to effective functioning so that excess cells are eliminated. Presently there is no conventional treatment that is capable of accomplishing the three requirements for a desperately ill patient's recovery from the "terminal" cancer condition.

Seeking the Complete Cancer Cure

From the new EM definition of cancer and leukemia and the new cumulative causative mechanism, one can see just how severely limited are the present medical weapons against this dread disease. It follows that, *if the cause is totally electromagnetic, then a totally effective treatment can only be sought as an electromagnetic therapy. Since the EM cause is in an extended EM domain, then axiomatically a totally effective treatment can only be sought in the same extended EM domain.*

The complete cure for cancer and leukemia, of course, would be to completely neutralize or "zero-out" the patient's cumulative Whittaker/Ziolkowski countersignal buildup in the MCCS/personal

QP. This can be done *prior to* the cumulation reaching the overt physical disease stage, or *after* it has already reached that stage. It can readily be done electromagnetically, using the multi-biwave tailored EM and self-targeting to provide an exact counter-countersignal (or antidote signal) to the cumulation signal itself. *This is a scientific fact and it has been rigorously proven, although the methodology could not heretofore be technically explained and understood.*

[Priore's Cure of Terminal Tumors and Other Diseases](#)

Such a total cancer-curative procedure was repeatedly demonstrated in live animal experiments in the late 1960s and early 1970s by Antoine Priore in France, under rigorous scientific protocols and supervision by eminent French scientists [such as Robert Courier, head of the Biology Section of the French Academy of Science, and *Secrétaire Perpetuel* of the Academy at the time]. The advantage of the Priore type approach was that it rapidly reversed the dedifferentiation away from centralized control of the affected (tumor) cells. The tumorous cells simply redifferentiated back to normal cells under centralized control of the MCCS/personal QP. (If too numerous because of the tumor's growth prior to its redifferentiation, normal body mechanisms absorb and dispose of the excess cells). Further, such treatment removed *all the pre-cancerous state from the rest of the body, preventing recurrence or spread of the tumor*. It is the only "total cure" for cancer, including the cumulated pre-cancer state, that has ever been scientifically demonstrated. And lastly, it accomplished these results without severe trauma to the body or further trauma to the immune system. Indeed, the exact opposite was the case.

Working with Priore, the eminent French scientist Pautrizel showed that the Priore treatment restored and stimulated the immune system back to its robust normal functioning, as would be predicted by the present model we are proposing.

Scientists at the Time Did Not Have the Necessary Knowledge for Understanding

It is a great tragedy that the active mechanism of the [Priore device](#)

was not understood _ even by Priore himself and even by very knowledgeable physicists assigned to the program to try to ascertain the machine's mechanism. The phase conjugate or "time-reversed" EM wave was unknown until it was discovered in the open Soviet literature in 1972. Almost all of our knowledge of such waves dates from that time. In the same year, two Soviet scientists briefed American scientists at Lawrence Livermore National Laboratory on *optical* phase conjugation. Thereafter, some American scientists began intense work on optical phase conjugation.

However, the time-reversed wave is a solution to the wave equation and applies to all kinds of waves, not just EM. Phase conjugation of sound waves, e.g., is readily accomplished. The time-reversed wave solution actually appeared in the scientific literature in 1898 in a paper by Barus, who pointed out that this strange solution "made the wave run backward." But at the time the Priore program's funding was withdrawn by the French government about 1974-75, little or no understanding of the time-reversed EM wave existed as yet in the West, and of course the Whittaker work had always been ignored and was unknown also. *Literally, with the technical tools available to them at the time, the French physicists, biologists, and oncologists had no chance at all of fathoming the causative mechanism in the Priore experiments.*

[Nature of the Priore Treatment](#)

Briefly, Priore mixed some 17 frequencies in a rotating plasma in a giant tube. We know today that one function of the kind of plasma he used is to produce a phase conjugate replica wave, for an input wave. Thus Priore unknowingly achieved coupled wave/antiwave pairs in his device. The output of the plasma tube was then coupled to (modulated upon) a "rippling magnetic field" of appreciable strength. The magnetic field guaranteed penetration of the entire body and every cell in it, carrying its modulated Whittaker/Ziolkowski internal potential structure with it. The "ripple" in the magnetic field guaranteed penetration to the atomic nuclei, and interaction with them, via nuclear magnetic resonance. In turn, unknown to Priore or the scientific team, this guaranteed the interaction of the plasma-produced W/Z structure with the internal W/Z structure of the personal QP joining those atomic nuclei. Thus the Priore approach (1) formed a deliberate counter-counter signal W/Z structure; i.e., Priore constructed a *specific electromagnetic*

antidote, (2) carried that antidote into all the atomic nuclei of the treated body by nuclear magnetic resonance, and (3) caused interaction with and neutralization of the internal W/Z dedifferentiation countersignal structure already present in the personal QP joining all the atomic nuclei of the treated body, *zeroing out or canceling the tumorous and pre-tumorous states existing throughout the body*.

The end results were that (1) the cumulated counter-signal to the tumor cells to dedifferentiate back toward anaerobic cells was removed, (2) the body's own centralized cellular control over the tumor cells was restored, and (3) the entire cumulated pre-cancer counter-signal pattern in the personal quantum potential was removed. In short, the individual organism started over again with a "clean slate" insofar as long-term cumulation of cancer-inducing signals in the personal quantum potential was concerned.

Furious Reaction by Orthodox French Oncologists

The Priore material, device, procedures, and results are all properly documented and presented in the peer-reviewed French medical literature. Priore obtained both French and U.S. patents on the device and on his treatment process. Robert Courier, head of the Biology Section of the French Academy of Science, personally introduced the astounding Priore team results to the Academy. It caused a furor, and a vicious reaction of most of the orthodox French oncology establishment. Because no one could understand how the mechanism worked, there was loud and raucous insistence that "science must not be done with black boxes!" This overly pious attitude is strange, since the Priore results were multiply replicated and scientifically impeccable, and such things as aspirin were utilized for decades before their active mechanisms were understood. Indeed, in epidemiology the use of vaccines and such is directly based on statistically showing that the results are real, even if the active mechanism is not understood.

When the French Government changed to a leftist government in the mid 1970s, the implacable foes of the Priore work prevailed, and the new leftist government withdrew all further funding. Priore later died, and that was the end of that.

Of all areas and treatments known to this researcher, the Priore

approach is the only one that has been rigorously and scientifically proven in laboratory animals, was essentially 100% effective, and was performed under proper rigorous scientific protocols. That it has continued to be ignored by the medical and biological communities is a profound tragedy, but one due more to ignorance of the active mechanisms for the treatment than of deliberate intent.

There Is Also Deliberate Suppression

Nevertheless, there is also an element of deliberate suppression involved. Some years ago I was personally involved with a special group in an effort to restore the Priore device, when Priore was still alive. Our group obtained a tentative agreement with both the French Government and with the Priore group. The Priore machines were to be rebuilt in Bordeaux, France under the personal supervision of Priore himself. Some of the scientists who had worked with him were still alive, and would have been involved in the project. Our group had some \$16 million support pledged by some wealthy backers to fund the project.

Almost immediately after our group's successful conclusion of the tentative agreements, the lives of all our backers and the lives of their families were threatened. All backing was withdrawn. The leader of our group, a Nashville businessman, came under sustained personal and business attack. He eventually lost almost everything he had, and fled this country for his life. He is still in hiding to this day. Antoine Priore then died and that was that.

The only part of the project that remained was my own grim determination to eventually provide the detailed mechanism by means of which the remarkable Priore therapeutic cures were accomplished. Success has finally been achieved after a decade of unrelenting struggle to completely explain the cause of cancer and the active mechanism by means of which the Priore group obtained such astounding scientific results.

I strongly urge medical science to take a new, hard look_ both theoretically and experimentally _ at the proven anti-cancer results obtained by Antoine Priore and the noted scientists who worked with him. I also strongly point out that new thinking, new theoretical tools, and new experimental instrumentation are needed for that re-examination. In addition I have pointed out the precise nature of the

new thinking, tools, and instrumentation required.

What About Other Diseases Such As AIDS?

The question now arises about other diseases, particularly AIDS. Can the expanded Priore methodology provide equally dramatic cures of dread diseases other than cancer and leukemia? Can it conceivably cure AIDS? The answer is a resounding "Yes!"

Almost all disease conditions are electromagnetic in nature, in the sense of the extended EM bioeffects model we have outlined. The basic methodology of forming a counter-countersignal to a specific disease state can be extended to many other diseases, and to AIDS as well. The "self-targeting" effect in the cellular dedifferentiation induced by the extended EM methods results in a countersignal being produced to the *last major genetic change undergone by the diseased cell*. In the case of an HIV-infected cell, its genetics have been changed (differentiated) from normal to infected. In its internal WZ structure, the strongest resultant signal complex is thus the HIV infection differentiation command. *When pumped by the internal bidirectional WZ wave structure of the applied scalar potential, the "cell-as-a-nonlinear-phase-conjugate-mirror-material" generates a precisely tailored anti-AIDS cellular genetic dedifferentiation signal. The cell thus dedifferentiates back to a normal cell with normal genetics.*

In addition to Priore's work and Becker's results, the remaining experimental foundation for our startling statement on extended-EM reversal of AIDS was established decades ago _ as early as the late 1950s _ by the Soviet researcher Vlail Kaznachev.

Implications of Kaznachev's Experiments

In some 17,000 experiments Kaznachev showed that *any* cellular disease or disorder can be transmitted between cell cultures "electromagnetically" in an unknown fashion. The model we have briefly advanced here, if slightly extended to include the concept of the W/Z structure being a *graviton lattice structure*, is fully capable of explaining Kaznachev's results, the mechanisms, etc. This EM-transmission of disease effect shown by Kaznachev is known as

the *cytopathogenic mirror effect*, and it has been replicated by researchers at the University of Sydney in Australia, at the University of Marburg in Germany, and by at least one researcher in the United States.

In short, what Kaznacheyev's research showed is that there exists a specific EM signal pattern of some mysterious, not-understood nature that can induce a specific cellular disease in a group of cells absorbing that signal pattern. If we regard the healthy state of the cell as "condition A" and the specific diseased state as "condition B," then specific EM signal pattern C causes the cell to move from condition A to condition B. It immediately follows that an antisignal to C _ that is, the phase conjugate of C, which is a time-reversed replica of C _ will move the diseased cell from condition B back to condition A, curing the disease. Time reversal of "sickening" is "healing." It follows from Kaznacheyev's work that (1) a specific signal pattern exists as the causative inductive factor for each specific cellular disease, and (2) a specific "antidote" signal pattern exists as the causative curative factor for that specific disease, the antidote signal being merely the time reversal or phase conjugate replica of the cytopathogenic signal. While Kaznacheyev never publicly produced the cytopathogenic mechanism, such a mechanism follows from the WZ extension of EM, and the long-term causative disease-induction mechanism I have advanced.

Creating a Specific "EM Antidote" to a Specific Disease

Consider the cumulative EM causes of changes to a cell, including to its genetics, as a serial chain of signals. Indeed, consider them as the layers of an onion, where the outer layer is the most recent. Additional layers may be added to the onion by "time forward" actions, or "differentiation" actions. If we now wish to "peel" the onion, that too is a successive, serial action, accomplished by "phase conjugate" or "time reversal" operations. These result in serial cellular dedifferentiation actions. By treating the cell and its genetics and internal parts as "highly nonlinear material structures and therefore phase conjugate mirror materials," we can "pump" the cell and its parts by bidirectional EM waves to convert the cell to a pumped phase conjugate mirror (PPCM). By orthodox nonlinear phase conjugate optics theory, with a signal wave present, the PPCM cell will emit a precise phase conjugate replica (PCR) wave. If we pump the cell with a complex of pump biwaves, the cell can and will

emit a precise phase conjugate wave complex in response to a complicated signal wave complex input that is present.

For a diseased cell, we regard the disease as a differentiation of the cell, and the primary cause of the differentiation (the EM cytopathogen) as a complex WZ waveset infolded inside the personal quantum potential (in which all the body's cells exist and in whose internal signal dynamics they participate). With the pumped cell as a PPCM, and the EM cytopathogen present as an input signal wave complex to the PPCM, a precise, amplified, "EM antidote" PCR wave-complex is emitted by the parts of the PPCM cell. Each part gets a PCR complex signal order, dedifferentiating that part back the first step. A diseased part steps back to a normal part. A normal part steps back to a normal part. The diseased cell is thus dedifferentiated back to a normal cell with its parts all normal. Because the PCR wave complex is amplified, the dedifferentiation is must faster than was the original dedifferentiation. Thus an HIV-infected cell that has been "dormant" for an extended period can still be dedifferentiated back to a normal cell that is HIV-free.

So a self-targeting counter-countersignal can be automatically "developed" and generated in the body's diseased cells, for each specific cellular disease or disorder condition, or even for a mix of diseases and disorders. This is accomplished by the automatic phase conjugating action of the "cell-as-a-PPCM", when pumped by the hidden EM bidirectional structure of a scalar potential. In practice, Priore did find it necessary to adjust the particular frequency mixes he used for different disease conditions. We hypothesize that this adjustment was necessary to arrive at the proper pump wave complex that would in fact allow the proper PCR wave complex to be emitted for a particular disease type or class. Although photobiologists regularly report mitogenetic radiation emitted by a cell in the optical region, the effects desired in the cells can be produced by a different frequency regime, because of the known phenomena of nonlinear harmonic and subharmonic resonance. Since in a W/Z structure it is the *harmonic intervals and their relative relationships* that are of fundamental importance, the frequency regime of a detected W/Z structure can be shifted either harmonically or subharmonically. Priore, e.g., worked at radar frequencies in the low gigahertz range. For simplicity we may think of the frequency complex as a sort of "musical chord" composed of multiple tones. We may play the same "chord" either on the high scale or a lower scale, and still recognize the tune if the relative frequency interrelationships of the tones are retained.

A Possible Simplification of Priore's Methodology

If we turn away from the classical vector/tensor EM model presently in vogue to a higher topology EM model such as quaternions or Clifford algebra, the extended EM bioeffects model can be mathematized and refined by experiment. For example, Barrett has shown that the nonlinear phase conjugate optics effects can be obtained in ordinary circuits without the use of optical materials, when those circuits are designed and function in accord with a higher topology EM such as quaternions. Thus the circuitry of the EM emission devices themselves can be constructed to perform time-reversal of EM waves, phase conjugate replicas, 4-wave mixing, and pumped phase conjugate mirror effects, without use of normal optical materials or procedures. Priore utilized a plasma in a giant gas-filled tube, in which to mix his 17 frequencies and accomplish (unknown to scientists at the time) phase conjugation. Barrett's work implies that the necessary phase conjugation, and amplification, can be accomplished by purely electromagnetic circuitry, once the functioning of the circuitry is designed and understood in a higher topology algebra such as quaternions or Clifford algebra.

Priore demonstrated cures for diseases other than cancer. Different settings produced cures for sleeping sickness, e.g. Clogging of the arteries was also completely reversed by a variation in the Priore treatment. In addition, Pautrizel working with Priore positively demonstrated the restoration of vigorous, natural functioning to the immune system of the treated animal.

Kaznachev's Viral Disease Experiments: Implications for an AIDS Cure

Kaznachev has already demonstrated that viral-caused diseases can be induced by purely EM means in cell cultures. What this means is that cellular genetic changes also are electromagnetically induced at root basis. We regard this as a cellular differentiation. But both Becker and Priore have shown that cellular dedifferentiation can also be induced electromagnetically, by the extended scalar EM. It follows that viral-caused diseases _ including AIDS _ can be cured by purely EM means, simply by creating the proper dedifferentiation signal complex in the diseased (differentiated) cell. To determine the

proper disease induction (dedifferentiation) signal pattern for the disease, the disease-inducing signal complex must be phase conjugated, and the phase conjugate replica must be amplified. The phase conjugate replica may be stimulated at the proper frequency regime by a signal complex at a much lower frequency regime. Hence the detectable photobiological optical cytopathogenic signal complexes may have their PCR counterparts stimulated by irradiation with a proper signal complex at a lower frequency regime (e.g., millimeter wave band) for use in treatment

In Conclusion

Again we strongly accent that one must take the "musical" approach: A disease pattern or a curative pattern is a complex of special frequencies and their antiwaves, similar to a musical chord. That same chord can be played in a higher or lower key, and the body will still determine the correct relationships by harmonic or subharmonic oscillation. It will still recognize the "melody" and its background chordal accompaniment; although the *individual* frequencies have changed, their *relative* relationships have not changed.

All biochemistry, genetics, and cellular effects are subject to affectation and control by proper manipulation of the W/Z structures inside scalar EM potentials. We have stated that the living organism already utilizes the internal EM structuring for mind, thought, and long-term memory, as well as the master level cellular control system we have accented. For the first time, the "software" and "firmware" of the mind appears to be directly available, something which has never before existed in science. The model advanced in my work is intended to point the way toward such use in medical science on a substantial scale, to achieve healthier, more effective, and far cheaper treatments for many of our desperate diseases that presently require costly, protracted treatments, often harsh and debilitating in and of themselves. We strongly believe that, given the direct attention of the scientific community and proper funding support, near-total, quick, and very economical cures can be developed for such dread diseases as cancer, leukemia, and AIDS. We point out also that the Priore team demonstrated cure of sleeping sickness in lab animals, as well as the direct unclogging of arteries and other blood vessels.

We also strongly accent the "self-targeting" feature when the

diseased cell is "pumped" as a phase conjugate mirror material by the internal WZ biwave structure of an artificially-structured scalar EM potential. The cytopathogenic disease-induction signal complex is present in the cell and all its parts. By varying the frequencies in the internal biwave structure of the pumping potential, and hence in the pumping of the cell-as-a-PPCM, the cell is enabled to produce from and into all its parts the proper phase conjugate replica wave complex for its specific cellular disease. *Hence it produces a specific electromagnetic antidote for its own specific disease condition.* We need only adjust the frequency content of the artificial potential until the proper PCR signal complex is produced. Further, that PCR wave complex is amplified because of the pumping. Therefore the "treatment time" can be very short, and need not be anywhere near as long as the time originally required for the cytopathogenic EM signal complex to cumulate.

Today a variety of dread diseases continue to plague humankind. Untold millions of persons are suffering and dying, when the beginning of an effective, quick, inexpensive therapeutic approach capable of essentially 100% cures of cancer, leukemia, and other diseases has been demonstrated more than two decades ago.

With the exposition of the fundamental mechanism for this new therapeutic approach, perhaps the scientific community will return with renewed vigor to develop this promising area and alleviate the death and suffering so widespread today.

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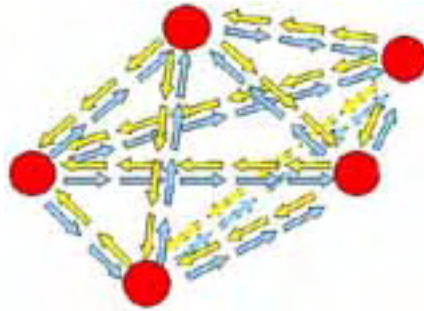
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CANCER AND THE UNRESOLVED HEALTH ISSUES IN THE BIOLOGICAL EFFECTS OF EM FIELDS AND RADIATIONS

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**MECHANISM FOR
LONG-TERM, CUMULATIVE
BIOLOGICAL EFFECTS OF
EM FIELDS AND RADIATION**

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INTRODUCTION

- **PROBLEMS IN EM BIOEFFECTS DETERMINATION FOR FOUR DECADES**
 - **DIFFICULTY IN REPLICATION**
 - **STUDIES ARE CONTRADICTORY**
 - **EMOTIONALISM, CONTROVERSY, VESTED INTERESTS**
 - **LACK FUNDAMENTAL MECHANISMS**
- **ESTABLISHES THAT MODEL UTILIZED IS INADEQUATE**
- **WILL CRITIQUE STANDARD MODEL**
- **WILL PROPOSE ALTERATION AND EXTENSION**
- **WILL EXAMINE FUNDAMENTAL CONCEPTS, PER EINSTEIN**

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EINSTEIN ON REVIEWING FOUNDATIONS

"...the scientist makes use of a whole arsenal of concepts which he imbibed practically with his mother's milk; and seldom if ever is he aware of the eternally problematic character of his concepts. He uses this conceptual material, or, speaking more exactly, these conceptual tools of thought, as something obviously, immutably given; something having an objective value of truth which is hardly even, and in any case not seriously, to be doubted. ...in the interests of science it is necessary over and over again to engage in the critique of these fundamental concepts, in order that we may not unconsciously be ruled by them."



Albert Einstein, "Foreword," in Max Jammer, Concepts of Space: The History of the Theories of Space in Physics, Harvard University Press, Cambridge, Massachusetts, 1969, p. xi-xii.

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SOME PROBLEMS IN ELECTROMAGNETICS FOUNDATIONS

- NOTION OF FORCEFIELD
- NATURE OF THE VACUUM
- NATURE OF ELECTRICAL CHARGE
- NOTION OF POTENTIAL
- NOTION OF ENERGY
- NOTION OF QUANTIZED ELECTRICAL CHARGE
- NOTION OF TIME
- CONSIDERED MUTUALLY EXCLUSIVE TO GRAVITY
- FRAME VERSUS SPACETIME
- CLOSED SYSTEM ASSUMPTION
- TOPOLOGY AND DIMENSIONALITY OF THE MODEL'S MATHEMATICS
- UNDEFINED, OR IMPROPERLY DEFINED, CONCEPTS

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NOTIONS IN THE CONCEPT OF THE POTENTIAL

- **CONCEPT OF THE POTENTIAL HAS DEVELOPED AS SEVERAL FUNDAMENTAL NOTIONS:**
 - **AS THE "INTERNAL" STORAGE OF ENERGY IN SOME FASHION**
 - **AS A POINT-VALUE FUNCTION IN 3-SPACE**
 - **AS A SCALAR FUNCTION WHOSE SPACE RATE OF CHANGE YIELDS A VECTOR FORCE**
- **THE ENERGY STORAGE MECHANISM IS QUITE UNKNOWN.**
- **NO THOUGHT HAS BEEN GIVEN TO SIMULTANEOUSLY DEFINING IT AS HAVING A HYPERSPATIAL WAVE SET COMPOSITION.**
- **THE THIRD NOTION EFFECTIVELY MAKES ALL FORCES LOCAL A PRIORI, AND EXCLUDES ACTION AT A DISTANCE BY POSTULATION.**
- **THE THIRD NOTION IS KNOWN TO BE INCORRECT. THE GRADIENT OF A POTENTIAL DOES NOT PRODUCE A FORCE UNTIL A MASS IS PRESENT, TO WHICH THE GRADIENT COUPLES.**

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Founders of Scalar Electromagnetics

■ G.J. Stoney:

Decomposed the scalar potential into bidirectional wave pairs.

"On a supposed proof of a theorem in wave-motion," Phil. Mag., 5(43), 1897, p. 368-373 (and several other papers).

■ E.T. Whittaker:

Decomposed the scalar potential into a series of bidirectional EM wave pairs in harmonic series, where the two waves in each pair are conjugates (i.e., a wave/antiwave pair) and are longitudinal waves.

"On the partial differential equations of mathematical physics," Math. Ann., Vol. 57, 1903, p. 333-355.

Showed that all classical EM -- including waves -- can be replaced by two interfering scalar potential functions.. (This founded superpotential theory, extended by Nisbet, Bromwich, Debye, McCrea, and others.)

"On an expression of the electromagnetic field due to electrons by means of two scalar potential functions," Proc. Lond. Math. Soc., Series 2, Vol. 1, 1904, p. 367-372.

■ R.W. Ziolkowski:

Independently rediscovered the biwave decomposition of the scalar potential and added the product set (in theory enabling modulations and communications) to Stoney and Whittaker's sum set.

Various papers, 1985 to date.

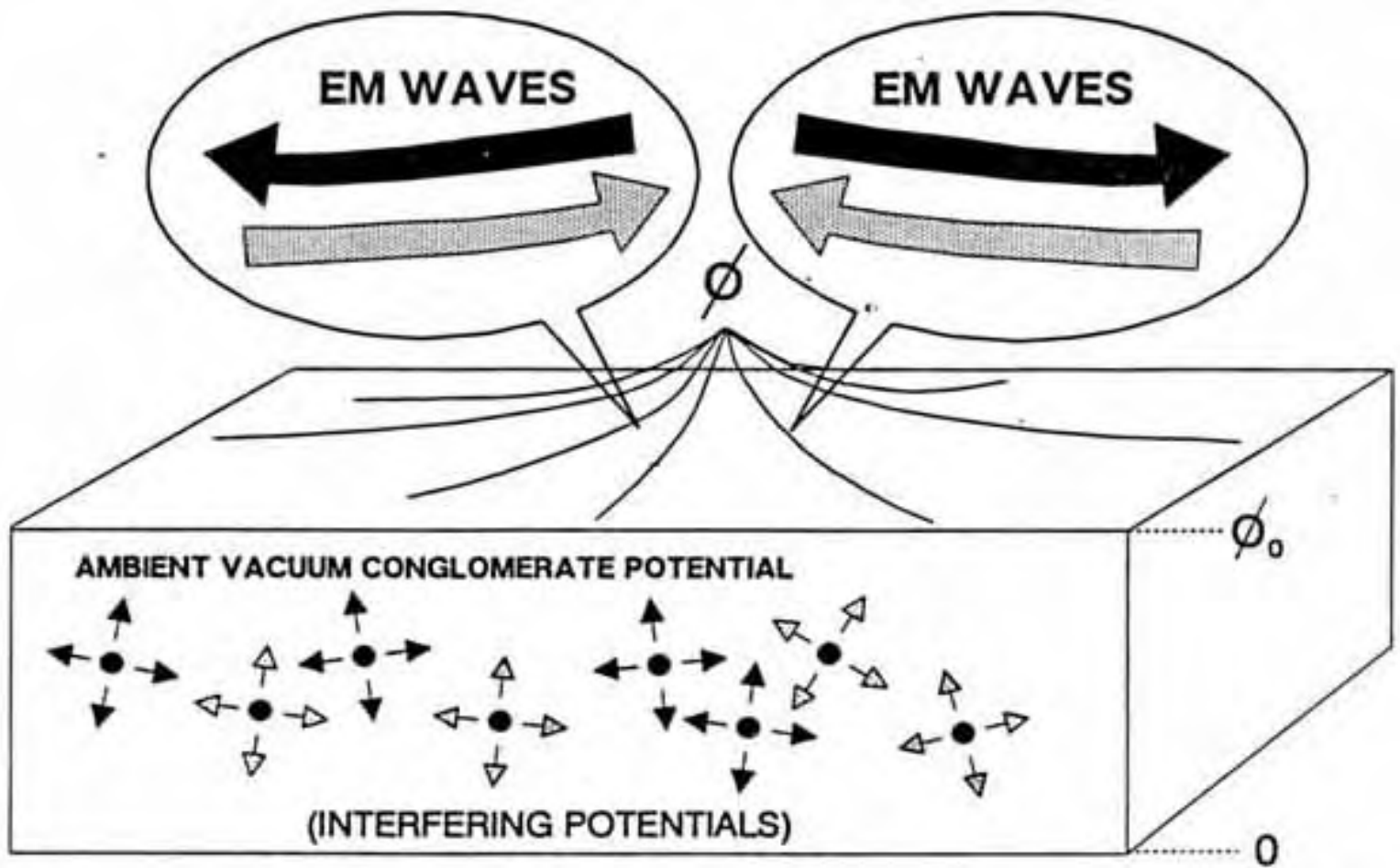
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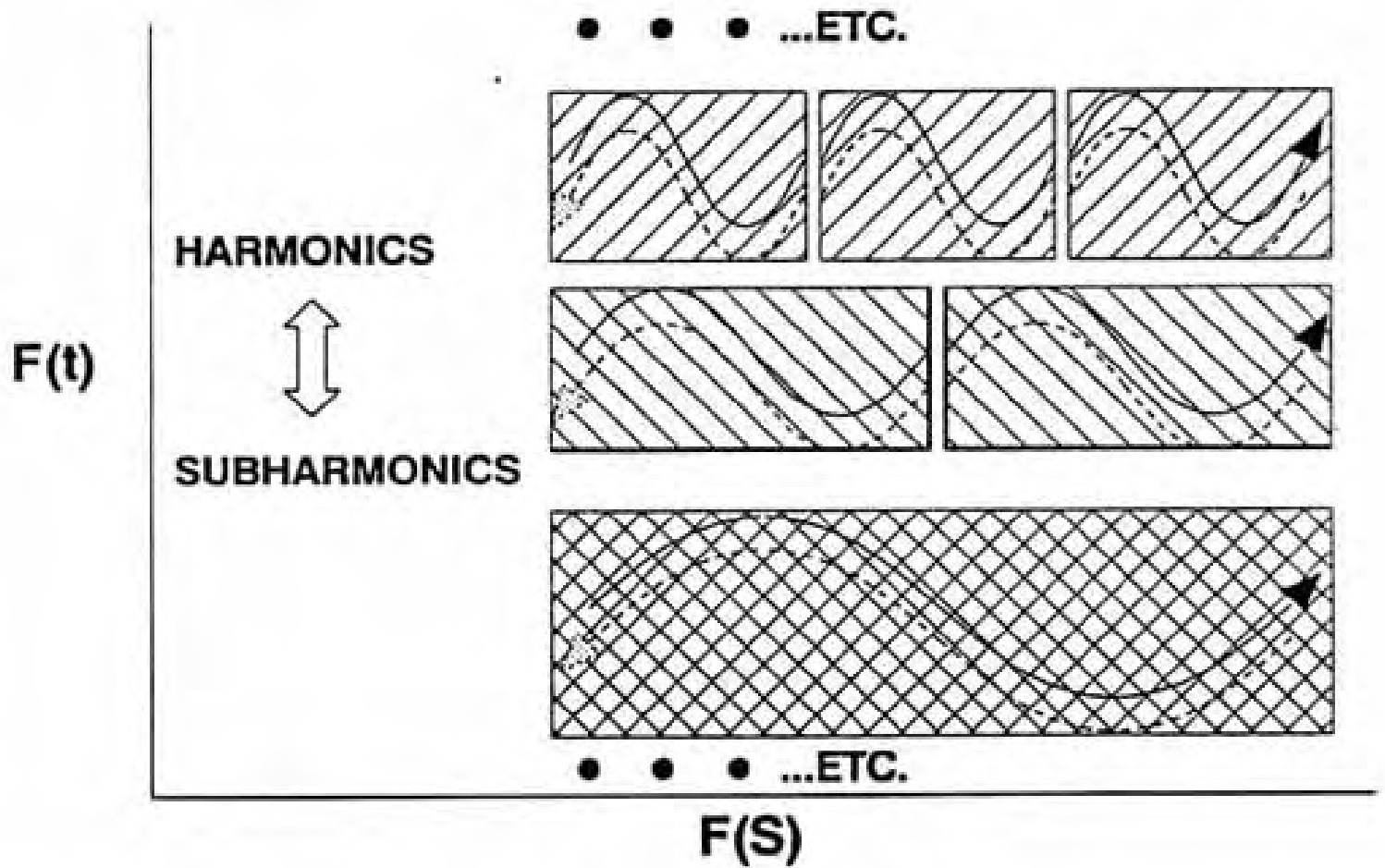
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INNER EM WAVES OF A SCALAR POTENTIAL



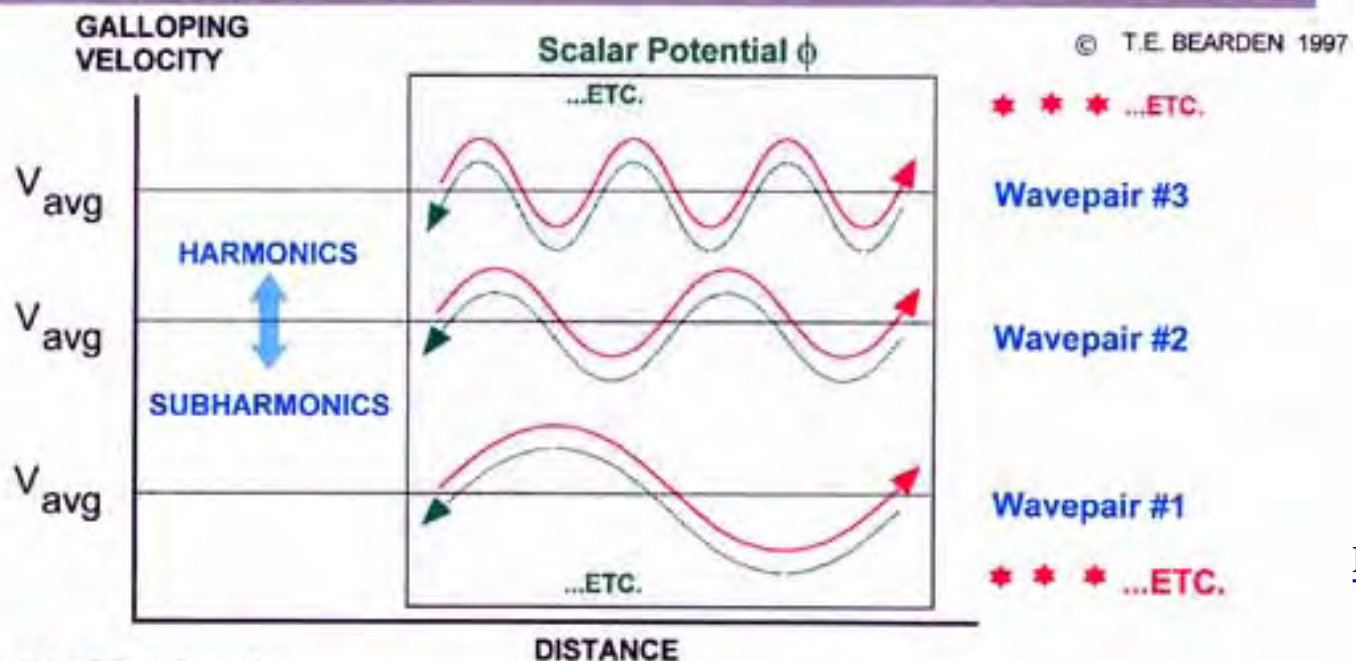
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GRAVITON/WHITTAKER LATTICE STRUCTURE OF THE SCALAR POTENTIAL



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Infolded longitudinal EM biwave composition of a scalar potential



The Structure Is:

A harmonic set of longitudinal EM wavepairs. In each wavepair the two waves superpose spatially, but travel in opposite directions. The two are phase conjugates and time-reversed replicas of each other. Thus they comprise a coupled longitudinal wave and antiwave. The photons must be coupled into photon/antiphoton pairs (gravitons) by a strong application of the distortion correction theorem of nonlinear optics. Each wave in the biwave pair is a galloping wave. Each wavepair is a standing electrogravitational wave. In nonlinear optics, such a wavepair is a pump wave which pumps in the time domain.

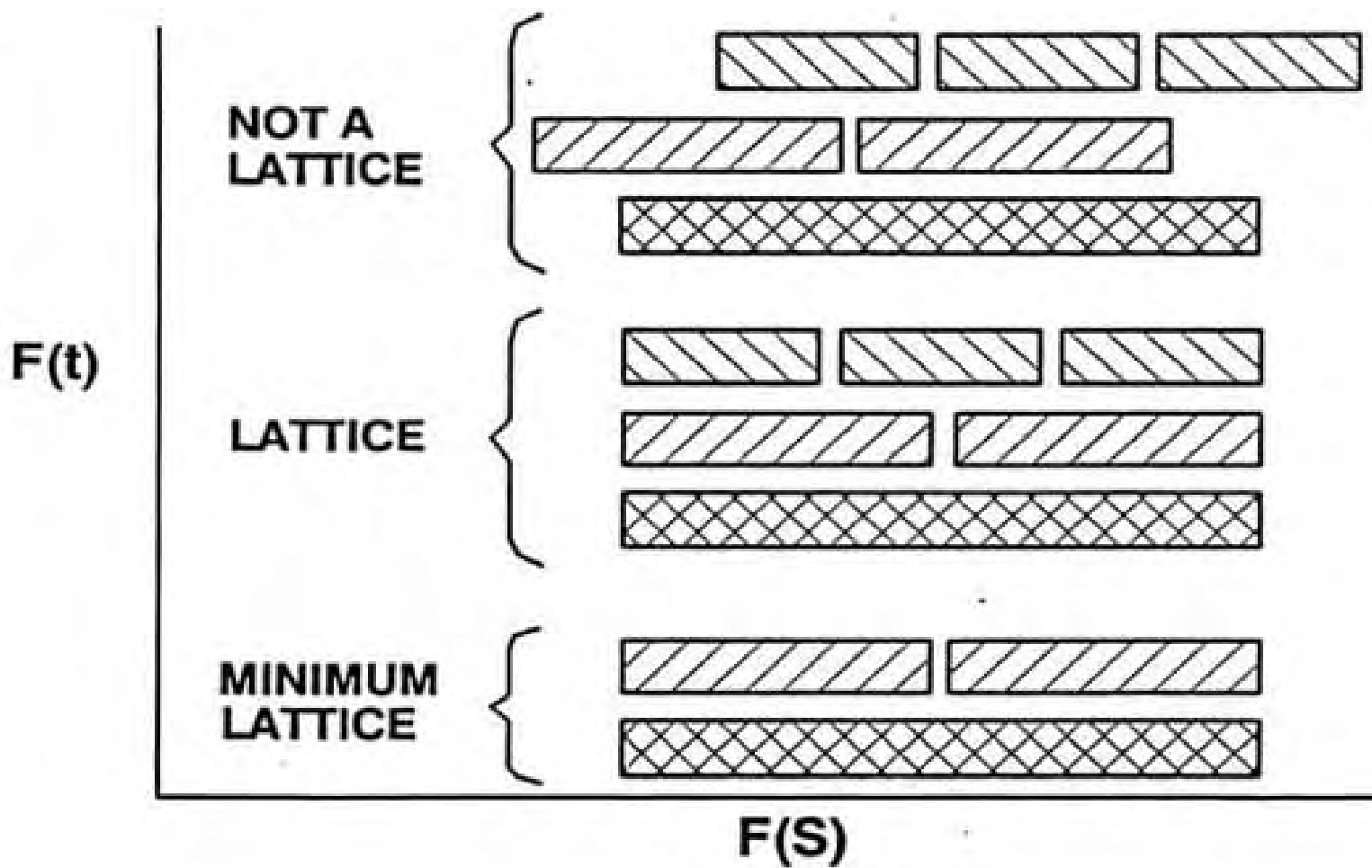
Note: Think of the oscillations as velocity modulations.

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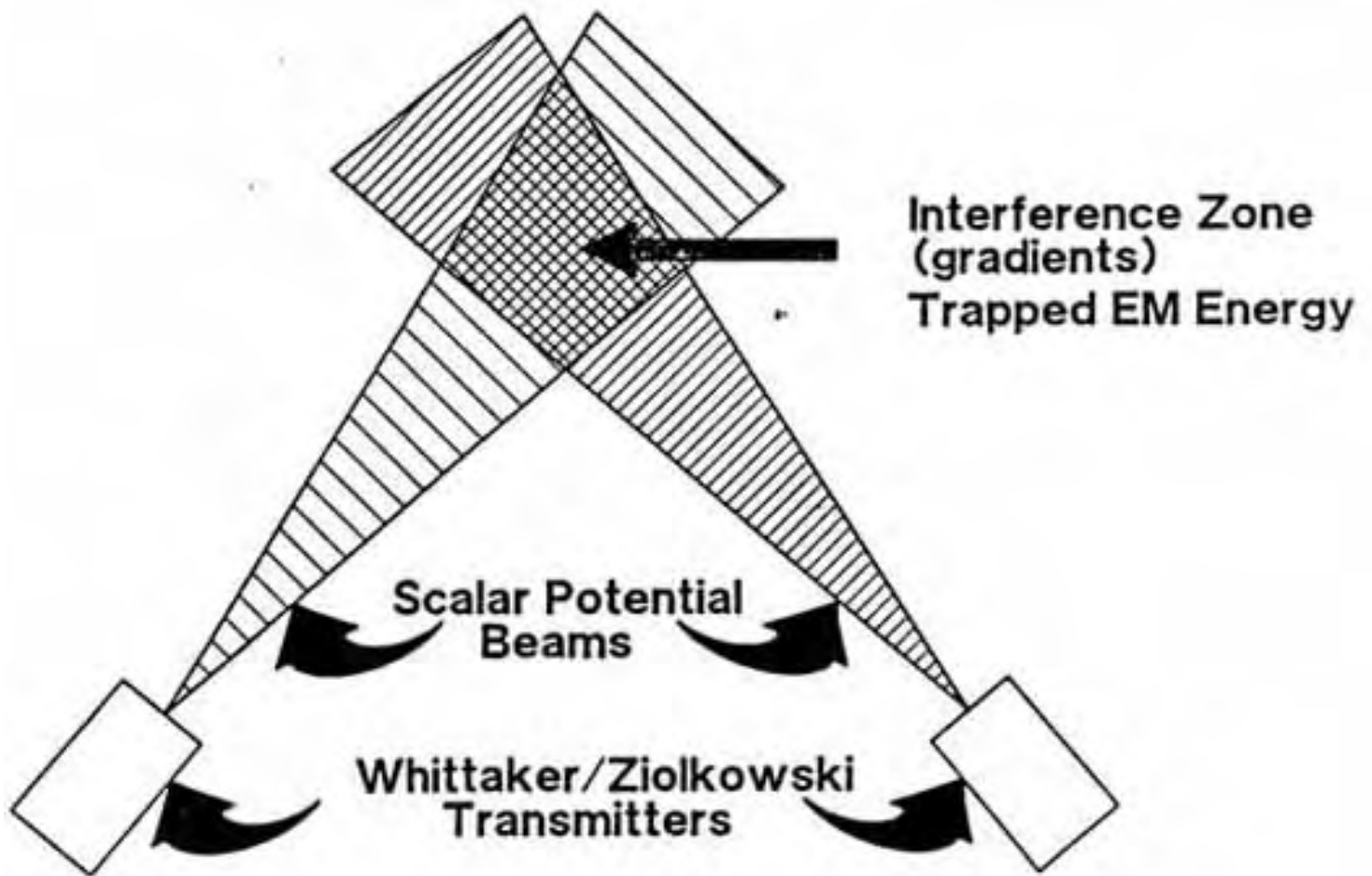
LATTICE AND NONLATTICE GRAVITONS



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SCALAR EM POTENTIAL INTERFEROMETRY



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SCALAR POTENTIAL INTERFEROMETRY

- Between two scalar potentials, **interferometry** is:
 - Interference of the multi-wave sets in hyperspace.
 - Production of gradients in the 3-space point values
 - In the classical (erroneous) postulation, the creation of forces in 3-space.
 - > Force does not exist until the gradient couples to an observable mass.
 - > There are no E-fields and B-fields as such in the massless vacuum, but only potential gradients.

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SOME PROBLEMS IN FOUNDATIONS OF GENERAL RELATIVITY

- **EINSTEIN'S FLAT LOCAL SPACETIME POSTULATE**
- **ONLY CONSIDERS THE VERY WEAK G-FORCE AS AN AGENT FOR SPACETIME CURVATURE**
- **EXCLUDES UNION WITH EM FIELD**
- **EXCLUDES ACTION-AT-A-DISTANCE, WHICH IS REQUIRED BY QUANTUM MECHANICS, AND PROVEN**
- **EXCLUDES UNION WITH QUANTUM MECHANICS**
- **SPECIFICALLY EXCLUDES ELECTROGRAVITATION**
- ***IS ESSENTIALLY NOT AN EXPERIMENTAL SCIENCE***

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SOME PROBLEMS IN FOUNDATIONS OF QUANTUM MECHANICS

- **EXCLUDES CHAOS (HIDDEN ORDER), AND THIS IS KNOWN TO BE IN ERROR**
- **ORDERED MACROREALITY CANNOT EMERGE FROM INTEGRATING DISORDERED (RANDOM) CHANGES**
- **USES RANDOM-VARIABLE STATISTICS FROM GIBBS THERMODYNAMICS**
- **NOTION THAT QUANTUM CHANGE - HENCE ROOTS OF PHYSICAL REALITY - CANNOT BE ENGINEERED**
- **REQUIRES ACTION-AT-A-DISTANCE EFFECTS**
- **CONTRADICTS CLASSICAL MECHANICS, GENERAL RELATIVITY, AND CLASSICAL ELECTROMAGNETICS**

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PHYSICS DISCIPLINES ARE PRESENTLY INCONSISTENT

	GENERAL RELATIVITY (GR)	
QUANTUM MECHANICS (QM)	???	CLASSICAL EM THEORY
	MIND & SUBTLE ENERGY	

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**THE PRESENT
EM, GR AND QM
ARE SUBSETS,
EACH OMITTS THE
WHITTAKER
INTERNAL EM.**

A PRESENT EM (EXTERNALIZED ASPECTS OF POTENTIALS)	B EXCLUDED EM (INTERNALIZED ASPECTS OF POTENTIALS)
--	---

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A PRESENT GR (DISTANT SPACETIME CURVATURE) (LOCAL ACTION)	B EXCLUDED GR (LOCAL SPACETIME CURVATURE) (ACTION AT A DISTANCE)
--	---

A PRESENT QM (EXTERNALIZED STRUCTURE OF POTENTIALS)	B EXCLUDED QM (INTERNALIZED STRUCTURE OF POTENTIALS) (CHAOS)
--	---

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UNIFIED FIELD SECRET: APPLY WHITTAKER THEORY

	GENERAL RELATIVITY (GR)	
QUANTUM MECHANICS (QM)	APPLY WHITTAKER THEORY	CLASSICAL EM THEORY
	MIND & SUBTLE ENERGY	

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PRESENT DEFINITION OF "ENERGY" IS ERRONEOUS

- **PRESENT: "ENERGY IS THE CAPACITY TO DO WORK."**
- **ACTUALLY, WORK IS THE SCATTERING (DISSIPATION) OF ENERGY.**
- **THE PRESENT DEFINITION STATES THAT "ENERGY IS THE CAPACITY TO DO SCATTERING OF ENERGY."**
- **ENERGY CAN BE SCATTERED, YIELDING WORK. BUT THE CAPACITY TO PERFORM THAT SCATTERING IS NOT ENERGY! (E.G., IT MAY BE RESISTANCE.)**
- **COMPARE TO: "A FISHHOOK IS THE CAPACITY TO CATCH FISH."**
- **ACTUALLY, A FISHHOOK IS A BENT WIRE WITH A BARB. IT HAS THE CAPACITY TO CATCH FISH (GIVEN OTHER CONDITIONS). BUT THE CAPACITY TO CATCH FISH IS NOT WHAT IT IS.**

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SOME NEW DEFINITIONS

- **QUANTUM MECHANICAL VACUUM** - an intense flux of virtual particles, filling the "emptiness" of spacetime/vacuum.
- **ENERGY** - any ordering, either static or dynamic, in the virtual particle flux of vacuum.
- **EM ENERGY** - any ordering, either static or dynamic, in the virtual photon flux of vacuum
- **WORK** - the local scattering of energy; the local disordering of the order in the VPF.

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DEFINITIONS (CONTINUED)

- **POTENTIAL** - any ordering, either static or dynamic or combination, in the VPF of vacuum
 - same definition as energy
 - must have internal order, hence structure
- **SCALAR POTENTIAL** - any static ordering in the VPF of vacuum, with respect of the external observer
- **VECTOR POTENTIAL** - any dynamic (non-stationary) ordering in the VPF of vacuum.
 - must have internal order, hence structure

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DEFINITIONS (CONTINUED)

- **Electrostatic Scalar Potential** - any static (stationary) ordering in the virtual photon flux of vacuum.
 - Whittaker decomposed the ESP into bidirectional EM wavepairs in a harmonic structure.
 - We interpret the wavepair set as existing in hyperspace (in hyper-3-space).
- Thus the ESP is a 3-space point function, and a hyper-3-space vector function, in 7-space.
- In Hyper-3-space, the ESP is an ordering established throughout the universe.

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ELECTRIC CHARGE, OPEN SYSTEM

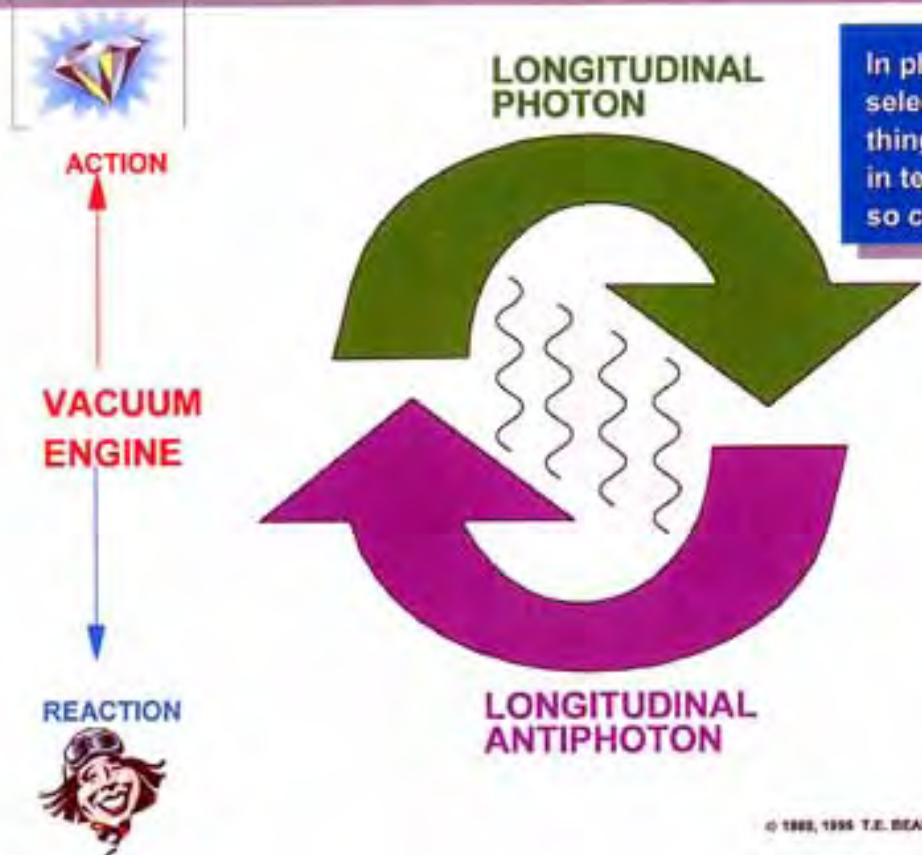
- The *electric charge* of a charged particle is due to a violent exchange of virtual photons between the charged particle and the local vacuum VPF
 - photons continually absorbed from the vacuum
 - photons continually radiated back to the vacuum
 - this exchange flux is what electric charge *IS*.
- In the nucleus, everything is changing into everything, so to speak. It is a furious, *VPF-driven* cauldron.
- the nucleus is an open, driven system, normally in equilibrium with respect to VPF input and output.

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The Graviton Is a Coupled Photon/Antiphoton Pair (Both photon and antiphoton are longitudinal)



In physics, the primary units selected are arbitrary. Everything can be expressed, e.g., in terms of time alone. Thus so can photon spin.

**IS THIS A SPIN 2 ENTITY?
It is, in the time domain.**

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PHOTON INTERACTION IS USUALLY GRAVITON INTERACTION

- Graviton interaction is a photon/antiphoton interaction
- Photon interacts with electron shells
 - Scattering produces the entropic (forward) flow of time
 - Produces electron translation in our detectors
- Antiphoton interacts with nucleus primarily
 - produces nuclear recoil
 - produces Newton's third law of motion

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PHOTON INTERACTION WITH THE MATERIAL ATOM

MECHANISM FOR NEWTON'S THIRD LAW

GRAVITON



PHOTON



ANTIPHOTON

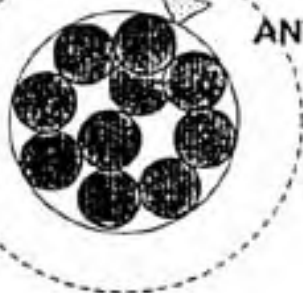
e^-



e^-

PHOTON

ANTIPHOTON



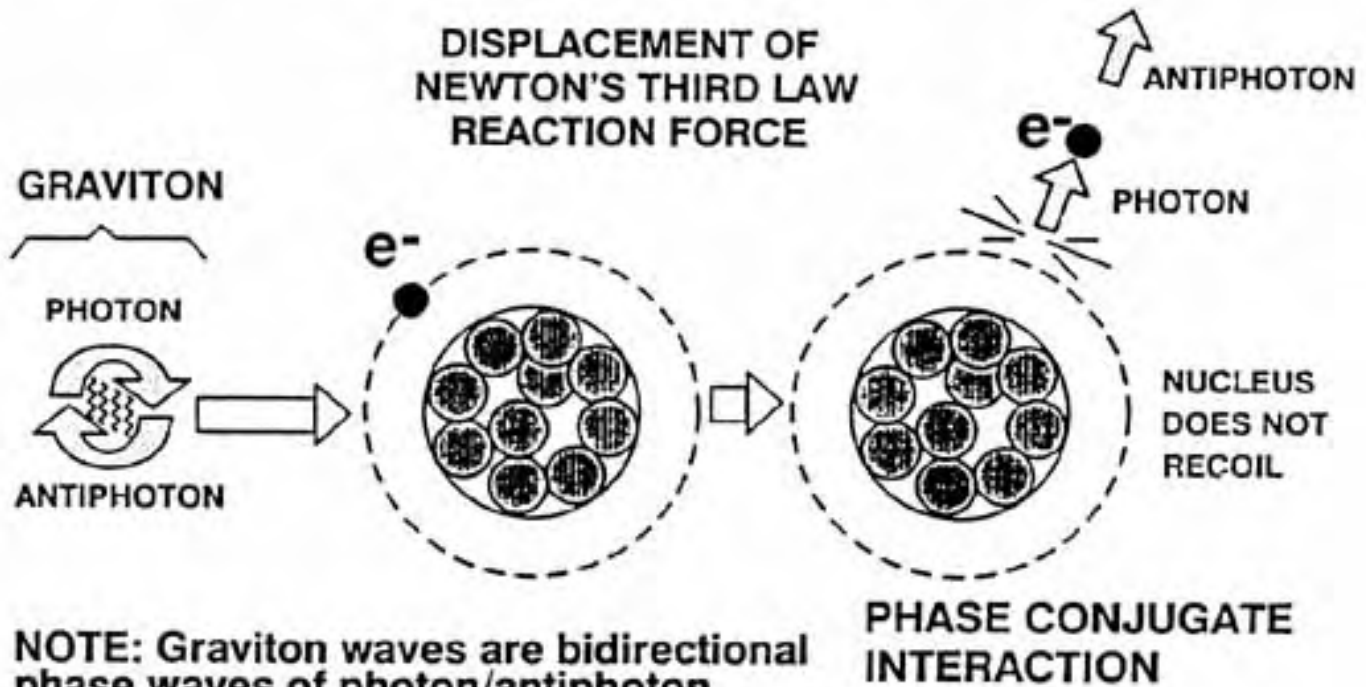
NUCLEUS RECOILS

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PHOTON PHASE CONJUGATE INTERACTION WITH AN ATOM



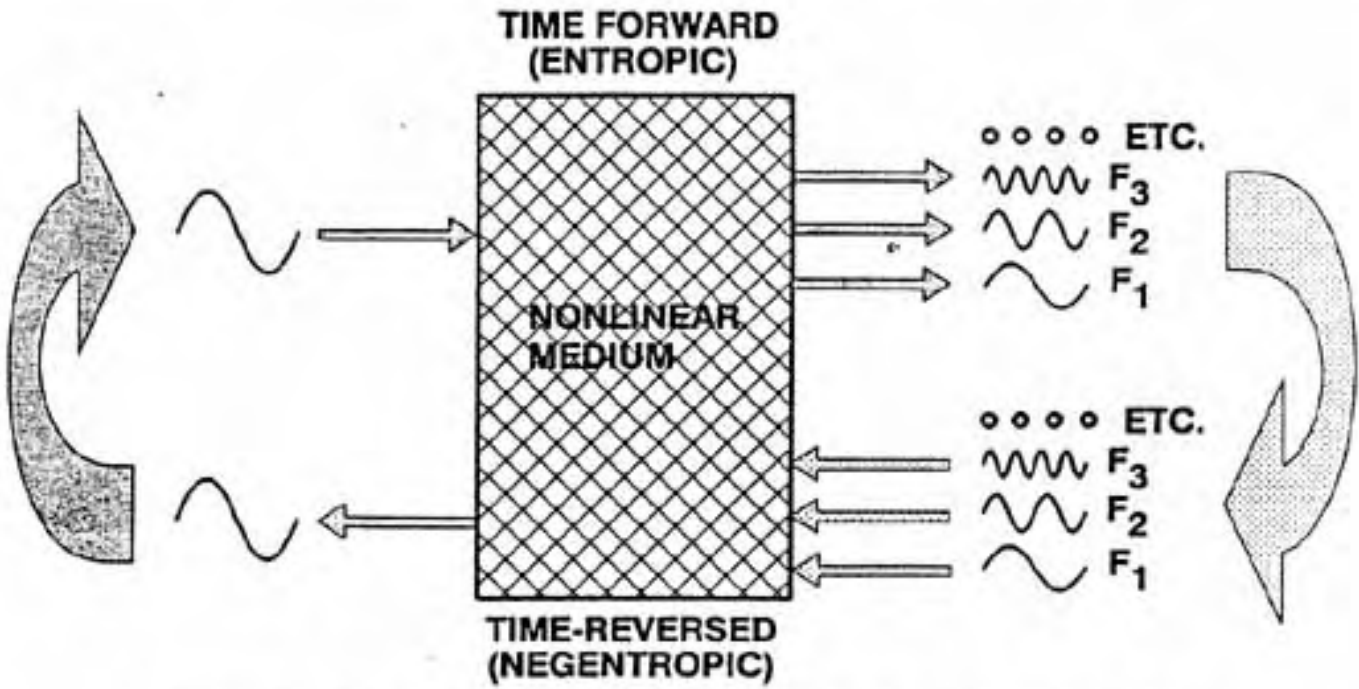
NOTE: Graviton waves are bidirectional phase waves of photon/antiphoton coupling and uncoupling in the vacuum.

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NONLINEAR MATERIAL AND TIME-DOMAIN RESONANCE



GROUPS OF RESONATORS ENTRAINED IN TIME AND SPACE
(MAY ENABLE SELF-OSCILLATION)

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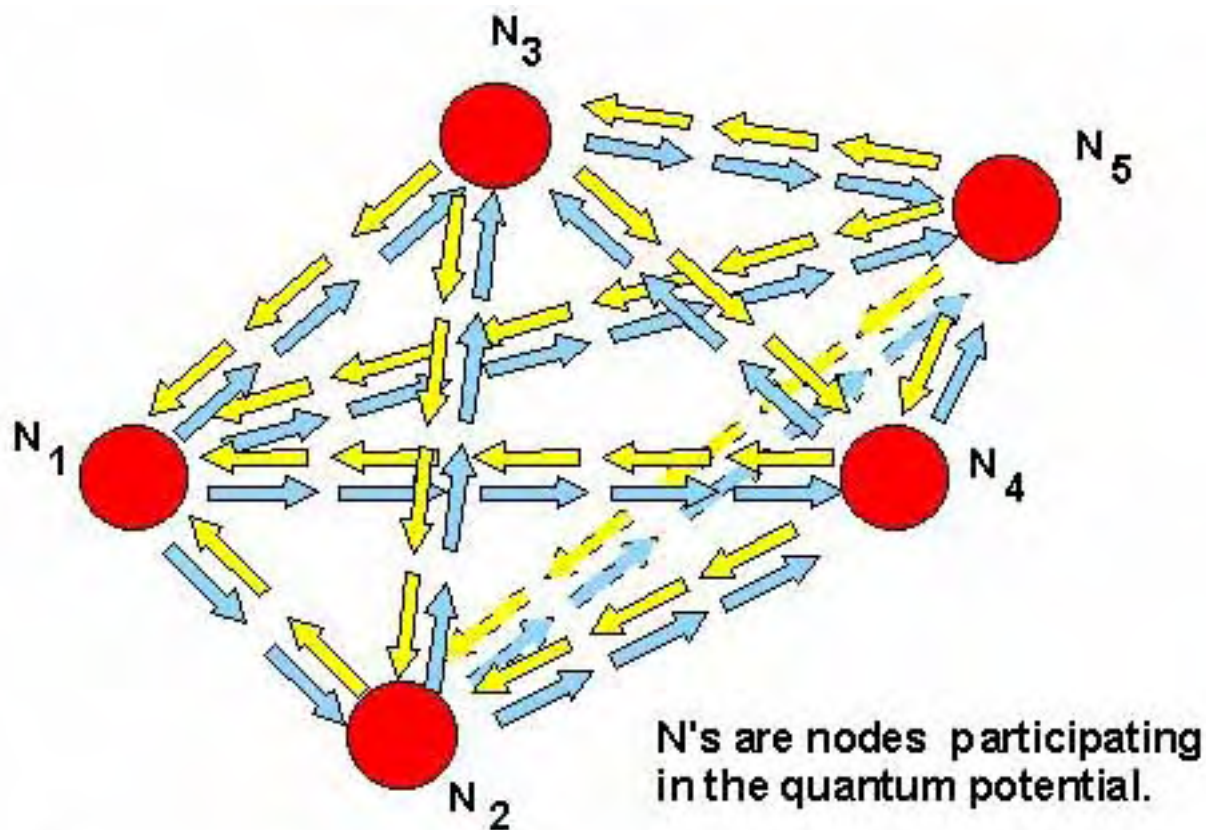
SUBHARMONIC OSCILLATION

- **CAN TRANSLATE FROM ONE FREQUENCY REGIME TO ANOTHER.**
- **E.G., OPTICAL TO MICROWAVE**
 - **HOWEVER, MUST PRESERVE HARMONICS**
 - **ONE HARMONIC INTERVAL IS ESSENTIAL**
- **KAZNACHEYEV'S CYTOPATHOGENIC EFFECT:**
 - **QUARTZ PASSES ONE HARMONIC INTERVAL.**
 - **WINDOW GLASS DOES NOT.**
- **WHITTAKER'S INFOLDED EM STRUCTURE**
- **DEVYATKOV'S INFORMATION CONTENT OF THE FIELD.**
- **MULTIPLE PHASELOCKED WOODPECKER PULSE REPETITION RATES.**

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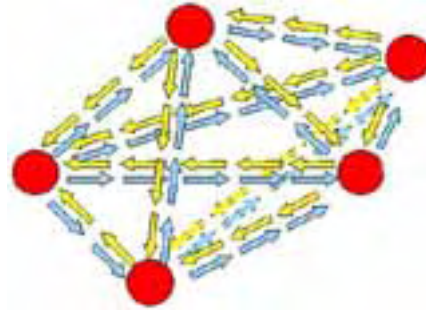
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The quantum potential exists as narrow, laser-like beams between participating nodes, even when the nodes are widely separated. The beam space is multiply-connected; transmission is instantaneous.

QUANTUM POTENTIAL CHARACTERISTICS

- **NO POINT SOURCE**
- **QP BETWEEN TWO PARTICLES**
 - **INTERACTION DOES NOT VANISH AS SPATIAL SEPARATION BECOMES VERY LARGE**
 - **INSTANTANEOUS CONNECTION**
- **DEPENDS ON QUANTUM STATE OF SYSTEM AS A WHOLE**
- **SYSTEM PARTS CAN BE GREATLY SEPARATED**



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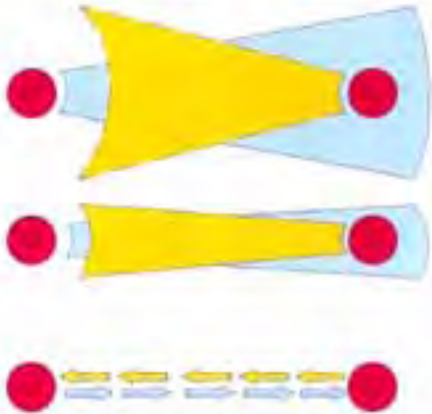
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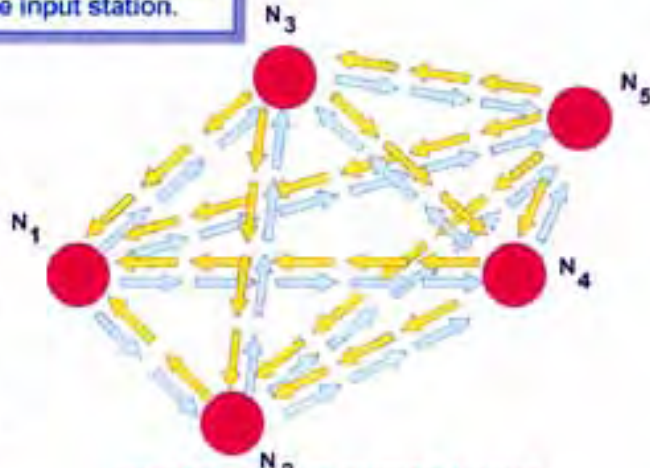
Self-Targeting in Inner EM Channel Can Produce a Quantum Potential



Once QP is established, energy transmission is direct and instantaneous. Energy input to one single participant will simultaneously appear in all other participants, the amount depending on their fractions of participation with the input station.



NARROWING OF INTERACTING POTENTIALS INTO LASER-LIKE BEAMS, BETWEEN TWO PUMPED SOURCES. NOW ONLY LONGITUDINAL WAVES CONNECT THE LINKED OBJECTS.



SELF-TARGETING EFFECT AMONG ALL PAIRS OF INTERACTING PUMPED SOURCES

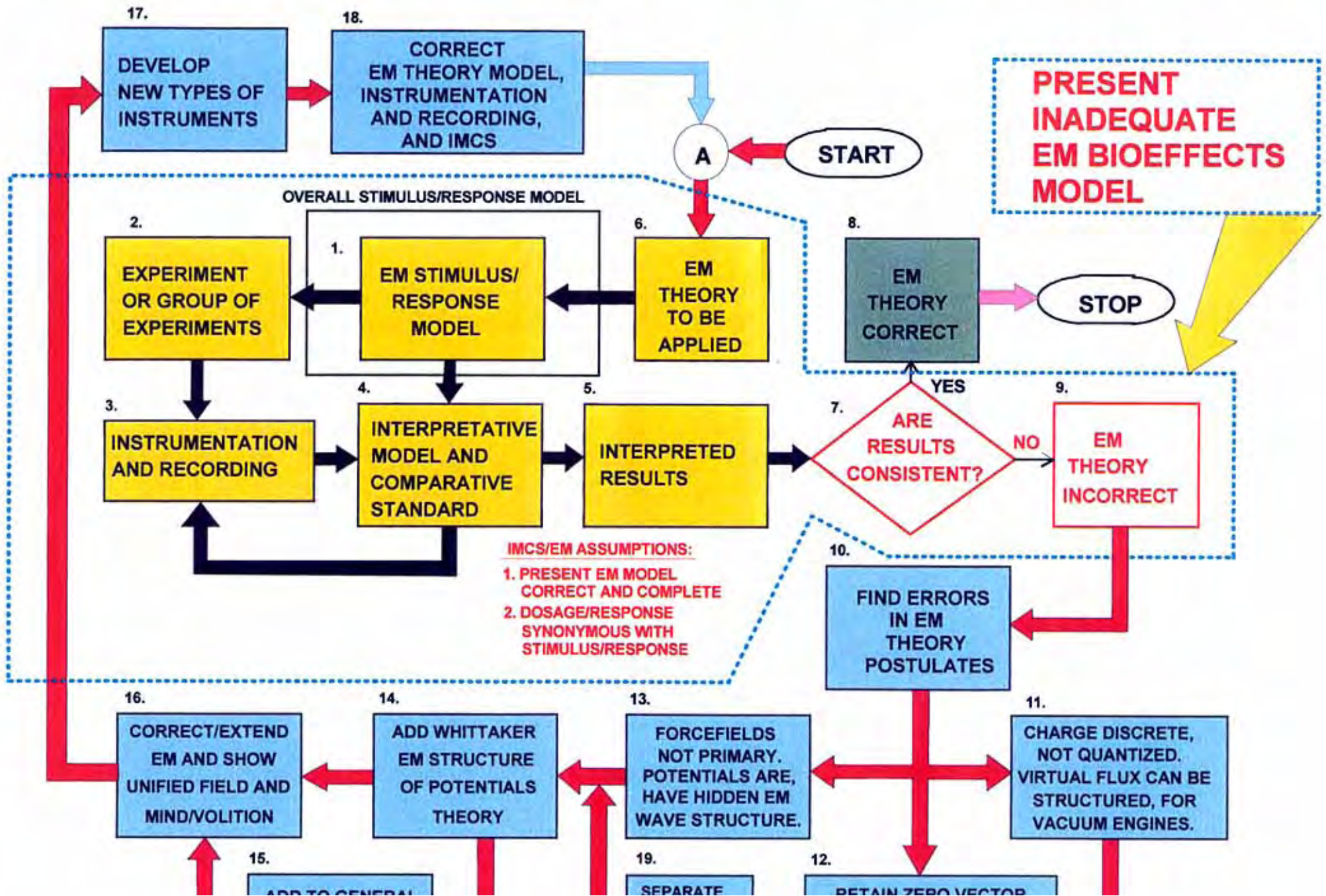
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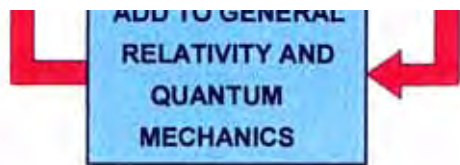
Corrections For the Present EM Bioeffects Model



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JCS-44

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TWO STAGES OF CANCER PRODUCTION

- **INITIATION**
 - DNA IN CELL NUCLEUS IS DAMAGED
 - CELL MUTATES
 - INITIATOR: AN AGENT THAT DAMAGES THE DNA IN A CELL, CAUSING IT TO MUTATE
 - THE CELL IS NEOPLASTIC, OR PRECANCEROUS

- **PROMOTION**
 - PROMOTER: AN AGENT THAT CAUSES A CANCER CELL TO DEVELOP INTO A TUMOR
 - EXPOSURE TO THE PROMOTOR CAUSES THE CANCER CELL TO UNDERGO UNCHECKED CELL DIVISION

- **EXACT CAUSE OF UNCHECKED CELL GROWTH IS NOT CLEARLY UNDERSTOOD**
 - DNA BLUEPRINT ON TRANSMITTER RNA CHANGES?
 - NORMAL TRANSMISSION OF MESSAGES FROM THE CANCER CELL TO ITS DAUGHTER CELLS CHANGES?

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MORE ON PROMOTERS

- **KNOWN TO ATTACK THE CYTOTOXIC LYMPHOCYTES IN THE IMMUNE SYSTEM THAT WOULD NORMALLY KILL TUMOR CELLS**
 - INHIBITS CYTOTOXICITY OF THESE LYMPHOCYTES
 - PREVENTS THEM FROM DOING THEIR JOB

 - **KNOWN TO CAUSE CHANGES IN SIGNALS OR MESSAGES BEING CARRIED ACROSS THE CELL MEMBRANE**
 - NOTE: ELECTRICAL POTENTIALS ON THE MEMBRANE
 - ELECTRIC FIELDS ARE CHANGES IN ELECTRICAL STRESSES
 - STRESS IS KNOWN TO BE A FACTOR IN CANCER

 - **WITHOUT EXPOSURE TO A PROMOTER, CANCER WILL NOT PROCEED**

 - **LATENCY PERIOD: TIME BETWEEN INITIATION AND PROMOTION STAGES OF CANCER DEVELOPMENT**
-

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EM BIOLOGICAL EFFECTS: SOME CHANGES DEMONSTRATED

- CHANGES AT THE CELL MEMBRANE
 - PARTICULARLY CALCIUM ION FLUX INCREASE
 - PARTICULARLY AC AND DC FIELDS COMBINED
- RATES OF DNA AND RNA SYNTHESIS
- CHROMOSOMAL ABERRATIONS AND BREAKS
- RNA TRANSCRIPTION
- ENHANCED GENE EXPRESSION
- EFFECTS ON CELL PROLIFERATION, BUT DEPENDS ON MITOTIC STATUS OF CELL POPULATION DURING EXPOSURE. DEPENDS ON
 - EM FIELD INTENSITY
 - EXPOSURE DURATION
 - CELLULAR FACTORS
 - EXTRACELLULAR FACTORS
- INCREASED CALCIUM FLUX IN BRAIN CELLS (IN VIVO STUDIES OF LIVE ANIMALS)

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EM BIOLOGICAL EFFECTS: INHIBITION OF MELATONIN

- MELATONIN PRODUCED BY PINEAL GLAND AT NIGHT
 - REGULATES CIRCADIAN RHYTHMS
 - HAS ONCOSTATIC PROPERTIES (INHIBITS TUMORS)
 - USED IN CHEMOTHERAPY, PARTICULARLY AGAINST BREAST CANCER AND PROSTATE CANCER
 - CANCER PATIENTS USUALLY HAVE REDUCED LEVELS
 - REDUCED LEVELS CONTRIBUTE TO DEPRESSION, SEVERE MOOD CHANGES, PSYCHIATRIC DISORDERS
- PRODUCTION OF MELATONIN CONTROLLED BY AMOUNT OF LIGHT DETECTED BY THE RETINA
 - BLIND WOMEN HAVE GREATLY INCREASED LEVELS
 - BLIND WOMEN HAVE MUCH LESS BREAST CANCER
 - HIGHEST CANCER INCIDENCE IS BREAST CANCER
 - INCREASING IN INCIDENCE
 - INCREASING IN MORTALITY
- EMF EXPOSURE INHIBITS NIGHTTIME PRODUCTION OF MELATONIN. SUCH SUPPRESSION OF MELATONIN IS IMPLICATED IN ETIOLOGY OF BREAST, PROSTATE, OVARIAN, AND MELANOMA CANCER

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OTHER EM BIOLOGICAL EFFECTS

- **MAGNETIC FIELD INDUCING OF BIRTH DEFECTS IN CHICKS**
- **MORE CONTROVERSIAL EPIDEMIOLOGY STUDIES FOUND CORRELATIONS BETWEEN EMF AND**
 - **BRAIN TUMORS**
 - **MISCARRIAGES IN PREGNANT FEMALES USING VDTS**
 - **BIRTH DEFECTS**
 - **INCIDENCE OF LEUKEMIA IN CHILDREN**
- **BECKER SHOWED THAT PICOAMPERES OF CURRENT USED IN EM-ASSISTED BONE HEALING CAUSED PROFOUND CELLULAR CHANGES**
 - **RED BLOOD CELLS DEDIFFERENTIATED**
 - **SHED HEMOGLOBIN AND GREW NUCLEI**
 - **REDIFFERENTIATED INTO CARTILAGE-HEALING CELLS**
 - **REDIFFERENTIATED INTO BONE-HEALING CELLS**
 - **THEN HEALED THE FRACTURES**

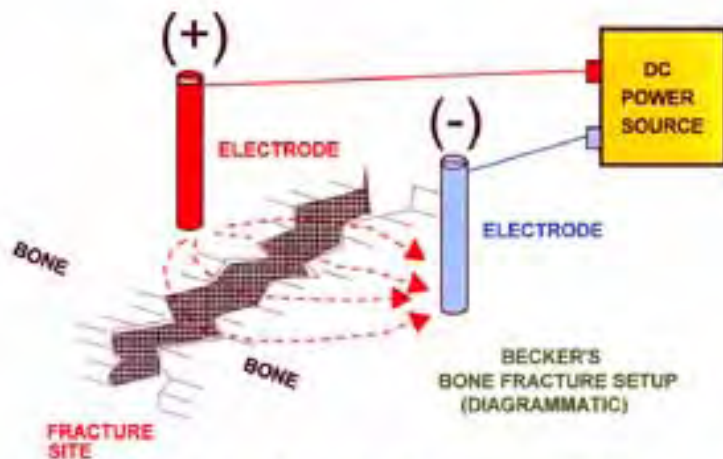
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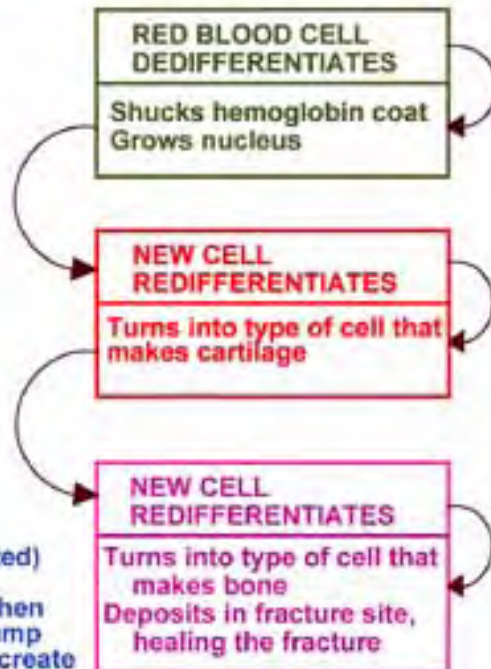
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Becker's dc treatment of bone fractures

Application of tiny DC currents to heal difficult bone fractures. Only picoamperes are utilized. Pulsed DC current or pulsed magnetic fields may also be utilized.



Proves that cells can be time-reversed (phase conjugated) (dedifferentiated) or time-forwarded (redifferentiated) by application of very weak electromagnetic signals, when those signals contain longitudinal bidirectional EM "pump wave" wavepairs, which cause the cell and its parts to create precise vacuum antineutrons.



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QUESTIONS ON CARCINOGENS AND EM RADIATION



■ UNRESOLVED QUESTIONS ON EM RADIATION

- DOSAGES
- ACTIVE MECHANISMS
- REPLICATION DIFFICULTIES
- MEASUREMENT DIFFICULTIES
- WHERE, WHEN, HOW ILL EFFECTS OCCUR

■ SIMILAR QUESTIONS EXIST ABOUT EVERY CARCINOGEN

■ SCIENCE REALLY DOES NOT UNDERSTAND THE MECHANISMS OF A SINGLE CHRONIC DISEASE, INCLUDING CANCER

- FACTORS SUCH AS MIND, STRESS, SPONTANEOUS REMISSION, PLACEBO EFFECTS, AND COMBINATIONS OF FACTORS ARE PARTICULARLY TROUBLESOME
- GENERATION OF THE PLACEBO EFFECT BY THE REGENERATION & RECOVERY SYSTEM IS UNRECOGNIZED

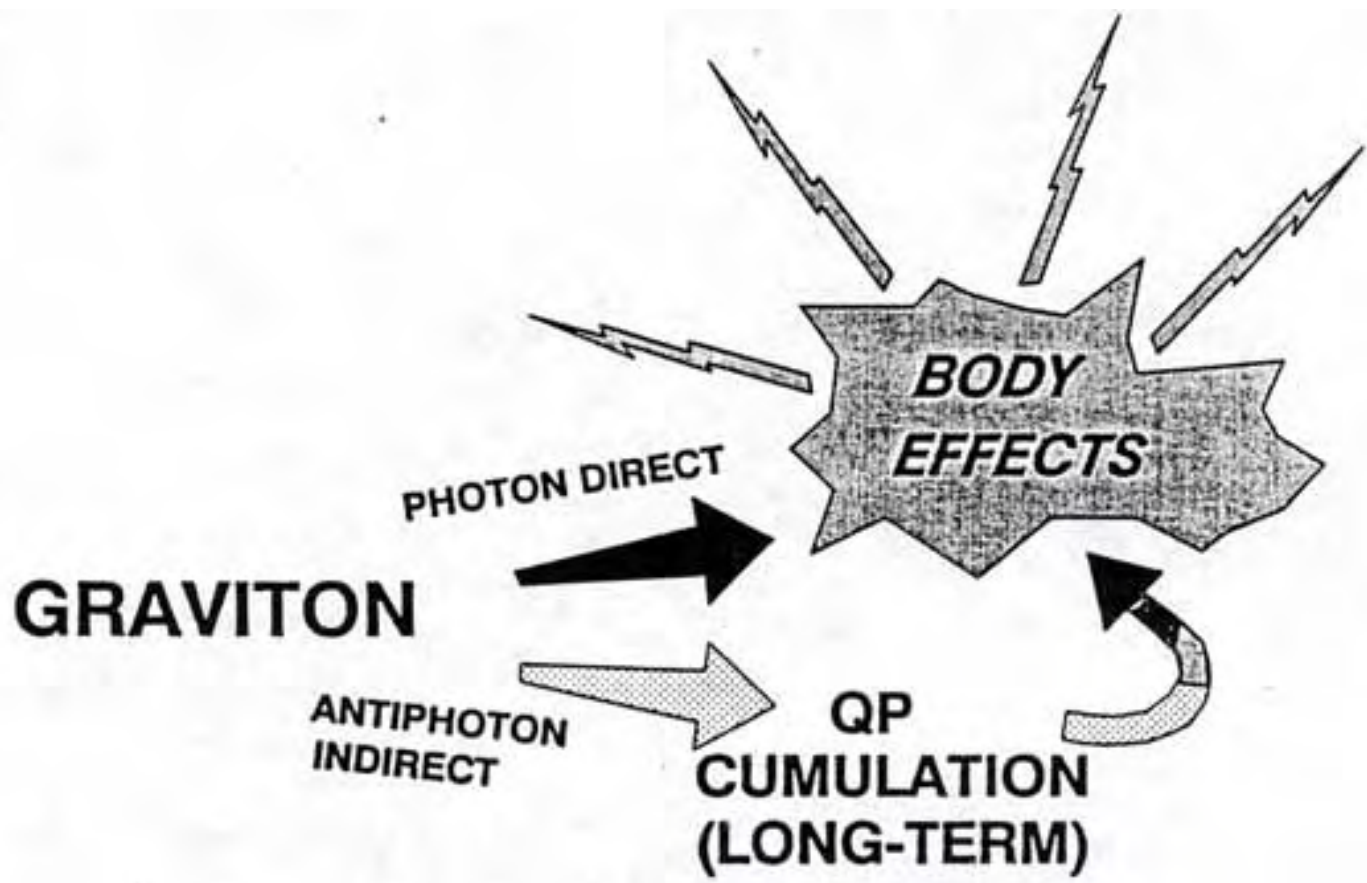


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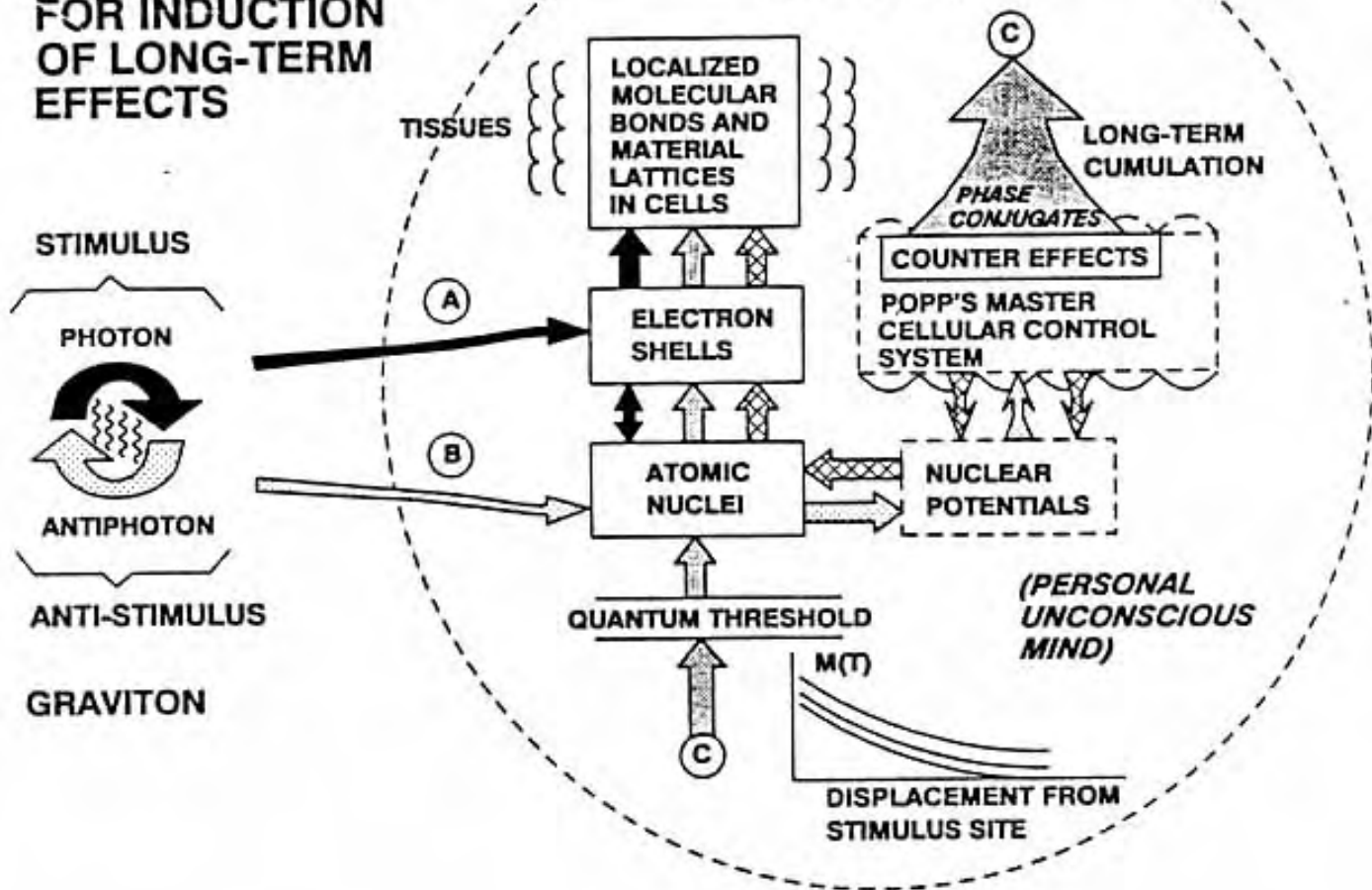


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CUMULATIVE FEEDBACK REACTION LOOP FOR INDUCTION OF LONG-TERM EFFECTS



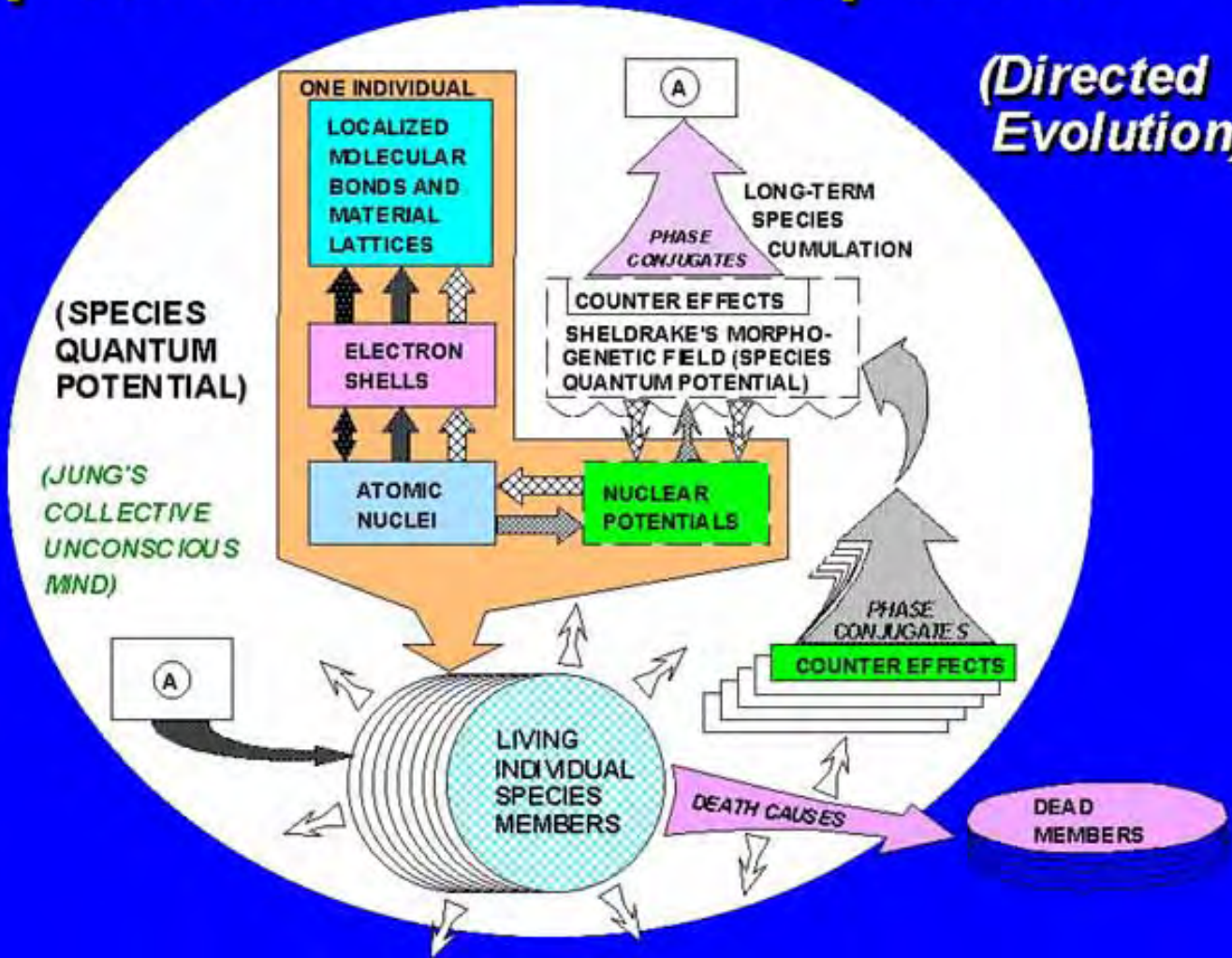
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Species Reactive Adaptation

(Directed Evolution)



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INHERITANCE OF ACQUIRED TRAITS

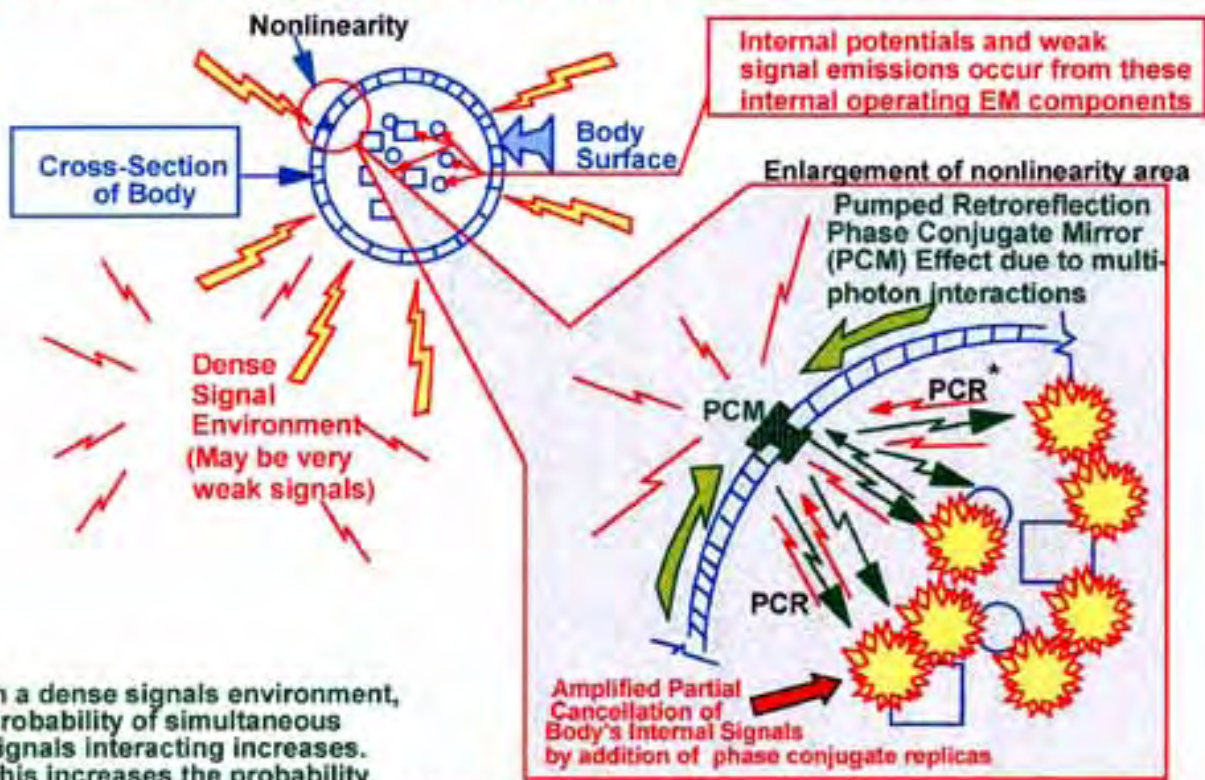
- Evolutionary biology assumes mutations are random events
 - Causes of heritable differences separated from their consequences for survival and reproduction
 - Likelihood of any particular mutational event assumed independent of its particular value to the organism
 - Natural selection then assumed to increase the frequency of advantageous alleles
- Evidence for directed, non-random mutation
 - Removing cell-wall from bacterium: acquired nakedness is then inherited
 - Protozoan *Oxytricha* double monsters (siamese twins)
 - ▲ Bisected lengthwise, normal reproduction
 - ▲ Bisected crosswise, double monsters reproduce
 - Virus Sigma and fruit fly sensitivity to CO₂
 - Specific sets of genes either eliminated or added to an organism by organelles, plasmids, bacteria or other agents
- Genes are acquired vertically from ancestors and horizontally from a variety of other factors

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Deep penetration of weak signals in a dense signal environment, by nonlinear retroreflection



In a dense signals environment, probability of simultaneous signals interacting increases. This increases the probability of deep penetration by amplified phase conjugate reflections of weak internally generated signals from the interior, impinging upon the pumped (stressed) nonlinear surface areas where the simultaneous exterior interactions occur.

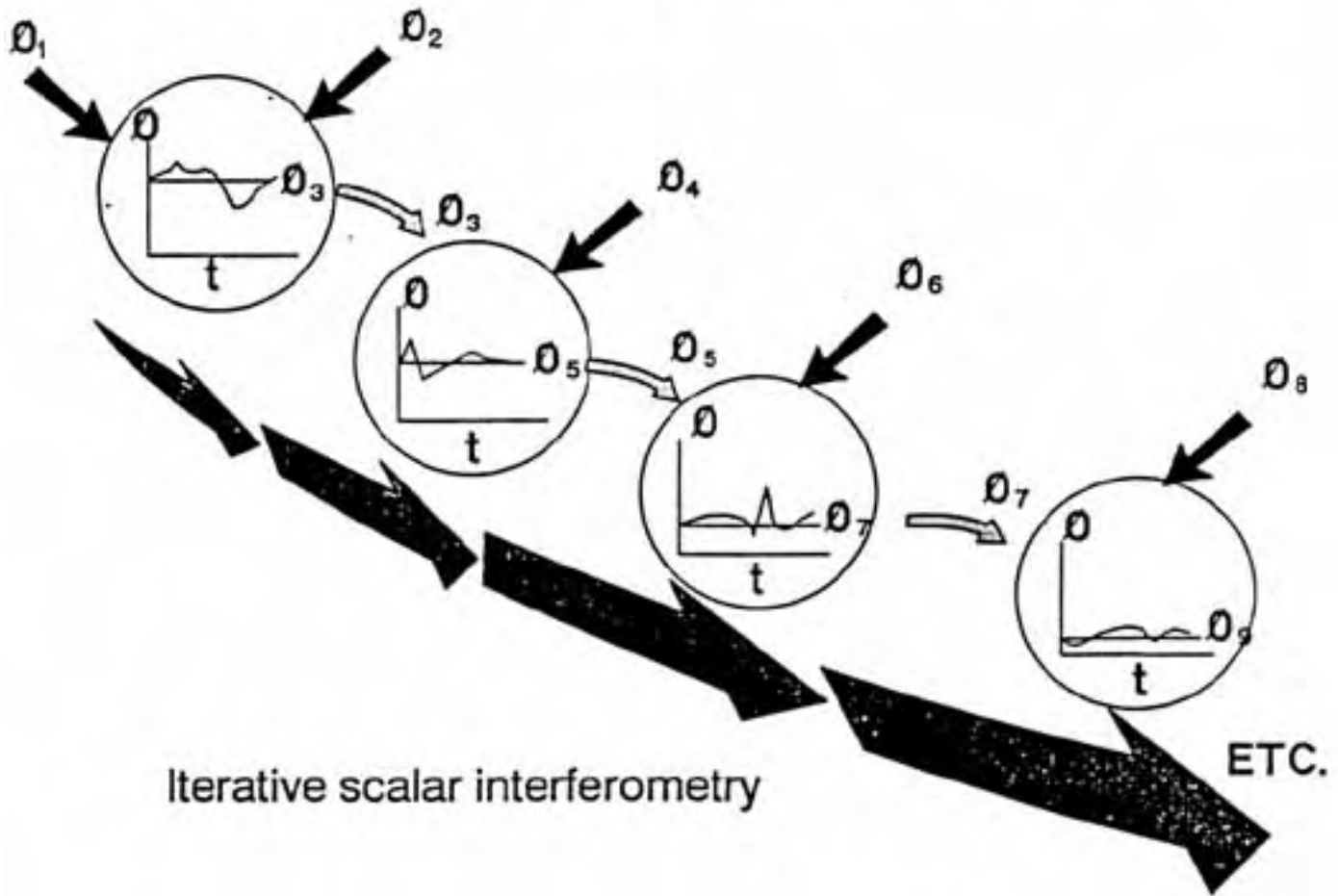
* Phase conjugate replica
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ANOMALOUS DEPTH PENETRATION

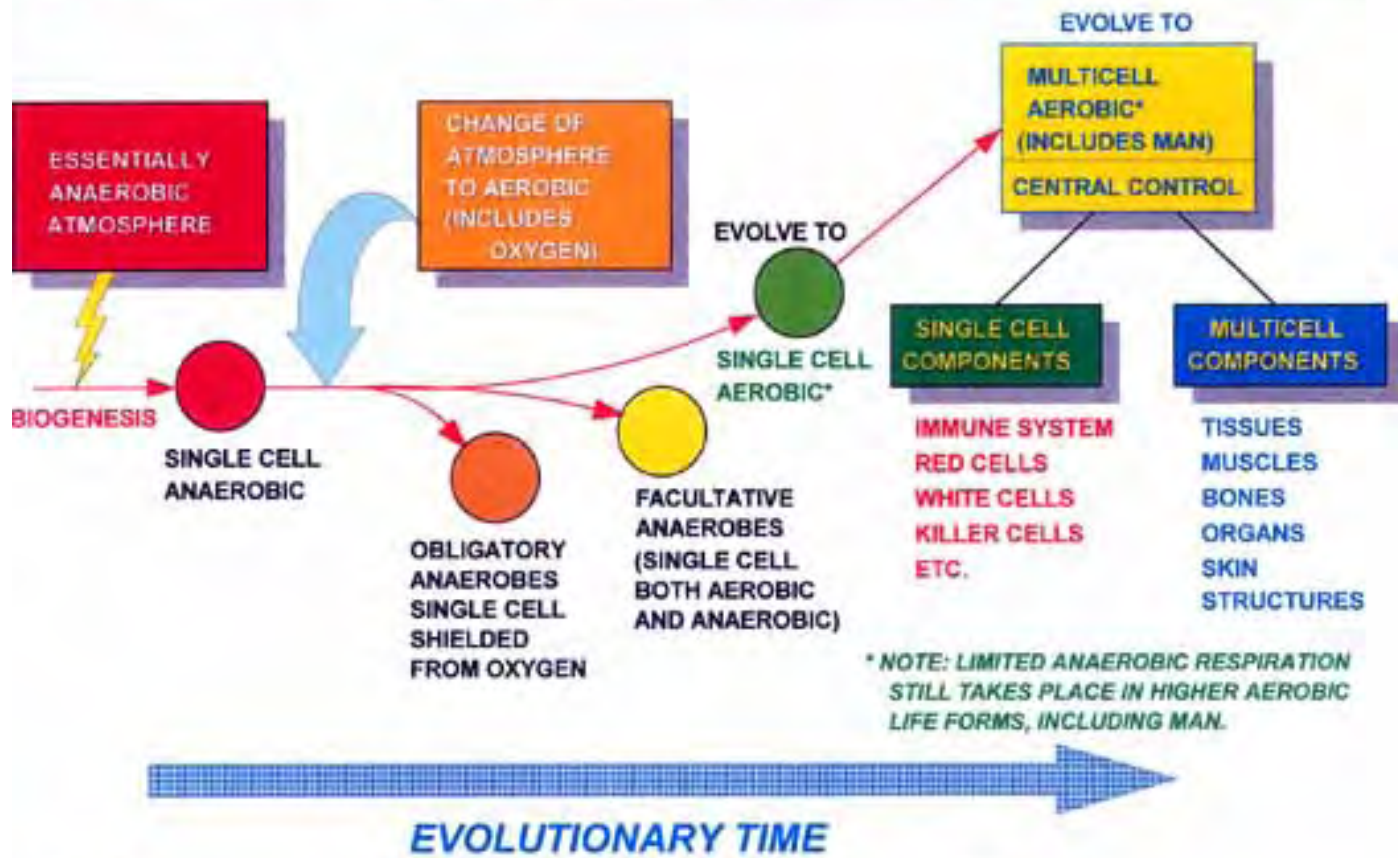


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THE EVOLUTIONARY PATH OF MULTICELLULAR ORGANISMS

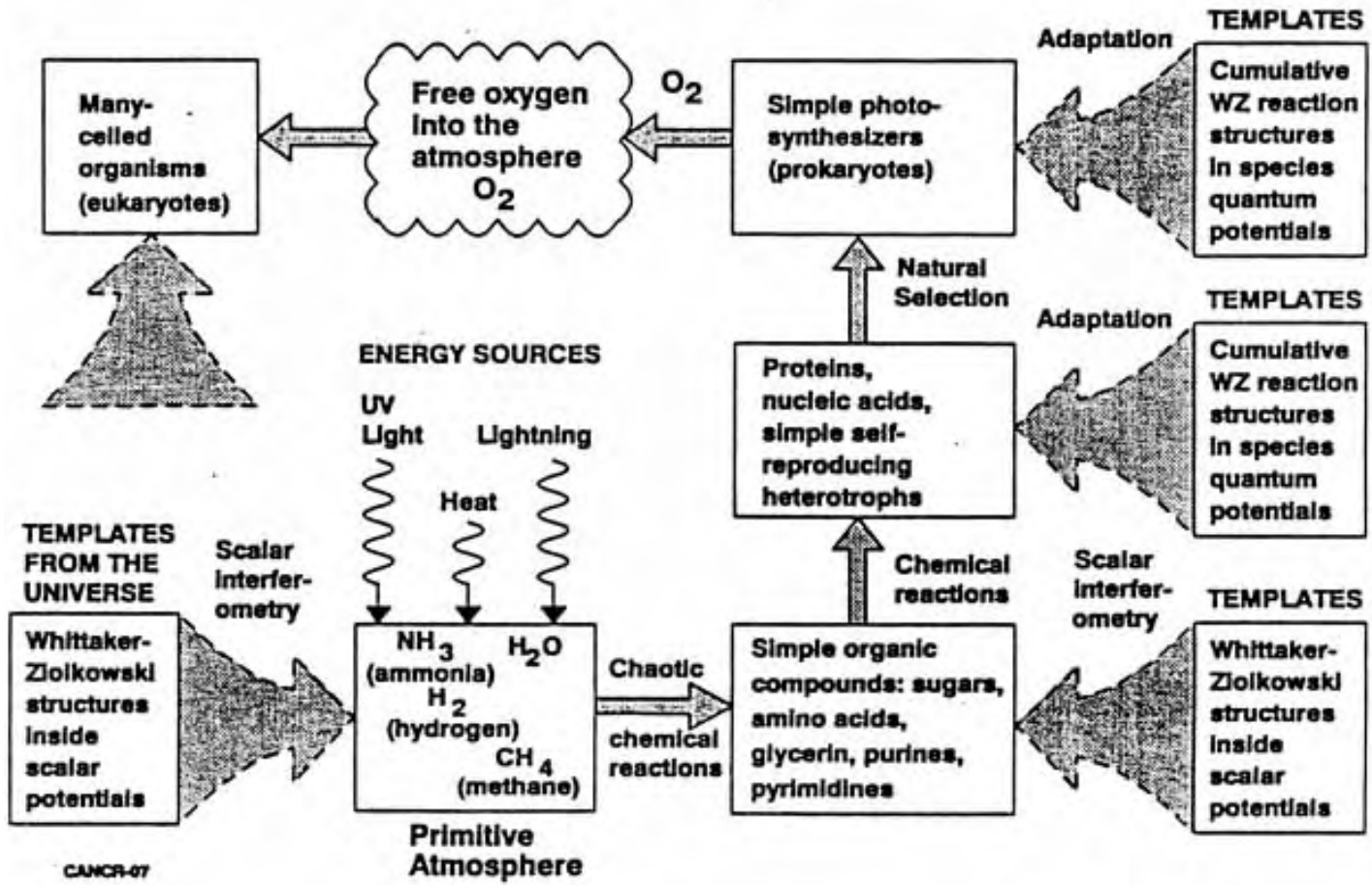


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DEVELOPMENT OF MULTI-CELLED ORGANISMS



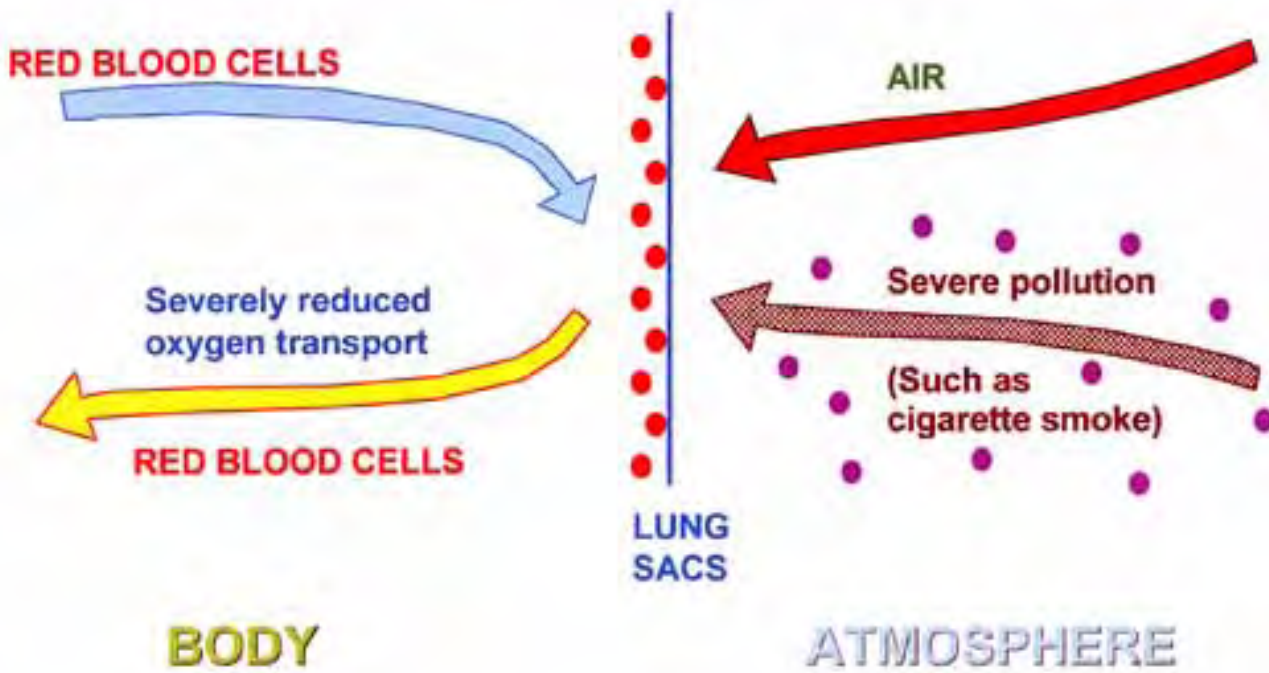
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CANCR-07

EFFECT OF FLUID CONTAMINATION ON HEMOGLOBIN'S OXYGEN TRANSPORT



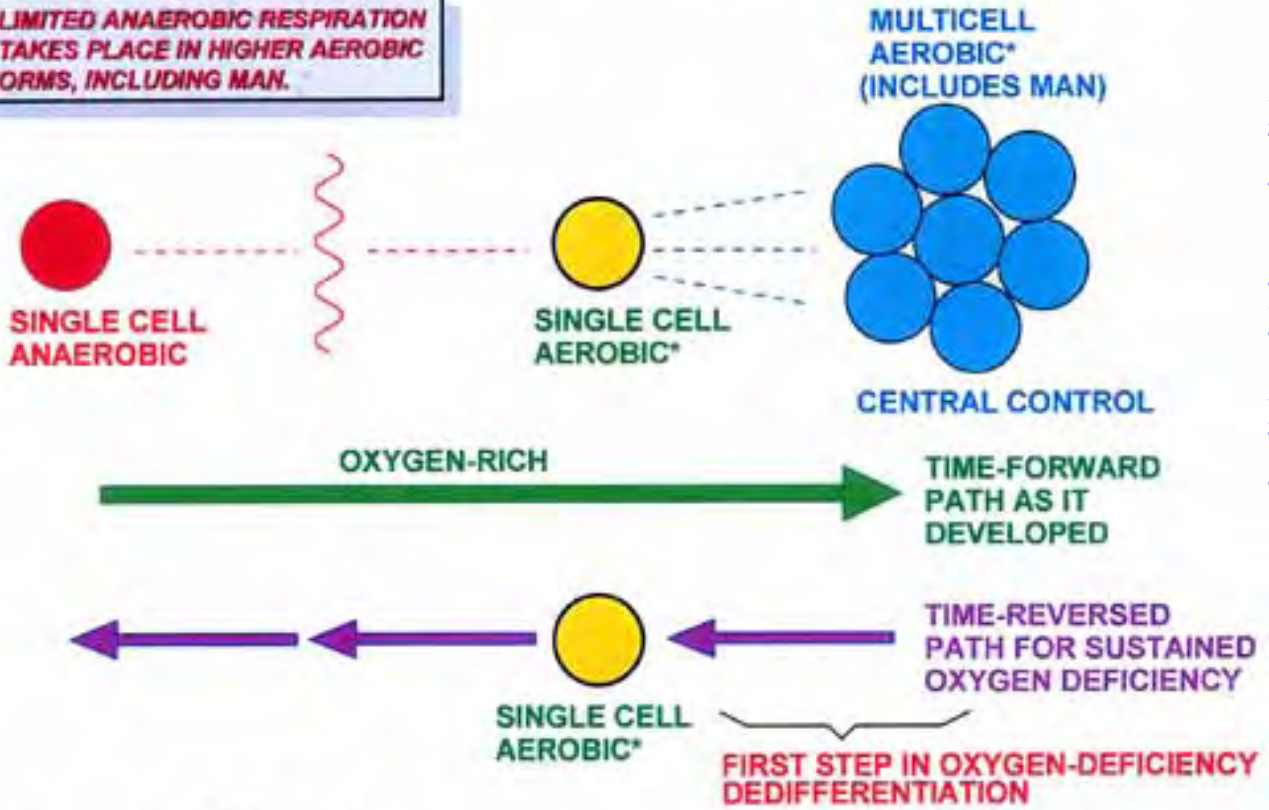
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FIRST STEP IN SELF-PROMOTION OF CANCER DUE TO HYPOXIA

*** NOTE: LIMITED ANAEROBIC RESPIRATION STILL TAKES PLACE IN HIGHER AEROBIC LIFE FORMS, INCLUDING MAN.**

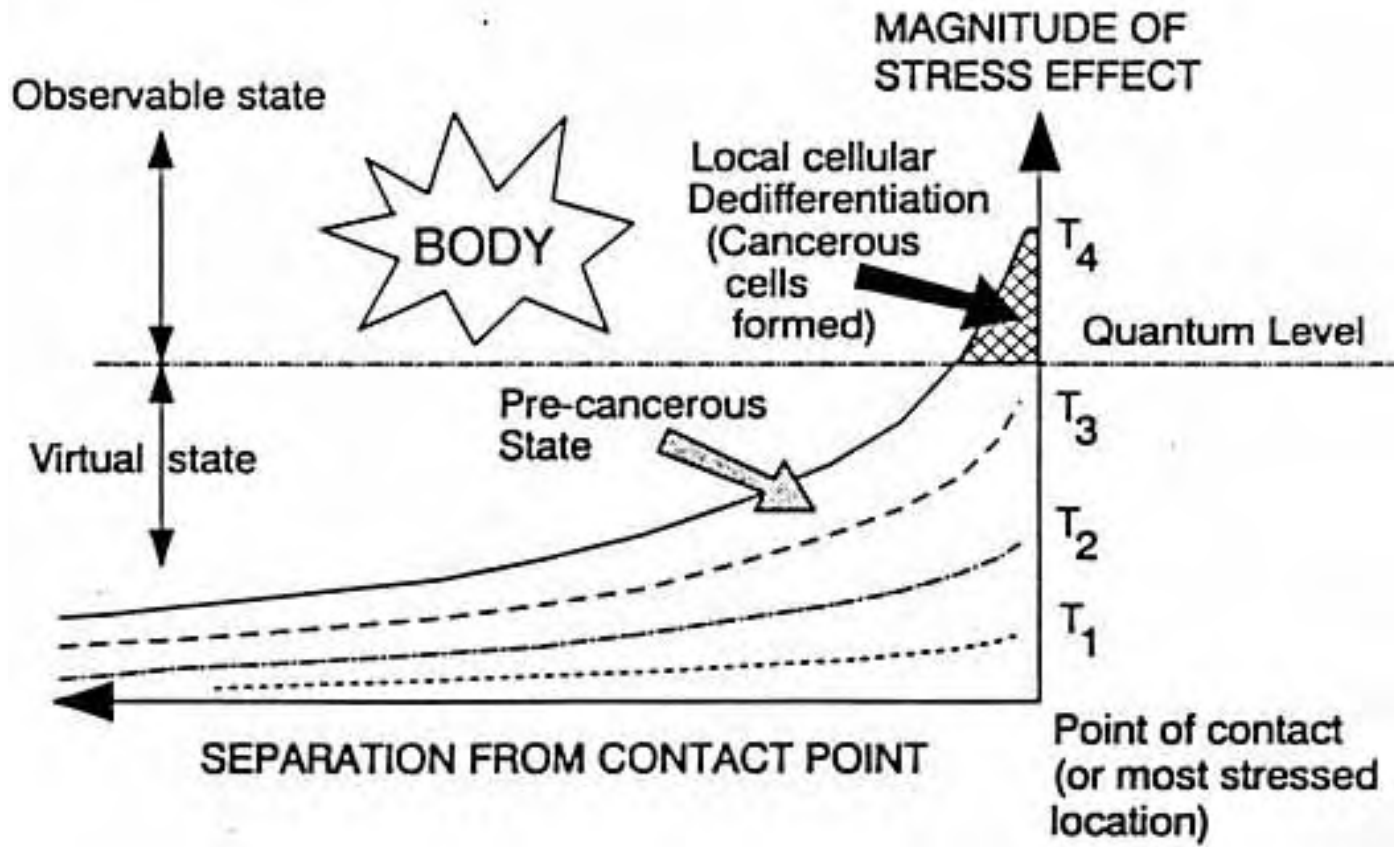


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CUMULATIVE GROWTH OF DEDIFFERENTIATION SIGNALS

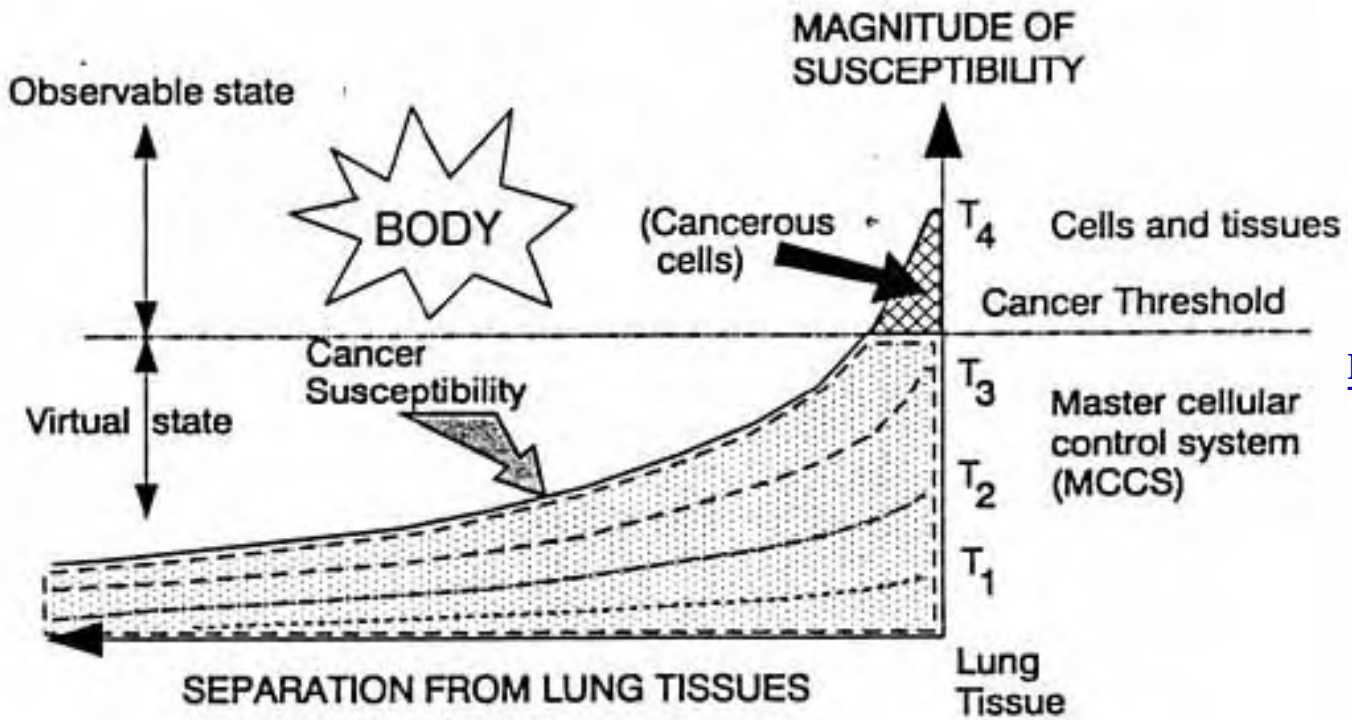


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CUMULATIVE EMERGENCE OF CANCER INTO THE PHYSICAL STATE

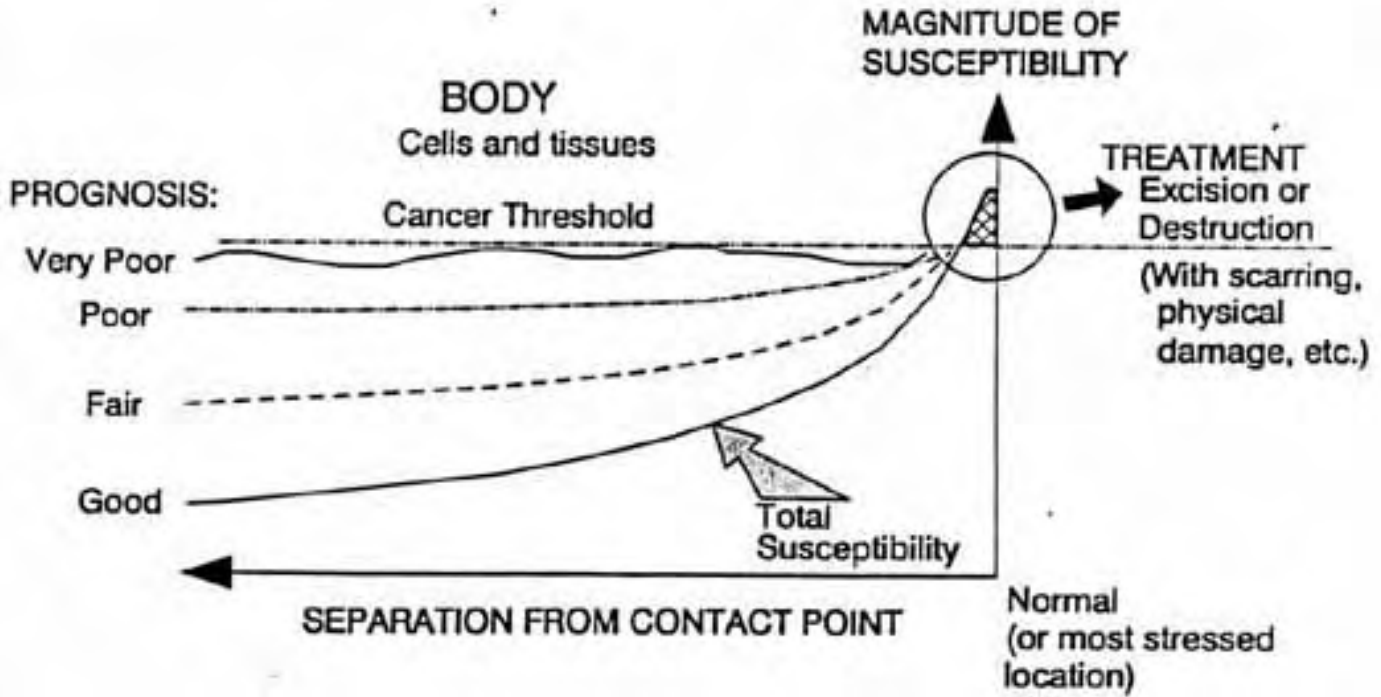


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PRECANCER STATE CONDITION DETERMINES TREATMENT SUCCESS



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Starting From the Scalar EM View: *A NEW DEFINITION OF CANCER*

- **CANCER AND LEUKEMIA ARE:**

Centrally-commanded, final, desperate, "first-step dedifferentiation" adaptive attempts by the stressed affected cells experiencing sustained oxygen shortage, to reverse their cellular evolution and return to the anaerobic stage of their distant ancestry.

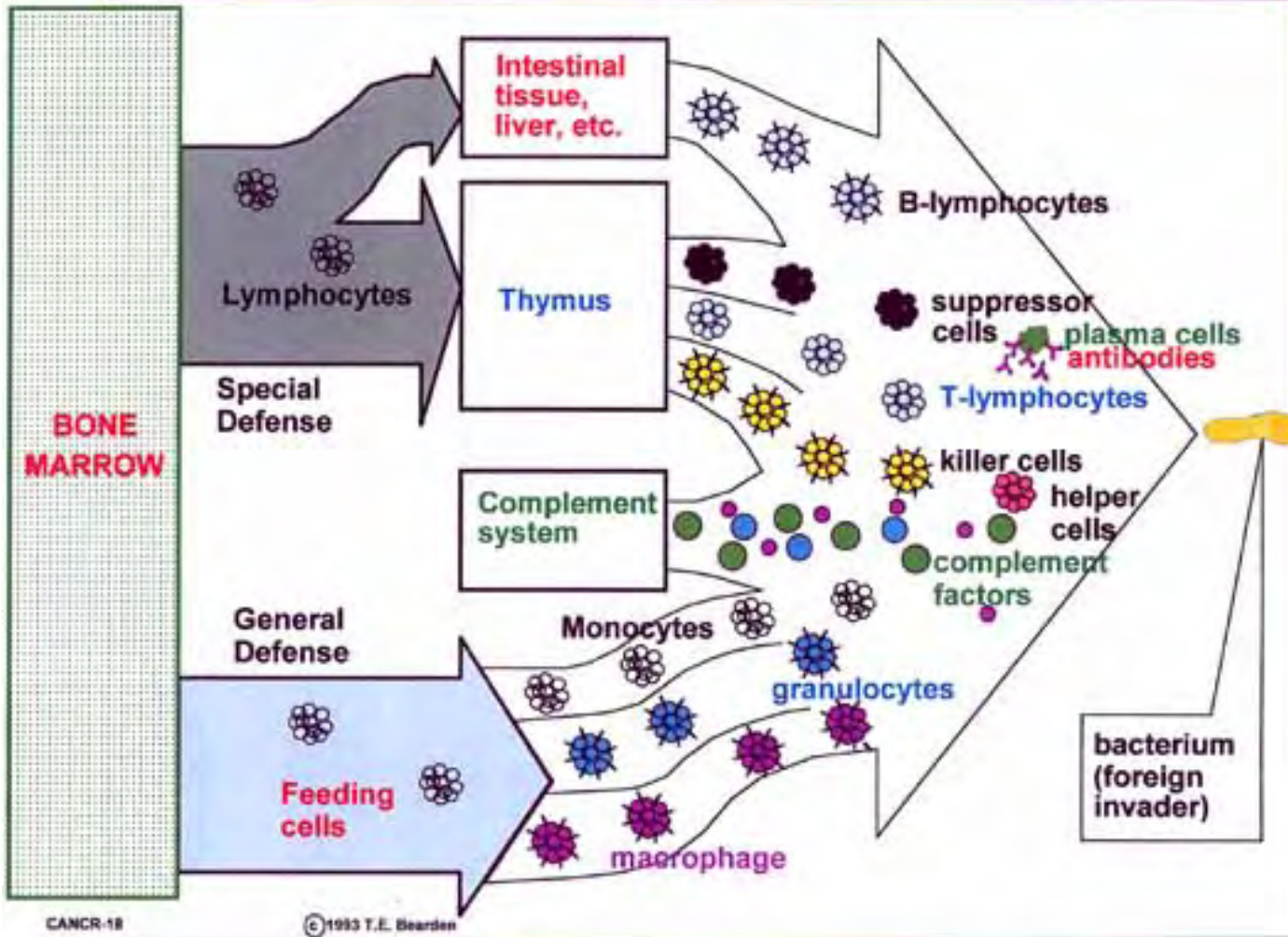
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- **THE CAUSE IS LONG-TERM CUMULATIVE, AND ELECTROMAGNETIC IN NATURE.**
- **A TOTAL CURE CAN BE ACHIEVED ELECTRO-MAGNETICALLY, AS WAS DEMONSTRATED.**

THE IMMUNE SYSTEM



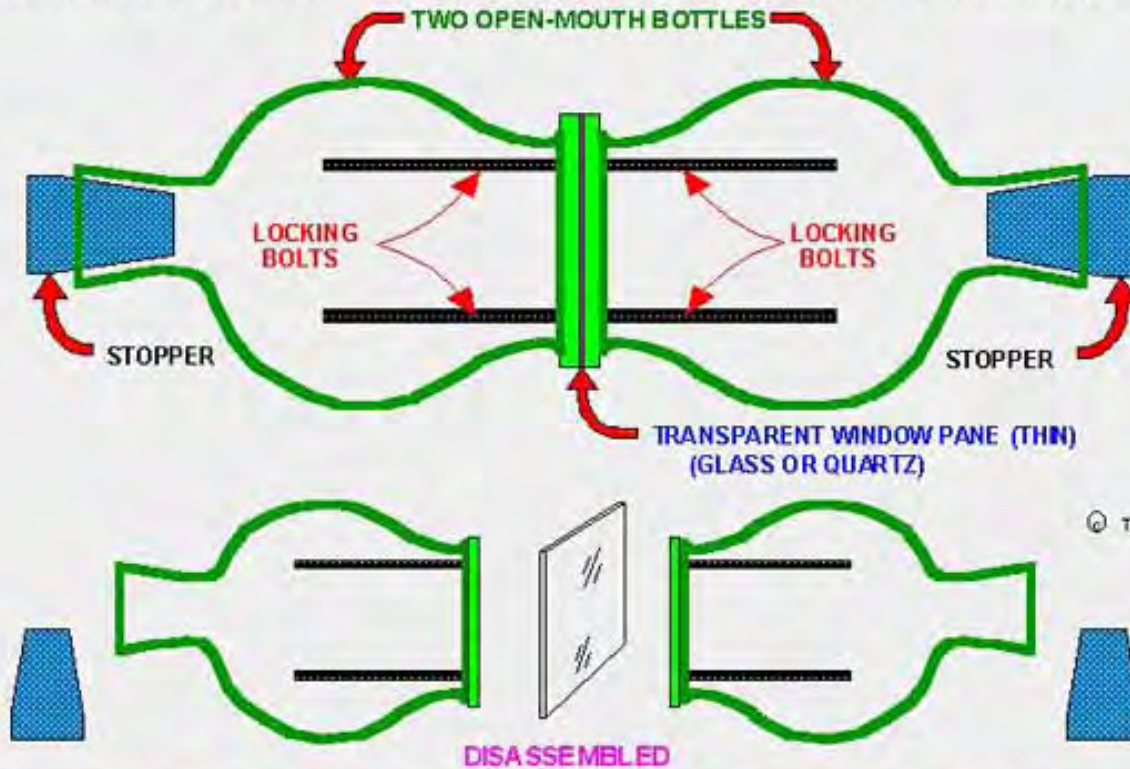
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Kaznacheyev's Two-Chamber Apparatus

(Induction of effects of diseases, physical damage, nuclear radiation, toxins)



A cell culture is divided into two parts. One is placed on each side, in the jars which are environmentally shielded except for light. The left cell culture is deliberately damaged. After a time delay, the cells on the right also start dying with the same damage. The effect is replicated in the right cells through a thin quartz window, but not through window glass.

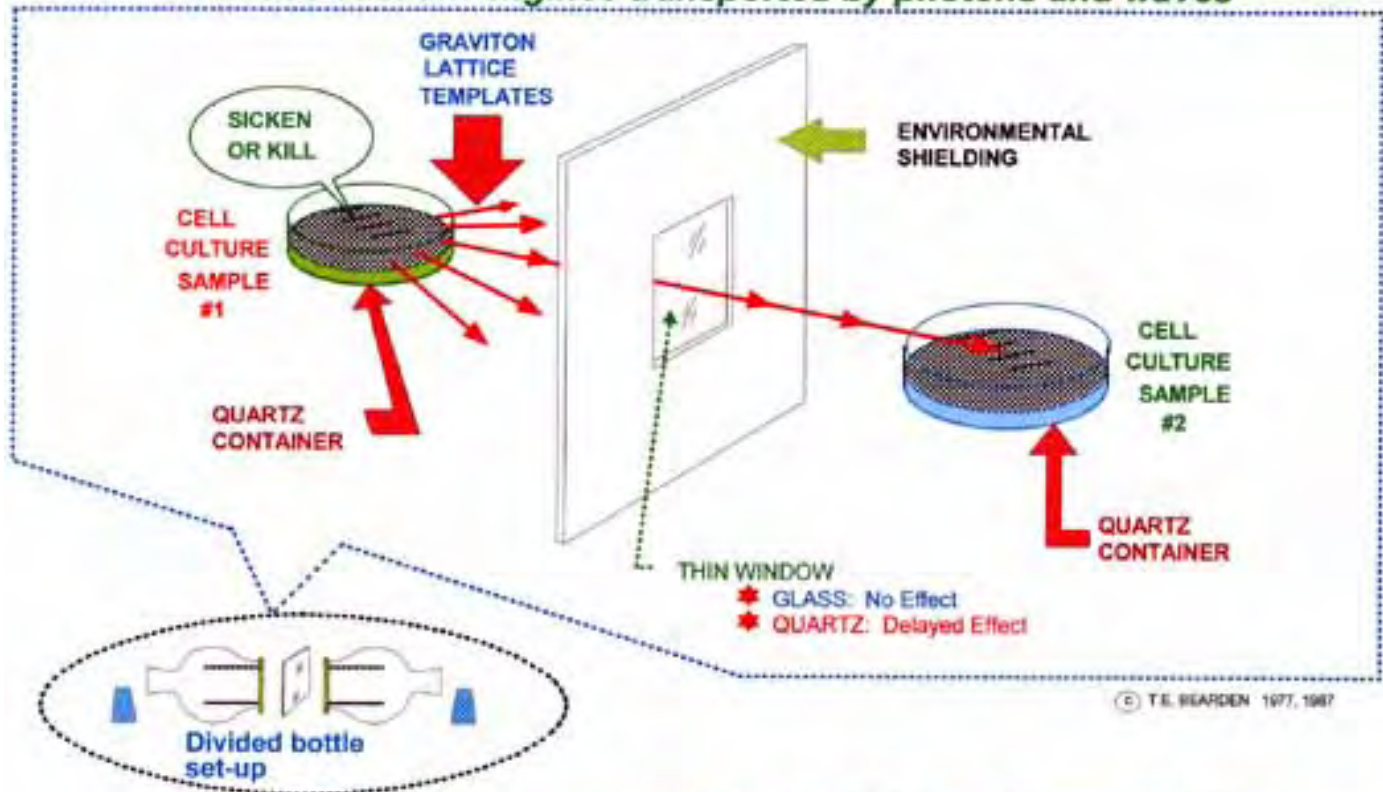
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Kaznacheyev's Cytopathogenic Mirror Effect

Disease vacuum engines transported by photons and waves



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Note: Minimum lattice is one harmonic interval: IR to UV is such a minimum G-lattice.

Distant induction of cellular death and diseases, by special EM means. Coupled photon-antiphoton pairs (gravitons) in a structured harmonic lattice ordering constitute the disease or disorder template.

MICROWAVE RADIATION OF U.S. EMBASSY IN MOSCOW

Former U.S. Embassy in Moscow.



BACKGROUND

- Began in latter 1950s
- Discovered on VP Nixon's trip
- Initially thought to be *nuclear* radiation (Discovered w/Geiger counter?)
- High level target -- U.S. Ambassador
- Guarantees personal attention of:
 - U.S. Ambassador to USSR
 - U.S. President
 - NSA, CIA, DIA, NSC, etc.
 - Top consulting scientists
 - Leading U.S. scientific institutions
- Two U.S. Ambassadors died, another sickened
- Anomalous health changes in personnel, only in zero-field (zero pot'l gradient) areas!
- Four U.S. Presidents requested Soviets cease
 - Cut from 18 watts/sq cm to 2
 - Then again increased
- No one could understand what was going on
- Aluminum screens were placed over windows
- Moscow was declared a hazardous duty zone



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JOHN HOPKINS STUDY OF EMBASSY MICROWAVE RADIATION

- **EXCELLENT SCIENTIFIC TEAM**
 - **PERFORMED CLASSICAL EM INVESTIGATION**
 - **CAREFULLY ESTABLISHED THE FORCE FIELD PATTERNS**
 - **NO HEALTH CHANGES OCCURRED IN PERSONNEL WHERE THE FORCE FIELDS WERE PRESENT (NONZERO)**
 - **ALL HEALTH CHANGES OCCURRED IN PERSONNEL WHERE THE FORCE FIELDS WERE ZERO (ABSENT)**
- **ASSUMED THAT ALL EM ACTION IS DUE ONLY TO FORCE FIELDS**
 - **CONCLUDED THAT MICROWAVE RADIATION COULD NOT HAVE CAUSED THE HEALTH CHANGES**
- **CONCLUSION WAS IN SERIOUS ERROR**
 - **CORRECT CONCLUSION: HEALTH CHANGES WERE TOTALLY CORRELATED TO ABSENCE OF FORCE FIELDS**
 - * **TOTALLY CORRELATED TO PRESENCE OF GRADIENT-FREE POTENTIALS, OR NOT TO RADIATION AT ALL**
 - * **IF NOT TO RADIATION AT ALL, THEN HEALTH CHANGES WOULD HAVE ALSO OCCURRED WHERE FORCE FIELDS WERE PRESENT**
- **THEREFORE THE HEALTH CHANGES WERE TOTALLY CORRELATED TO THE GRADIENT-FREE POTENTIALS, AND TO THE EM RADIATION**

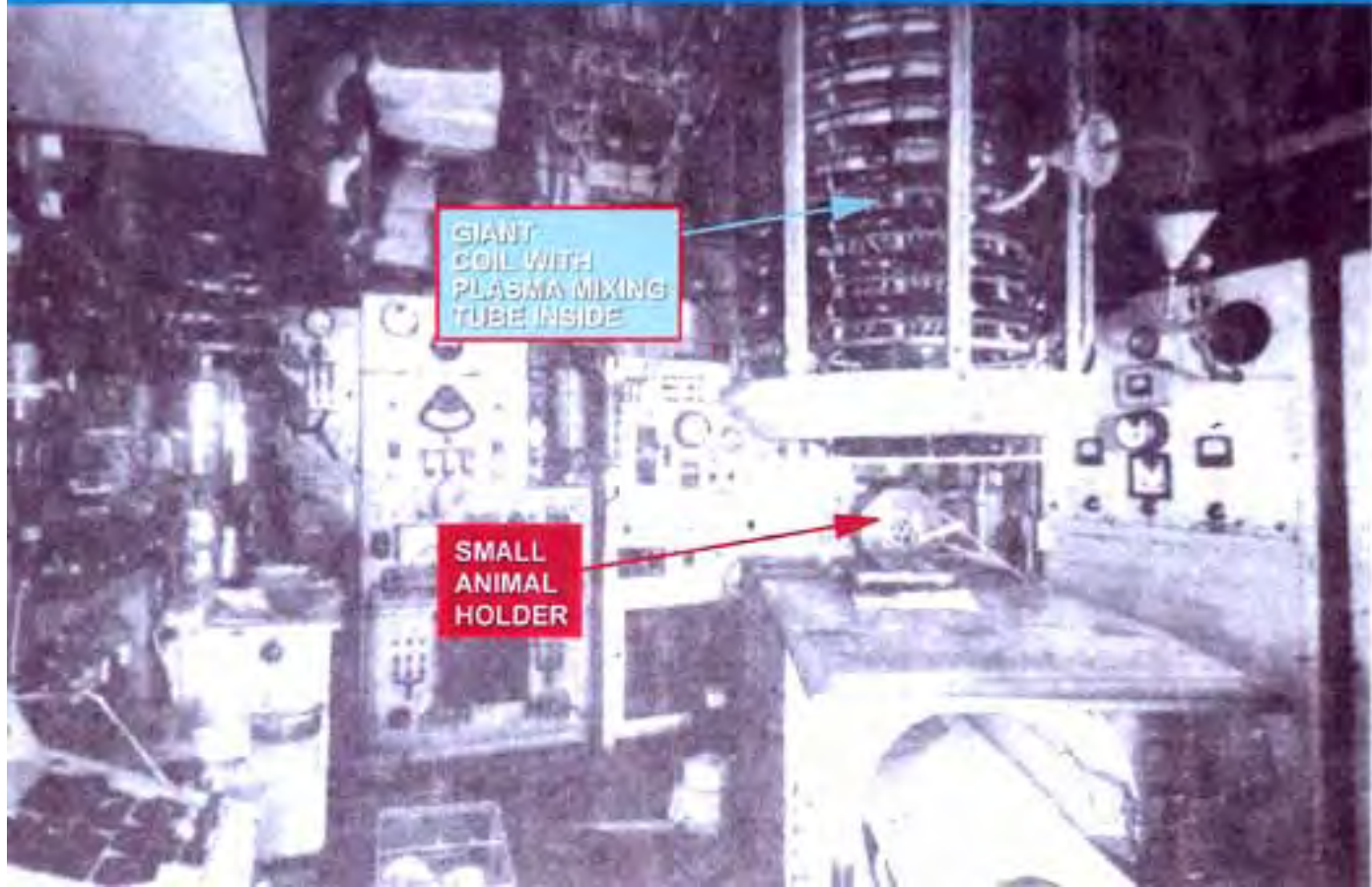
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Priore's laboratory device for treating small animals



GIANT COIL WITH PLASMA MIXING TUBE INSIDE

SMALL ANIMAL HOLDER

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MECHANISM OF THE PRIORE THERAPY

- **PRODUCED A DETERMINISTIC WZ STRUCTURED SCALAR POTENTIAL**
 - 17 FREQUENCIES MIXED IN A ROTATING PLASMA
 - PHASE CONJUGATES ADDED BY THE PLASMA
 - MODULATED ONTO A RIPPLING MAGNETIC FIELD WHICH CARRIED IT TO ATOMIC NUCLEI
 - INTERACTED DIRECTLY WITH PERSONAL QUANTUM POTENTIAL
- **NEGATED THE LONG-TERM CUMULATIVE CELLULAR DEDIFFERENTIATION ORDER GENERATED BY LONG-TERM HYPOXIA. TUMOR CELLS REVERTED TO NORMAL CONTROL**
- **SCRUBBED OUT THE CUMULATED PRECANCEROUS STATE**
- **RESTORED THE IMMUNE SYSTEM TO HIGH FUNCTIONING**
- **NO EXCESSIVE TRAUMA TO TREATED ANIMAL**

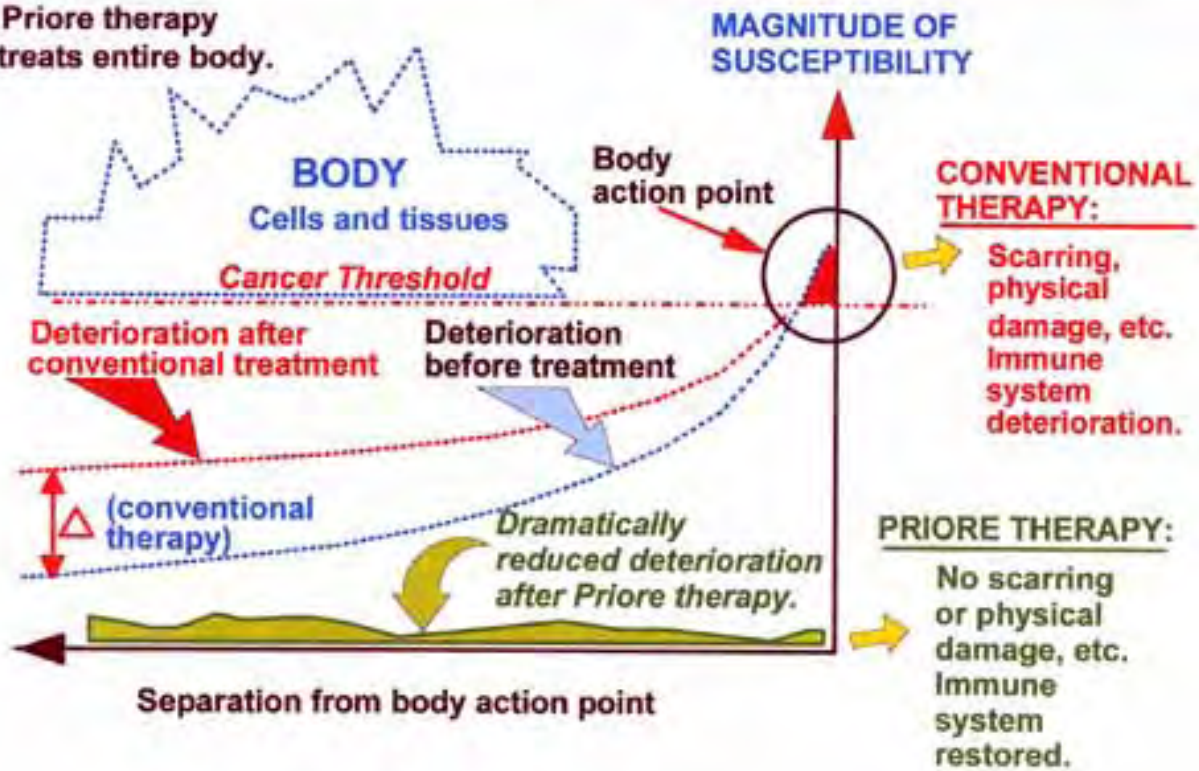
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DRASTICALLY REDUCED CUMULATIVE DETERIORATION AFTER PRIORE THERAPY

NOTE: Priore therapy treats entire body.



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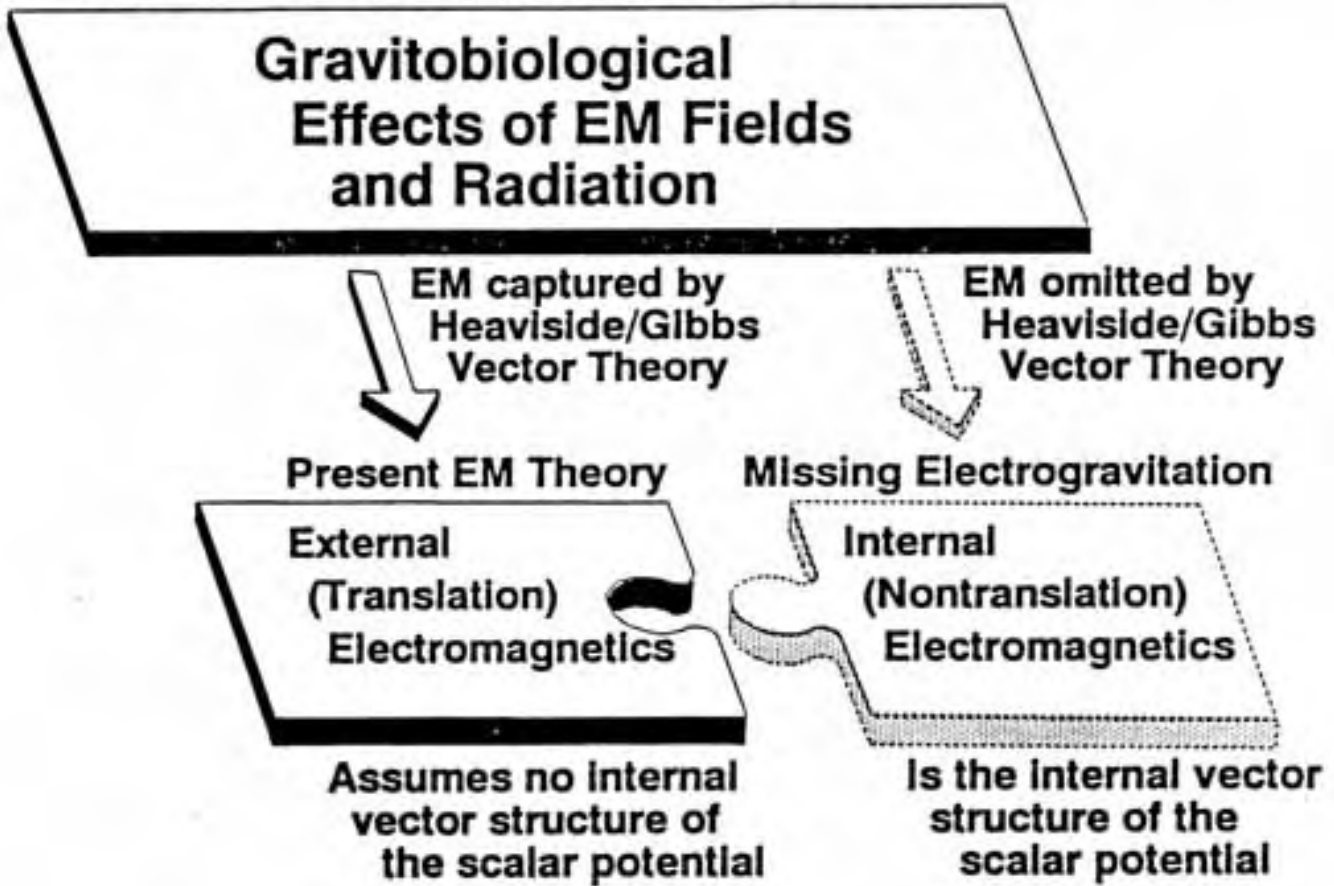
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THE MISSING PIECE OF THE PUZZLE

MAXWELL'S QUATERNION ELECTROMAGNETICS



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SUMMARY AND CONCLUSION

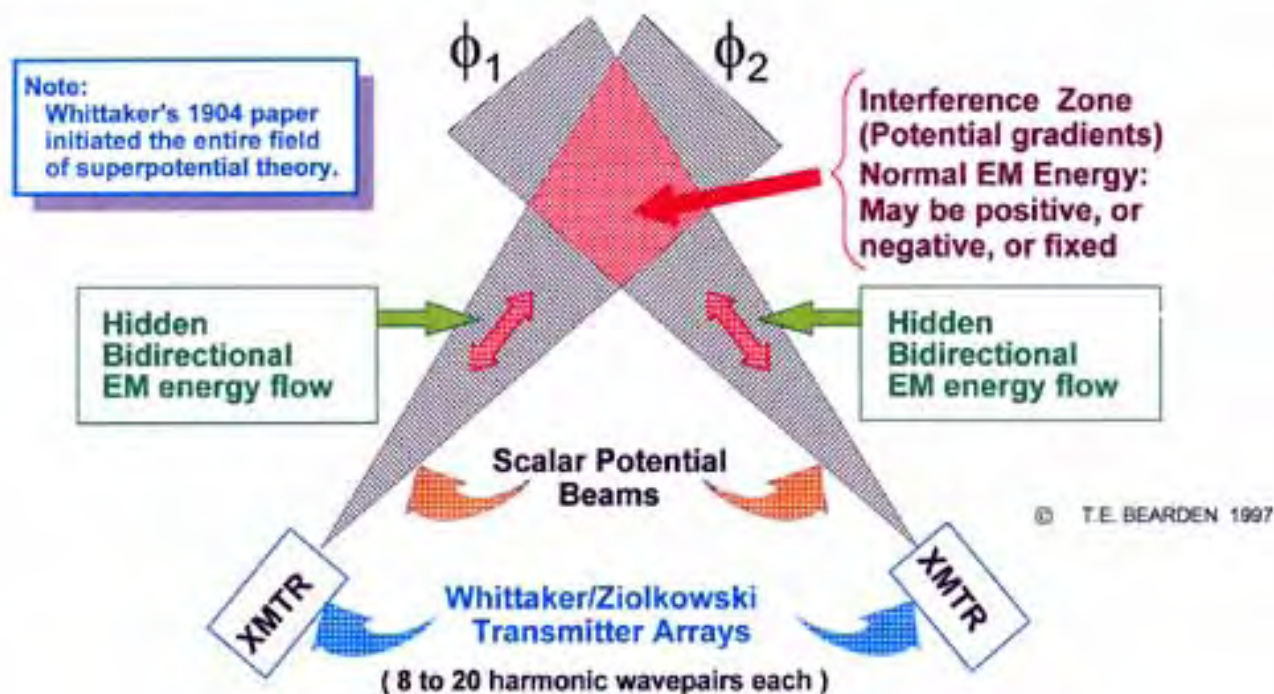
- **RECOMMEND SERIOUS EXAMINATION OF THE NEW APPROACH**
- **RECOMMEND REVIVAL OF PRIORE-TYPE RESEARCH ON AN URGENT BASIS**
- **CAN BE EXTENDED TO OTHER DISEASES**
 - AIDS
 - ARTERIOSCLEROSIS
 - SLEEPING SICKNESS
 - ETC.
- **A NEW THERAPEUTIC PARADIGM OF GREATLY INCREASED SCOPE AND EFFECTIVENESS MAY BE POSSIBLE**
- **IN ADDITION, DRASTIC REDUCTION IN MEDICAL COSTS COULD POTENTIALLY RESULT**

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Any EM Field or Wave Pattern Is Produced by interference of Two Scalar Potential Functions (*E.T. Whittaker, 1904*)

(Use of Hidden Information Content of the Field)
(Can Provide Action-at-a-Distance)



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**MECHANISM FOR
LONG-TERM, CUMULATIVE
BIOLOGICAL EFFECTS OF
EM FIELDS AND RADIATION**

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