

# The Quantum Electrodynamic Body-Field and Information Transfer in Biology

**This paper was originally written in 2003 as an overview of important influences on the development of Fraser's body-field theory. This is one of Fraser's earliest papers and so it provides an historical context for the unfolding of his research and train of thought. It ranges over various aspects of physics and biology, forging connections and exploring possibilities, and thus is not meant to be a comprehensive explanation of all the phenomena mentioned. Important aspects of Fraser's body-field theory have been clarified and revised since the composition of this paper.**

If we are to assess information transfer in biology, and in a narrower sense information transfer between people, and how this is related to our current knowledge of quantum physics, it is necessary first of all to limit ourselves to the types of physics which apply at parameters which are amenable to life, including normal temperatures, air pressures, electrical potentials and a chemical environment which is conducive to life processes. This means, strictly speaking, that we cannot consider high-energy quantum physics, and all the measurements in quantum physics are made by measuring the effects of high-energy particle accelerations and bombardments on other particles. It means too that we cannot consider plasma physics, because the temperatures and pressures are not conducive to life. It means that we cannot consider zero-point energy, because this can be measured only in a vacuum.<sup>1</sup> In the case of superconductivity, it is found that the effect only occurs at temperatures low on the Kelvin scale, and these are temperatures where no life is known to exist.

I have just described some of the difficulties that confront us at the outset of our enquiry into any link between biology and quantum physics, including how difficult it is to explain the transfer of information in biology using the traditional physics models described in textbooks. Many textbook writers have never done any research, except the token amount required for a degree, so instead I shall look at the work of individual researchers whose objective it is to explain a gaping hole in physics: how physics and biology are related. As Plato once said, only the cobbler knows where the shoe does not fit.

## An Unorthodox Quantum Physicist: David Bohm

I would like to consider first the ideas of David Bohm, the American-born British physicist. Around the middle of the twentieth century he was hounded out of America by the McCarthyites and settled in South America, where he took an academic position and studied the behaviour of plasma. By 1952 he had become a respected academic in his field, although he had become convinced that the textbook version of quantum theory was severely flawed. He devoted most of his life to another version of quantum theory now known as the pilot wave theory.<sup>2</sup>

A key ingredient of Bohm's ideas is something called instantaneous action at a distance, or non-locality. This idea defies the conventions of Newtonian physics and, in fact, it originally upset many physicists, including Einstein. It still seems to create an acute emotional reaction in some people, because it threatens their narrow world view, but it has been verified in physics as a core feature of the quantum realm. Non-locality means that there can be instantaneous correlations between entangled sub-atomic particles no matter how far apart they are. My speculation is that if it can be shown that humans can behave like quantised entities, it may also mean they can be receptive to information or correlations instantaneously and over infinite distances.

The idea of communication at a distance between humans, or at the biological level, can hardly be said to be new. It was proposed by Albert Abrams early in the twentieth century that the function of the superstructure of the cells in the body was guided in its activity by information which could travel infinite distances. Abrams was the author of a book called *New Concepts in Diagnosis and*

<sup>1</sup> The zero-point field is the fundamental field that pervades the universe and arises from the quantum fluctuations of the real and so-called virtual particles that make up matter and are at their lowest possible energy states at a temperature of absolute zero, hence the term 'zero-point'.

<sup>2</sup> This theory is partially based on physicist Louis de Broglie's Nobel-prizewinning theory of matter waves, which says that matter is not only particle in nature, but has a wave nature as well. Matter waves are sometimes called pilot waves.

Treatment, if you want to go to the source.

Bohm spent a lifetime investigating the theory behind non-local quantum phenomena. He and his research student, Yakir Aharonov, found that an electron is able to feel the presence of an electromagnetic field that is in a region where there is zero probability of finding the electron. The phenomenon is known as the Aharonov-Bohm Effect. Naturally, when the report on it was first published, many physicists believed that such an effect was not possible, and although the experiment has been repeated, there is still a group of scientists who deny that the phenomenon exists.

Bohm took a closer look at the classical idea of order. It occurred to him that the things we perceive as disordered are not really disordered at all. There seemed to him to be a graduated scale between order and disorder. Furthermore, he correlated order to the state of space.

It is said that Bohm was watching a BBC television show in which a device was being demonstrated when he came up with part of his theory. The device consisted of a jar of glycerine, a cylinder and a drop of ink. As the cylinder rotated, the drop of ink disappeared; however, when the cylinder was counter-rotated, the ink blob actually reassembled itself and became visible. If you think about it, this experiment shows that a picture or pattern, in effect 'order', had been retained, almost like a template in space, and that this picture could be recalled by the simple mechanical action of returning to the same space. The turning of the jar returned the ink to its previous place in space. It occurred to Bohm that space was not empty and might have memory - it might store information on the template of structures, the structure in this case being the rotating jar of glycerine. So he looked at three-dimensional structures in space, in which he thought were hidden certain sources of order in the universe.

Remember that Bohm spent considerable time exploring the behaviour of plasma, in which there is a torrent of seemingly random energy. He concluded that the universe actually uses holographic ways of imposing order upon itself, and this is done on a grand scale. In fact, the quantum effects that are seen to occur in sub-atomic particles are able to transform themselves from micro to macro simply by making the structures in space increase in size proportionately. (I will have more to say about this phenomenon, called scaling,

later.) It appears that there is order and coherence in all parts of the universe, and the order consists of three-dimensional spatial structures.

Bohm published his essays on the holographic view of the universe in many books, particularly in his seminal *Wholeness and the Implicate Order*. This book has not found its way onto coffee tables because it entertains the idea that our view of what is going on in the universe is so

limited and inadequate that the universe may actually be a kind of illusion. Again, this idea was not new, because Hindu philosophers had developed the idea at least 800 years before. They called the illusion of reality *maya*.

Physicist Werner Heisenberg had proposed the idea that we could not really know with certainty all that was happening at any one point in the universe because of the way in which matter was constructed on the micro scale. Bohm went one step further and invoked the idea of three-dimensional fields imposing order on a universe that seems in large part subject to randomness. His great contribution to science was to realise that these energy fields were folded in such a way as to deceive the observer, resulting in a state of illusion. He found that the universe had two deep aspects, an order which was folded and an order which was not, called the implicate and explicate orders. He proposed that the two could interact and that this interaction explained how sub-atomic particles changed into other particles. He used the same model to explain how matter could manifest as either a particle or a wave and how the two aspects of matter could be folded together.

Since 1977, I have been studying the structure of space inside the body using a method of investigation which I believe relies on the quantum phenomena which led Bohm to his idea of a holographic universe. My investigations have resulted in the amalgamation of three schools of thought: traditional Chinese medicine/acupuncture, German homoeopathy and English radionics. My core idea is that the physical body is informed by a largely quantum structure, the body-field, and that the structures inside the body making up the body-field may act as a suprachemical control system. If we are ever to escape from being treated for disease by chemicals that have no place in the body, we must pursue this idea until we understand how disease can be induced by various types of damage to this incredibly important body-field

structure. Already it appears that we can explain medical pathology not so much as being due to the absence of certain chemicals but more to a breakdown in the transfer of information in the body-field, and hence the body. And because we are looking at three-dimensional structures in space, a disease may even be caused by memories and shock and trauma, or the displacement of this three-dimensional field by information that is stored or repeatedly replenished by consciousness. And we have to say that consciousness appears to be a description of the totality of the structures in space that I call the body-field.

## The Work of Matti Pitkänen

Matti Pitkänen is a Finnish theoretical physicist who offers many far-reaching ideas about such esoteric subjects as topological geometro-dynamics, charged wormholes and Bose-Einstein condensates. He also has ideas about the superconductivity that may be occurring in biological systems. He suggests that electrons can form Cooper pairs within a Bose-Einstein condensate.<sup>3</sup> (Although the Bose-Einstein condensate has been measured at a fraction of a degree from absolute zero, this does not mean it cannot exist at higher temperatures.) He thinks information transfer takes place in biology via a superconductive pathway and that electrons as well as photons are a major carrier of quantised information. He also speculates about superconductivity at the level of DNA, suggesting that microtubules could act as antennae attracting a Bose-Einstein condensate of infra-red photons. Lending credence to this theory is the work of Fritz-Albert Popp of Germany, whose research has produced hard evidence of ultra-weak photon emissions in biosystems, including humans. But these emissions are ultra-violet in nature. Pitkänen also is interested in superconductive models of the function of the nervous system and his theory requires that the cell membrane acts as a superconductor at normal room temperatures.

The idea of pairs of electrons (Cooper pairs) and pairs of photons being involved in action at a distance is attractive. Cooper pairs may be part of a superconductive system in a crystalline lattice, and the human body has many such crystalline structures. Perhaps Cooper and Pitkänen have shown that Kelvin temperatures in superconductivity are not always necessary.

In my own testing method, which I simply call my 'space resonance matching' method, I have discovered a phenomenon I call the 'Vega Effect', which I describe in the next section. It has to do with how the energy fields or imprints of two substances either match (correlate or communicate) or don't. Through this technique, I have gained some interesting insights into possible correlations between Bose-Einstein condensates and the human body. The Bose-Einstein condensate is a group of sub-atomic particles that behave like a single entity - sometimes called a super-atom - when they all occupy the same quantum state. I have been able to demonstrate what may be this 'single entity'

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<sup>3</sup> Electrons are fermions, meaning that only one at a time can occupy any quantum space. However, in condensed matter physics, Cooper pairs are electrons that act like bosons, which are particles such as photons that can group together in the same quantum space. Electrons in a Cooper pair are in a weakly bound state at low temperature in a superconductor. They are named after Leon Cooper, an American physicist who focused some of his research on the brain and neural systems. J. Bardeen, Leon Cooper and J. R. Schrieffer were awarded the Nobel Prize for their work on a quantum theory of superconductivity, hence the name of their theory: BCS theory. A Bose-Einstein condensate is an unusual state of matter that is thought to occur at extremely low temperatures, where all the electrons in that matter fall into the identical quantum state forming what is also called a super-atom.

state using the Vega Effect. Even more interesting is the fact that a Bose-Einstein condensate relies on the presence of photons for the mini sea of particles to form a coherent unit. I have found that the Vega Effect ceases to occur in the absence of photons. It has become clear to me that the Vega Effect is not an electronic phenomenon, as it is mediated by the presence of light, and this puts it in the realm of quantum physics.

## The Vega Effect

The techniques (described in more detail elsewhere; see 'Overview of the Space Resonance Matching Method', page 71) are based on the use of electro-dermal-type testing machines, such as the Vega machine. This machine was developed in Germany by Dr Helmut Schimmel, combining principles from electroacupuncture (which was developed largely by Dr Reinholdt Voll and is known as EAV, for 'electroacupuncture according to Voll') and homoeopathy. Electroacupuncture machines use probes to detect weak electrical vibrations or emissions in the body at acupuncture points on the skin. The premise is that disease causes changes in electrical fields in the body. The Vega machine differs from EAV machines in that it reduces the number of points tested, often to one, and also can handle putting substances, such as ampoules containing homoeopathic substances, into the circuit to see if the body 'needs' them. The machine has an indicator, and when the needle registers a drop below the normal baseline reading (which is 40), there is said to be a 'match' between the two items being correlated, such as the body and a homoeopathic substance.

The Vega and EAV machines are electronic in nature, but curiously I discovered (in a serendipitous mistake that is a story too long to recount here) that the machines could work without ambient light! I could not get an indicator drop (a match) when there were no ambient photons involved in the use of the machine. So I stumbled upon what I call the Vega Effect, which is a match that is not rooted in electrical fields. It calls into question the very way in which these machines work, and I believe it suggests that what is being matched (as represented by the indicator needle drop) is more on the order of quantum structures in space than two electrical fields. This is, then, my definition of the Vega Effect: 'an indicator drop in an EAV or Vega-type machine that correlates to the space resonance matching of two identical structures in quantum space'.

The Vega machine, and other machines like it, has been used for many years as a diagnostic device, but its success has been limited by the inability of its producer and users to understand that it is not a simple electronic device. It appears to be a way to determine the effect of the quantum realm in living systems via the space resonance matching of structures in space.

Another astonishing feature of the Vega machine is

that it produces data: when linked to another machine the indicator drops in the serial testing of items can be logged as a string of numbers, which can be interpreted as either positive or a negative numbers. In this respect it resembles the answers available from the Fourier Transforms, a mathematical calculus used to solve certain kinds of partial differential equations and that can change a two-dimensional pattern into a three-dimensional field. It appears that the readings via the Vega machine can be switched between the positive answer set and the negative answer set at any time, and this is a major source of error for those operators who are not aware of how this 'switch' is activated. In essence, this aspect of the machine can be seen as a 'yes' or 'no' choice, making the Vega machine result a sort of digital reading. This is of interest, since the body-field's dynamics display a similar digital nature. But that is another story that I won't go into here.

That the Vega machine is thought to be electrical by others, even its inventor, is not surprising, nor is the fact that it purports to be detecting electrical fields or potentials. This view dovetails with current and past research into the body's biofield, an area of research that is focused mostly on the body's bioelectrical characteristics. For example, some interesting research has been done by Cyril Smith, a biomedical engineer.<sup>4</sup> He has found that living systems produce a characteristic pattern of frequencies as an expression of their electrochemical activities. There are minor variations in steps over time. These frequencies are strong enough to induce synchronism in tadpoles in the presence of yellow light. In other words, Smith has shown that there is biocommunication between tadpoles in a fluid in the presence of light and a weak magnetic field. His explanation for information transfer at this macroscopic biological level is photon exchange in the presence of magnetic vector potentials.

Smith also says that biological information imprinting occurs when there is a geomagnetic vector potential present and that frequency information can be imprinted onto many substances, and not only by the usual kinetic method used by homoeopaths. Permanent erasure of the imprint occurs when the ambient magnetic field is reduced below a certain level. Smith's experiments with heavy water indicate the likelihood that the imprinting process in water or alcohol at least is related to the function of electrons at frequencies above 1.42 GHz, while at frequencies lower than this

there are coherent electrons and photons. His experiments show that the imprints of frequencies are even retained when water is frozen, although imprinting has not been produced directly in ice.

You can see that Smith's work has great relevance to electroacupuncture and homoeopathy. It also has relevance to my theory and to NES Health, although I don't believe that the electrical aspects of the body are paramount in information transfer; nor, as I have said, do I believe that the Vega Effect is an electrical effect. But I mention this research here for its general relevance to our topic. Below I will provide an overview of a few other fundamental researchers and physics topics that provide general context and a solid underpinning for my continued discussion of my theory of the human body-field.

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4 C. W. Smith, *Biotechnology and Biocommunication*. World Scientific, Singapore, 1994

## Freeman Cope

Freeman Cope was a doctor and physicist working for the US Navy at the time of his death. His work linking physics and biology was pivotal, especially his work developing a solid state theory of biological processes.

Cope said that the activity within the cell was not just electrochemical, as everyone before him apparently believed. He looked at cell function as if the organelles were semiconductors in three dimensions and opened the way for a true concept of quantum biology where all the structures within the cell behave as spatial structures in a field. In this theory, there is constant interaction not just between the charges on electrons but between all sub-atomic particles.

Cope wrote pivotal papers on the functions of structured water and its effects on the brain and on the functions of the sodium ion, an interest he developed based on the work of Max Gerson, a New York doctor who in the mid-twentieth century realised that the function of the sodium ion could be directly related to the general breakdown in physiology, associated with the development of cancer. In addition, Cope delved into biological superconductivity and piezo-electricity. He modified the system of nuclear magnetic resonance testing and made it more sensitive to responses of biological materials rather than to pure chemicals.

If you think the work of Smith is interesting, it is perhaps because it follows on from work done by Cope, who showed that hydrated nucleic acids or dry melanin produced low-frequency noise in measurements of electrical conductivity when exposed to magnetic fields at room temperature. He concluded that it was possible for superconductivity to occur in living systems if they were in the presence of a magnetic field and that the process was a nalogous to superconductivity in metals at very low temperatures. He expressed the view that superconductivity had a controlling role in biological functions.

Cope's work on superconductivity especially is relevant to my research. My own work since 1985 has been to create a comprehensive model of the underlying energy field and quantum space structures of the body, what I call the 'human body-field', and I began with the system of acupuncture meridians developed more than 4,500 years ago by Chinese doctors. From this, I started to

build a template or map of body-field components as represented by imprinted information arranged in a certain pattern. I found that the acupuncture meridians were in fact streams of information travelling through connective tissue - and there are many types of connective tissue in the body - and that they were a means of transfer of energy in the body. The energy followed structures that formed the information highway of the body. The most interesting thing I found early on was that some of the meridians would transfer energy only in one direction and therefore displayed the characteristics of semiconductors that had been described by Cope. It was satisfying to find a major science figure with whom I could wholeheartedly agree. I went on to describe no fewer than 96 of these connective tissue pathways, and I explored and described their complex interactions, which appeared to be based on their inherent directionality.

In fact, the body-field has emerged as three interlocked systems: the first one is the heart and circulatory system, the second is the system of connective tissues and the third is the nervous system. For the benefit of the layman, I should say again exactly what a field is. A field is created when energy moves from one point to another. But it collapses again as soon as the movement of sub-atomic particles stops. So we have to envisage the body-field as a multi-layered and multi-folded system consisting of hundreds of interlocked fields. As soon as we understand this system and how it works, we will know how to correct the errors in the body-field that create the manifestations of disease.

Of course the collapse of the body-field is a feature in the development of cancer, so it has become quite urgent to find out how the body keeps the sub-atomic particles moving to keep the field in place. This is the key not just to human physiology but to the way in which all living systems maintain life.

## Paul Dirac

Paul Dirac was an English physicist and one of the pioneers of quantum theory who, with Erwin Schrödinger, received a Nobel Prize in 1933. His ideas were the genesis of quantum field theory. You will remember that a field is created every time a particle moves through space, so quantum field theory grows out of quantum mechanics. Dirac's greatest achievement was to unify quantum theory with the special theory of relativity in one equation. The equation has two solutions corresponding to positrons and negatively charged electrons. The positron is an anti-matter partner particle to the electron, and its existence emerged first from Dirac's equation and was later verified as existing.

Dirac's achievement inspired another great quantum physicist, Richard Feynman, whose work is pivotal to our understanding of quantum fields and cleared the way for quantum electrodynamics. By 1947, however, the discovery of the Lamb Shift showed that Dirac's work was incomplete and that the self-interaction between the electron and its field was infinite. These infinities still create problems in the mathematics related to this area of quantum mechanics.<sup>5</sup> The Lamb Shift has relevance to my work in exploring the structure and dynamics of the human body-field as there is a major frequency shift to be noted depending on the precise energy level of each molecule. Energy gradations are always a feature of quantum physics and cause very slight distortions in the arrangement of some key biological elements, such as hydrogen and calcium.

Dirac's is a general theory of charged particles and poles and how they interact through the medium of the electromagnetic field. His work brought out holes in quantum mechanics and field theory. For instance, discussing symmetry, he described the field equations of electrodynamics as symmetrical between electric and magnetic forces, but said that this symmetry was disturbed by the fact that a single electric charge might occur on a particle, but a single magnetic pole had never been observed to occur on a particle. Although the existence of single-pole particles had been predicted since the Maxwell equations describing electromagnetism, no mono-pole has ever been detected experimentally.

Everyone is familiar with polar magnetism, where a north pole is always paired with a south pole. The question is whether it is possible to have a magnet with only one pole, hence the term 'magnetic monopole'. Many physicists over the last century

have agreed that it may be possible to have a monopole, but none has ever been detected - unless you believe Freeman Cope's claim. Cope claimed to have measured magnetic monopole currents flowing in water. He noted that the hypothesis for para-magnetism was important for biology and attractive to physicists because it provided magnetic-electric symmetry of Maxwell's equations and because quantum mechanics theory predicted it. He said that he believed he had measured the presence of a magnetic monopole in flowing water and the presence of magnetic monopole wave functions in air around the key body protein keratin.

So, let's talk a bit about the Maxwell equations and monopoles, since they appear to be so important to biology.

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<sup>5</sup> The Lamb Shift involves small divergences in the levels of energy of a hydrogen atom in QED that involve how electrons interact with the vacuum. It is part of the theory that helped physicists construct a 'fix' to remove infinities from quantum mathematics, in a process called renormalisation, which many physicists think papers over a serious defect in the theory.

## The Quantum Electrodynamics Body-Field

Quantum electrodynamics (QED) theory describes the way electrically charged particles interact with each other and with magnetic fields through the exchange of photons. It is generally thought to be the jewel in the crown of quantum physics because it can explain everything that goes on in chemistry using a single theory. In my theory of the body-field, QED is important, as I found the body-field was created and supported by certain variables, including a magnetic field, a gravitational field and an electrostatic field. The influence of gravity on the body-field can be taken for granted, since whatever it is, it affects all objects with mass. There are many sources of magnetic fields, such as that from the core of the earth, and the magnetic confetti formed from normal life processes, especially from bonding processes at the cellular and molecular levels. So far as the electrostatic field goes, it is clear that in higher organisms the nervous system creates a significant charge, and in the case of humans, the brain and the spinal cord create a huge ionic charge. In the case of lower organisms, it will be found that they are responsive to the electrical gradient present in the atmosphere.

If the QED field is the jewel of quantum physics, surely it is high time that it is applied more directly to biology. And in some respects it has been, through the young science of quantum biology, which in the mainstream concerns itself mostly with the energy processes at the cellular level but in alternative medicine extends to include energy fields and information processing at the quantum level. This new area of research offers the possibility of revolutionising our understanding of communication processes and mechanisms in biology, which are the key to understanding cancer and other currently incomprehensible pathologies and largely untreatable diseases. The obstacles in this field are great, however, due to the entrenched nature of medical education and because research is dominated entirely by insulated groups who rarely cross disciplines to talk to each other and share research results and ideas.

It is worth taking a look at the physics of the QED field. The guru in this field was Richard Feynman, regarded as the greatest physicist of the late twentieth century (he died in 1988). He is remembered for, among other achievements, the path integral approach to quantum physics. The mathematics of the QED field is so complex, even for

mathematicians, that it was necessary to find other methods of describing what was going on in sub-atomic particle interactions. Feynman's novel approach was to reduce the complexity through simple diagrams describing the interaction between two particles and showing all the possible results of specific types of interactions. The approach is called the sum over histories method, since with simple diagrams you can plot all possible paths of particle interactions. Another of the benefits of this approach was that it became possible to predict the magnetic moment of the electron. It turned out the theory made predictions that were eventually verified to an amazing degree of accuracy, and QED now stands along with Einstein's theory of general relativity as one of the most successful and well-established theories in particle physics.

However, the same problem emerges with QED as it does with other aspects of the standard model of quantum mechanics: it does not integrate well with biology because the interactions between photons and electrons are always thought to occur only at high-energy states. I believe this is not a problem - or it is only a problem in the mind of physicists, as they have not yet invented ways to measure low-energy interactions, such as those that must occur in living organisms, and they will not accept the measurements and measuring devices that I believe can (if used properly) do so, such as the Vega machine. (I should point out here that in order to carry out my experiments, I have modified the Vega machine, so the one I use is not exactly the same as those bought off the shelf.) There is reason to suppose that the Vega Effect (the space resonance matching effect I get that may be the interaction of two similar structures in quantum space), although subjective in some regards, is the only way we can currently find clues to what is going on in the body-field system of regulation. From my investigations, I have found that the key activities in information transfer in the body-field, and by extension of the physical body, are those of imprinting and of stacking. Let me discuss these briefly.

In my work to uncover the structures of the body's control system - that is the underlying body-field - I began to experiment with imprinting information in the same way that homoeopaths learned to do over 200 years ago, when homoeopathy was founded by German physician Samuel Hahnemann. I found that I was able to imprint the information field from an acupuncture meridian and store it in an ampoule of a mixture of water and alcohol. I used



no actual tissue or substance and this process was not done by succession - I found a way to electronically imprint a meridian pathway purely as information. Then I found, to my astonishment, that it was possible to 'change' one meridian into another simply by stacking the correct number of ampoules and using my modified Vega machine to determine their aggregate value. If you think about it this, it must mean that there is a basic stream of information being passed along the connective tissue in the body and that it changes its nature depending on how many times it is iterated. Remember that this quality of being able to form a whole from discrete pieces is a quality attributed to bosons in a Bose-Einstein condensate.

To my further surprise, I found that the system was closed, and that in a biological system it only appeared possible to iterate the information 64 times. It is interesting to note that according to basic genetics, there are only 64 possible combinations of the four bases in our DNA (thymine, uracil, adenine and cytosine). It is their order that is so critical to the message they carry.

Perhaps the only thing I can really say about this experimental data is that it shows that the body-field acts as a closed system and that the limitations of that system correlate with those of the structure of DNA. However, it might not be too speculative to say that the double helix of the genetic material, together with its myriad crossbars, represents an important part of the genetic mechanism only if it is considered to be acting inside a QED field. It seems to me very likely that the strange and arcane characteristics attributed by some to genetics are in fact an effect of the interaction between the genetic material and the field it creates. The body-field appears to be closely aligned with the principles of QED because it appears to be governed by the interactions of its many fields. Tied as the body-field is to the physical body (it cannot exist without the body), the body then also takes on quantum characteristics. There are many examples of this and I can only cover a few, and very briefly at that, in this paper.

## The Phonon

We have all been taught that sound is a longitudinal wave in motion and that it is essentially different from electromagnetic waves or particles. This may not be true, as it appears that there is a continuum in the energy spectrum from the very low frequencies of sound to the incredibly high frequencies of light and beyond.

In a solid, the atoms do not vibrate as single units but send oscillations through the solid to which they belong as acoustic waves, and these waves vary in frequency and can go as high as  $10^{12}$  Hertz. The sound made by the atoms in a solid is called a phonon. This energy obeys the laws of quantum mechanics. The effects created in a solid by the phonons, which are scattered by free electrons, are to limit thermal conductivity and to increase electrical resistance. If we are looking for a control system in biology, we only need look for biological superconductivity as a way of decreasing resistance to the flow of electrons, and to the phonon as a means of increasing it. If you like, this will function as an on-off switch, as is needed to get a system to work.

## A Link with Radionics Rates

If we are talking about structures in space and what they might be like, it should be remembered that Richard Feynman created path integral diagrams that showed the interaction of particles as arrows, indicating the most likely trajectory of each particle in space. In fact you can draw such a diagram so that there is a circle with arrows showing the most likely trajectory. What makes the path is the phase of the space through which the particle travels. The arrows are in fact vectors, or indications about the three-dimensional space through which the particle travels. Of course, sometimes it will appear that the particle travels in a straight line, as it is supposed to in classical physics, where quantum mechanics don't apply. This can be said to be an illusion, which was given the status of science before quantum physics was able to state otherwise.

In my work on imprinting - making energetic signatures of the field of a substance in an ampoule of liquid - I spent agonising years wondering what exactly was being imprinted. I had no theory beyond the method and theory of electronic homoeopathic imprinting, and I suspected this was different. Now I have a theory, and it involves these vectors. Am I imprinting field information about the magnetic vectors in space that are acting as complex signposts for information usage in the body-field and body? Maybe, as these vectors resemble the path integrals of QED. I have no way of knowing definitively without testing the theory, and a method for testing is not possible yet. Suffice it to say, there are reasons to believe that the data gathered from the Vega tests associated with electronic imprinting in homoeopathy are not only not numbers but are certainly not frequencies either. Even so, they may have some relation to radionics, a system developed by Albert Abrams that seeks to detect electromagnetic vibrations in items. Each item, including aspects of the body and everything in nature, has its own distinct vibrational pattern. These unique patterns are represented by sets of numbers, called rates. I have tested the rates used in imprinting information according to Bruce Copen, a well-known English researcher who spent a lifetime working in radionics and developing the art of imprinting. He compiled huge catalogues of radionics data, including a catalogue of the cells of the human body, all reduced to sets of numbers.

In 1998, I used a Siemens frequency meter for about six weeks daily to try, by various electrical arrangements, to measure a frequency, or rate, of

hundreds of the imprinted ampoules I had at my disposal for study. Of course, there was no detectable frequency emission in the electromagnetic range of any of the ampoules imprinted with homoeopathic information. I would have been surprised if there had been. By then I had concluded that the rates - the sets of numbers - were in fact sets of vectors, and I surmised that they had to be arranged in a certain order. In fact, experiments with these numbers showed that they liked to rearrange themselves in a set order if given a choice. This is precisely what we would expect the sets of Feynman path integrals to do - rearrange themselves in the most likely orders of trajectory according to quantum phase.

Then I had an insight: I had to consider the relation to time. Once you enter the odd realm of quantum physics, you enter a timeless domain. Time does not have a place in the equations related to quantum physics. And if there is no time, there can be no frequency, since this quality relates to time versus amplitude.

I have to deviate a bit here to report on a most interesting experiment where I found constants related to the rate that was, according to Copen, a representation of the frequency/vibrational pattern of the hydrogen atom. Constants in physics and mathematics - values that are fixed within certain contexts or that are invariant within specified contexts - can be found by my method of testing using the Vega Effect to match items. Although hydrogen is a simple atom, in fact the simplest one on one level, in the area of quantum phase energetics it is quite complex and requires six digits to describe. This means in turn that its path integral trajectory is very complex. I have found that there are constants that correspond to a set of vectors representing hydrogen. Exactly what these invariable numbers, or constants, are in fact is not clear, but because of the nature of the experiment, they seem to be related to structure or geometry, perhaps to quantum structures in space. All I can say is that there appears to be a strong indication of a correlation between spatial structure and numbers/rates in the context of the hydrogen atom.

I believe too that I found evidence for differing energetic imprints of different types of hydrogen bonding processes. I explored testing by combining the Copen rates for hydrogen and oxygen and comparing them with the rates for water, and found that the difference in the resulting rate represented the bond. Then I noticed something extraordinary: I

found that everyone I tested who suffered with cancer showed an abnormality in hydrogen bonding, as if the energy of the hydrogen molecule had gone to its maximum level. Because the bonds at their longest are about four times longer than the normal length, this would cause severe distortion in the structures in the body that had a hydrogen component. This result supported my conjecture that body-field dynamics, and hence the body's physiology, collapsed in cancer sufferers. In the small number of people I had access to for testing, I found a 100% correlation between advanced cases of cancer, which were considered terminal, and this energetic imprint for the elongation of the hydrogen bonds. This all brought me back to an enquiry into quantum phase and how it relates to bioenergetics and the body-field.

## Quantum Phase and Traditional Chinese Medicine

I have spent a great part of my life reading and writing about Chinese medicine, and I even created a three-year degree-level course on traditional Chinese medicine, which was accepted into the university system in Victoria, Australia. One book I studied that stands out from all the rest as having the nearest approximation to what I am discussing now - how the body-field is arranged according to the spatial structures found in the presence of the QED field - is Manfred Porkert's about the origins of the Oriental theory of medicine.<sup>6</sup> Astoundingly, the book is concerned with phase energetics and an arcane theory of yin and yang that very few understand because they take it out of context. In the context of the idea of quantum phase, Porkert's work begins to shine.

In 2003, when I uncovered some key elements of the body-field, after a great deal of discussion with colleagues, I realised that it naturally arranged itself into a set of 12 structures, or compartments, which are now called Energetic Integrators (EI) in NES theory. The sets of data associated with each EI can be summarised by a simple spatial formula: the EIs can be arranged as two sets of six, where they appear to correspond to the two strands of the DNA helix, where one strand is slightly out of phase with the other. I have already mentioned the crossbars that link the bases across the two strands of DNA and the 64 possible arrangements of the bases in that direction. Now I was able to entertain the gripping idea that the DNA and RNA helices actually created a strong field - strong because of its structure and arrangement. According to this view, each cell has its own energy blueprint so that each can have access to the complete structure of the body. For this to happen, it is necessary for each DNA replica in each cell to communicate with all the other cells in the body via some energy medium. What better than the QED field for this purpose? And how better to explain disease than the failure of this system in various ways? I am sure that you are aware that the function of the DNA is to replicate proteins for constructing the various parts of the body and running the processes of physiology. That is it. But of course many have tried to broaden its function to make it the key to everything, even minor habits and forms of behaviour which are seen to run in families. Some try to trace all human characteristics, learned or not, back to this protein-replicating machine called DNA. But who has thought of DNA creating a

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<sup>6</sup> Manfred Porkert, *The Theoretical Foundation of Chinese Medicine: Systems of correspondences*, Asian Science Series #3, MIT Press, Cambridge, MA, 1974

pattern in a QED field, which in turn can interface with the patterns of the larger body? Yet we already know that an infinite series of patterns can be created, from the physics I have already discussed.

In terms of traditional Chinese medicine, I discovered that the 12 EIs of the body-field - which can be thought of also as information fields that can be used by the body to regulate normal physiology - could be arranged into two sets of six, and when they were arranged in this way they corresponded to the arcane idea of a set of six steps in the yin-yang theory enunciated so clearly by Manfred Porkert. These in turn related back to the genetic material of the body. So I believe I have been able to replicate the spatial structures or patterns (what I often call simply 'pictures') that rule the function of the body-field, as it is constantly guided by the DNA interface with the QED field. This understanding in its entirety - and I recognise I have not spelled it out here in detail - could prove to be a great advance in our understanding not only of Chinese medicine but also of all of medicine. I do not believe that there are two medicines - an orthodox one and an alternative one. Rather, there is just one medicine, and this is it: bioenergetic and bio-informational medicine. It encompasses biochemistry.

So, in the theory of disease, we can look to a higher level of correlation and say that anything that displaces the positions of the DNA strands, or the crossbars, or makes the strands longer or shorter, or alters the interface of the DNA in a field, will be a potential cause of disease. Hence the idea of the distortion of sub-atomic particles and their interactions is a key to many diseases.

I remember back 20 years ago when a young student in one of my classes declared that the mystery of the body was how each cell managed to talk to all the other cells. Everyone thought that intercellular communication was a chemical or electrochemical affair. That young student is now the principal of the acupuncture college that I founded, now a department in a university. The ideas we were perusing at the time were about the ways the acupuncture meridian system can foster communication in the body. A lot of water has gone under the Chinese bridge since that time. It now appears that the acupuncture meridian system, or jing lo as it is called in Chinese medicine, is the network of directional communication pathways through the body's system of connective tissues. Connective tissue is widely distributed in all organs of

the body and appears to have superconducting characteristics, so we can see how it becomes a scaffold for a general bioenergetic system.

In the Chinese system, each meridian is supposed to be linked with an orb - a hollow structure, which is an organ. An organ can be thought of a structure in space, a cavity, that will store energy in a QED field, and it will act like a coaxial resonator, with a certain characteristic frequency. So, too, will the millions of tiny hollow spiral rods floating in the cellular protoplasm, things called microtubules. The Chinese did not find the tiny tubules which act as tuning forks for energy transfer, but they did see that the organs collected energy, which might be zero-point energy, and could act to power the system of coherent communication within the body. The hydrogen bond I spoke of earlier is just like a tuning fork or microtubule so far as the QED field is concerned. Amazingly, the width of the tubule does not alter its tuning but does alter its ability to discriminate between signals, as in the quality factor in terms of electronics. My point is that it is its length that is a key factor in this bioenergetic and bio-informational system, as is quantum phase.

## Exploring New Ideas and Anomalous Information

Is there any evidence that the body actually works in this way - the way the Chinese have conceived for more than 2,000 years? My work shows that it does, and we have barely scratched the surface because of the difficulty caused by our belief blinders, where the mind cannot take in new or anomalous information, because it is already full of other data it is certain of and comfortable with. Let us start again with a new scientific form of medicine which is big enough to absorb the ideas of all the other strands of medicine which our great human civilisation has thrown up over thousands of years.

Consider, for example, the great fluid system in the brain, which is a series of closed chambers linked by canals, ending finally in the base of the spinal column. The fluid is called the cerebrospinal fluid and the chambers are called the cerebral ventricles. Why are they filled with this special fluid, which is under pressure? Why are the chambers interlinked? Why does the system go right down the spinal column?

If we think about it, as almost nobody does, they can be thought of as a series of interlocked pressurised cavities that are each tuned to a certain direction in space due to their orientation. Instead of looking at brain structures as relay stations, metaphorically as computer terminals and other mechanical machines, we can think of them as resonating cavities subject to the physics of cavity dynamics and tuned via spatial orientation. Through them, the brain acts as a sort of antenna or signal relay station that gains access to the information stored in structures in space created by real events - in our environment and also in terms of that which we regard as memory. We all know that we can remember something better and even recall seemingly forgotten details when we return to the place where the event happened. So much of human activity is related to this very process of recall. There is growing evidence that memory might in fact be distributed throughout the body and also be outside the body, and this is one aspect of that conjecture. I have become convinced that memory is found in the heart, circulation system and muscles.

I spoke of the organs as hollow structures that acted as reservoirs to collect and tune energy, and to feed energy at the quantum level into the meridian system, where energy movement was the basis of the creation of the body-field. Yet one important

aspect of this system is missing: how it is created and maintained. It is to the heart that we turn to begin to explore these questions.

The heart is the first chest cavity organ to be developed in the embryo and it actually starts to beat before the vascular system is in place, when the embryo is only about 40 days old. There is a reason for this in quantum biology. Pressure waves create sound, and sound travelling in a solid is a way of controlling aspects of the body-field. Odd things happen in organisms and other entities in the presence of quantum-level pressure waves, which are studied via a branch of science called quantum fluid dynamics. I won't go into that, but suffice it to say that the heart's dynamics provide a method for creating and powering the body-field of the embryo.

In science, if you have a system that does something, you have to say how it is powered, so now we turn our attention to how the body-field can power itself. We must situate this question in the context of bioenergetic medicine, where every disease has one symptom common to them all: the loss of energy in the system. Fatigue, after all, is the first symptom of most illnesses. If we think the cause of disease is, at the deepest level, the failure of information transfer, then this breakdown results in the body's failure to create enough energy to power its control system. The Chinese considered this problem long ago and came up with a way of explaining how the body energises itself. They had this magnificent idea of the San Jiao, or Three Burning Spaces. A space can only burn, of course, if it is filled with some kind of energy, and in the case of the QED body-field and by correlation the hollow structures, the orbs, of the physical body, this 'fuel' may be zero-point energy, with magnetic energy as it is transformed from the so-called virtual to the real world.

A fundamental experiment about heat, called the Blackbody Radiation experiment or the Cavities Radiation experiment, looked at how a body or system absorbed and then re-radiated heat and what was going on with sub-atomic particles, especially photons, in that process (a huge mystery at the time, early in the twentieth century). The details aren't important, but it turns out that the frequency aspects of the experiment were not classical in nature and that standing waves were involved. Max Planck solved the problem of the phenomenon by proposing that photons were quantised, that is, they came in discrete packets.

The Chinese tried to explain how heat was made in the body by appealing to a complex science that would not be uncovered until the twentieth century. We have to admit that we have a problem with heat creation and dissipation in the human body. The story spun by the physiologists is well known, about the cells in the body and the carbohydrates, sugars and fats they convert to energy, and the excess that is dissipated as heat. Everybody agrees that heat can be created by many types of chemical reaction, and the ones going on in the body are supposed to keep the body at within 1° Celsius of the correct operating temperature whether we live in the frigid polar region or the sweltering tropics. Our amazing cells are able to keep the temperature in our toes the same as that in our inner organs. Yet when someone runs hot, the explanation is not that they are eating too much sugar, but that there is a heat regulatory centre in the brain that is not functioning or that circulation is not good, and so on. Then there is the mystery of spontaneous human combustion, which really strains the orthodox theories. My point here, really, is that when we look for places in conventional medicine and biology where the theory about heat and powering systems of the body is inadequate, we have to look no further than the explanation, using the body-field, for how the body maintains temperature.

Bioenergetics sees the answer not in the Krebs Cycle or other metabolic processes involving the use of fats, carbohydrates and sugars, but instead as a feature of cavity dynamics. Think of Tibetan adepts who generate, at will, such heat in their body that they can dry soaked sheets wrapped around their shoulders even though they are sitting out on the snow in freezing ambient temperatures. They do it by modifying their breathing and generating certain types of sound— all processes that rely bioenergetically on how cavities process sound and pressure waves and such things. They use the dynamics of what the Chinese call the burning spaces of the body, from which they generate energy in the form of heat.

We have to point out that the 'organ' that is responsible for the storage of energy for the San Jiao, or Three Heaters or Three Burning Spaces, has never been found, although some people locate it, for no particular reason, in the lining of the stomach. My answer is to return to the dynamics of the three coordinated systems of the body-field that operate together in the body. The first one is the heart, which powers the vascular system with pressure waves and real sounds, the most familiar of which is the

'lup-dup' of the beating heart. Low-frequency sound is a way that quantised energy enters the system, as we shall see shortly. The actual sound the heart makes becomes very important so far as quality of information transfer in the field of the blood is concerned.

Two systems intersect here, since the nervous system controls the exact way in which the heart contracts and makes its characteristic sound. So, our second system is the nervous system, where the body undertakes a huge effort to create polarised waves that can act as carriers for the quantum information in the field that goes with it. Both Freeman Cope and Matti Pitkänen appear to agree with this idea of how the nervous system really works. I see it as a mechanism

for creating a moving electrostatic field, and to do this we need to have a nervous system that is split into tiny units, as it is. This is a power-saving device. The nervous system impulses move down sets of complex interlocking fragments of nerve tissues, but the real messages are at the level of a Feynman diagram, a structure in space that looks like arrows imprinted into a disc. The nervous system not only generates a huge number of ionised particles but also produces sounds, just as the heart does. These take the form of alpha and delta waves, and they have been studied for years. Many other waves are also generated by the nervous system.

The third source of energy for the body-field is found in the lungs. They, too, generate sounds, some of which are under our conscious control. They also respond to input, as we know from the effects of sounds of certain wavelengths and timbres that are part of religious and ceremonial practices. The Hindus, for example, are very fond of humming to create energy, and there is even a special raspy way of breathing in the throat, called the ujjaya breath, that is said to increase the energy in the body. Breathing in general can be adapted to generate many kinds of wave and pressure, each of which may carry its own information content at the quantum level.

Many readers will no doubt be wondering what all this has to do with quantum science, and the next section will make this very clear. Suffice it to say that it is possible to help the body to make energy, as it fails to do when it is ill, merely by replenishing its structure in space at certain points and via various methods. And we don't have to resort to chanting or yogic breathing to do so.

## Waves and Sonoluminescence

In the body-field model, we have a problem until we can show that the sounds being made by the brain, heart, nervous system, lungs and throat (and other organs and processes) are able to carry useful information that can be accessed and used by the body. The sounds do represent energy, but sound is not generally considered to be that important in physiology. Sonoluminescence may provide the answer. It is a phenomenon which occurs by injecting a very low-frequency sound into a chemical solution or solid so that photons of light are emitted! Basically, sound turns into light.

The phenomenon is not new. It was discovered by two scientists in Cologne, Germany, in 1934, when they noticed that when they sent sound waves through a liquid, bubbles in the liquid emitted light. Interest in the phenomenon heightened in the 1980s, when a research student found that much of the emission in sonoluminescence was in the ultra-violet spectrum. Not only that, it was found that bubbles in the liquid reached temperatures of an incredible 72,000° Kelvin! Since I have just been speaking about what the real doctors of this world know about creation of heat in spaces, and the use of sound as a prompt for this energy creation, the science suddenly becomes of tremendous interest.

Interestingly, the process of bubbles emitting light involves high-intensity sound waves, resonance, plasma and standing-wave dynamics, all phenomena or subjects of relevance to the body-field theory and the new biology. Sonoluminescence can also induce cavitation, which is accompanied by a certain amount of noise. Cavitation is a pitting phenomenon, such as what happens to the propellers of giant ships as their surfaces are eaten away by the fluid effects of the water as the propeller rotates.

Some physicists think that the phenomenon of sonoluminescence could involve a subtle quantum field effect, called the Casimir Effect. In this phenomenon, when two surfaces are very close together (at microscopic distances), there should be a tiny force between them which is either attractive or repulsive, depending on the circumstances. However, in a vacuum, when there is no electromagnetic field present, there should be no force detectable between the two surfaces. This turns out not to be true, as a force is detectable even in a vacuum because of the motion of so-called virtual photons. The explanation is based

not on conventional electromagnetic theory but on QED field theory - it is a quantum phenomenon. So we are back into quantum physics in a big way with sonoluminescence. And we are closer to finding out what heats the body as well, at least according to bioenergetics: Sound in, heat out. Sound in, light out.

We can look to another front in our quest to determine how the body regulates heat and manages to defy the Second Law of Thermodynamics. One astrophysicist in particular is of interest to us in this discussion, Orvin Wagner, who proposed back in 1996 that there was a wave, the 'W wave' as he calls it, that pervaded everything in the cosmos - the big canvas that astrophysicists study, as opposed to the tiny one studied by particle physicists.<sup>7</sup> He was applying this information to life and he looked at things like plants in his study. He proposed that W waves provided a template for life to develop by, despite the Second Law of Thermodynamics. Of course the Second Law of Thermodynamics is contrary to what we see in life, where organisms create and regulate their temperatures to within a fraction of a degree in all environments. The interesting thing about this physics is that the all-pervading waves are of variable frequency: some at 480cm/sec, in the case of waves emitted between plants, and some at 96cm/sec, within plant tissue. But another most interesting thing is that Wagner found that there was something called 'velocity switching' going on, by which he meant that there were integral multiples of the speeds of the waves. Wagner looked at distances between leaves on plants as quantised spacing to determine what was going on with the W wave. He thinks that the W wave is affected by electromagnetic radiation, according to the 11-year sunspot cycle. He also says that the W wave is a longitudinal wave, like sound waves.

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7 Orvin E. Wagner, 'All-pervading waves suggest universal control and communication', *Frontier Perspectives* 6 (1), 1996, 41-7

## The Body-Field and a Common Set of Connecting Energies

Just as the physicists were beginning to please me with many, many useful ideas for furthering my theory of the human body-field and of a new model of healing and medicine according to bioenergetics and bio-information, it occurred to me that I had the perfect means of testing some of their ideas. I had major aspects of the human body-field in the 600 or so ampoules I used for testing. The water-alcohol mixture in them held the energetic imprint of all the major parts of the physical body, from cells to tissues to minerals and vitamins. To find out what sort of energy was the common communicator among all of these samples, I merely had to find out what sorts of things were able to make a Vega Effect with all of the ampoules. While the testing would be tedious, it wouldn't be difficult, and if I found a common connecting energy then there wouldn't be a need for the now discarded idea of the ether, which only non-scientists will still talk about, since the need for it was effectively removed by Einstein.

Wagner's work suggested to me that there would not be one but many sounds which would act as common carriers of information in an overall structuring field of the body. But what if those sounds could be expressed as a light emission in a fluid? After all, the entire body is bathed in fluids via the intracellular and extracellular fluids. Surely, I thought, there would be certain light frequencies as well.

I carried out the tests and found that two frequencies in the visible light spectrum would produce the Vega Effect - make a match - with every ampoule from the set of body-field imprints, chosen at random.

More was to come early in 2002, when I made up imprints of all the elements that had been reduced to sets of nine or so numbers (radionics rates) by Bruce Copen. I went through all the elements and found that five elements were able to form a Vega Effect, suggesting a possibility of superconductivity in the body, whereas none of the other 90 or so elements I tested did. It appears that it is not the element itself that makes the match, but one or more of the sub-atomic particles that make up the element, and then only in a weak field, like the one set up by the device used for testing.

Of the five elements (all low on the periodic table) that made matches, I thought that it would not be surprising to find that there were more photon

frequencies in the visible or invisible range that would do so as well. This led me to another kind of test, which I describe below, discovering what would block the communication or connection between items.



## Blocking the Body-Field

In order to demonstrate a blocking effect, it was only necessary to find out which elements stopped the Vega Effect. In other words, I would produce a match and then see if introducing another element caused the match to cease or disappear. This happens when lead is introduced into the field dynamics. In 1997, I was going to demonstrate this effect to Dr Bevan Reid, a scientist in Australia who was much taken with my work at the time, but we did not have any lead available in his lab. So I decided to try an experiment, making up an ampoule of lead using the Copen radionic rate. Thus I was using the energetic imprint of lead and not real lead. The ampoule of water-alcohol tincture imprinted with Copen's numbers for lead, was able to break the field in the same way as real lead was able to. This experiment suggests that it is the action of the sub-atomic particles in a quantum field that acts as a blocker and that the actual substance is not needed. But the way, tin will also block the field, as will as several other rare metals that are only found in the soil in certain places. Tantalum and ytterbium also block the QED field.

Here I pause to appeal to the psychologists and psychiatrists in particular, who no doubt already suspect that there is something else that can block the field: volition. Anyone trained to work with the Vega Effect - and there are a number of machines in use these days that can produce it - will know that all 'yes' answers can suddenly become 'no' and all 'no' answers can suddenly become 'yes', even while you are testing a set of ampoules. There appears to be what I think of as a 'switch' that reverses the answer, just as there are two possible answers in many kinds of quantum equations. For instance, in quantum mathematics, the answer can sometimes be either a positive number or a negative one. In addition, another kind of switch changes point of view, so that you can think of an electron as a particle going forwards in time and its opposite-charge partner, the positron, as the same particle, only going backwards in time. I am sure that anyone who has ever worked with clients/patients knows that in order for healing to occur, something within the client has to flip to a 'yes' state - a state of 'I choose to be healthy'. Fear is one of the most potent switches, often flipping the switch from 'yes' to 'no', which makes one think of what is going on in hospitals and labs across the world where sick people are subject to frightening and complicated technologies and tests. In a fearful environment, communication stops—and it may be

communication not only between doctor and patient but also between the patient's body-field and the dynamical processes of the quantum realm that underlie physiology.

## What Happens When Sonoluminescence Fails

I have done a little initial research on the inability of the body-field of those suffering from cancer to go from sound up to light. Going from sound up to light is a normal phenomenon that keeps the body working right. If it fails, there is trouble.

In 2001 I made a series of test ampoules to test the scaling in frequency between below one Hertz - subsonic sound - and the area around light, and just below, in the infra-red range. Surprisingly, 100% of those suffering cancer in its later stages showed an inability to make a response, using the Vega Effect as an indicator, to the last three out of the 13 'window' frequencies I was using to test the ability of the sub-atomic world to turn sound into light. This meant that none of the normal sound waves in the body-field, or affecting it, were functional. I concluded that in cancer the body-field is severely dysfunctional.

Sonoluminescence as a theory is very important, but it also gives us a mechanism for changing frequencies from very low (where the wavelengths can be kilometres long) to very short photons, which are measured in angstroms. We need such a scale to make sure that we can make a hydrogen bond scale up from micro to macro, so that it can be measured, which I have done in centimetres. That is, I claim to measure the energetic signature of elongated hydrogen bonds, even though they are normally thought to be so small as to make physical measurement impossible. Yet, if the very small is able to make itself manifest as the very large via its field dynamics, then we shall find odd 'pictures' or imprints appearing all over the place when the energy conditions are right. For instance, under certain conditions in vats of chemicals, huge concentric rings emerge as if from nowhere, some over a metre in diameter. The phenomenon is called scaling, which is a process by which processes in the sub-microscopic world of the quantum realm create measureable effects in the macroscopic world. Sonoluminescence appears to be subject to such scaling. Logarithmic scaling occurs when protons are at their lowest energy state.

Scaling is necessary so that the 'real' world is not arbitrarily bounded, that is, definitively divided or separated forever between the sub-atomic realm and the macroscopic realm. Scaling provides a means of moving from the world of real quantum physics to that of real Newtonian physics. Particles

express themselves in the two worlds all the time, as in the case of the energy of certain atoms - of course hydrogen is the major one - that transition from showing the effects of sound to shifting to heat and light frequencies. Particles can be waves.

When logarithmic proton scaling fails in biology, as my testing has shown, is a real possibility in the case of the body-fields of people with cancer, the smooth track between the two worlds is obliterated in part, beginning at subsonic frequencies and getting progressively worse as we travel up the frequency scale. While medicine has not discovered any effective therapy for most cancers, there is reason to believe that with further and more thorough investigation some huge breakthroughs will be made. Why? Because essentially cancer is the body's loss of control over cell growth, and bioenergetics tells us that what controls growth is the body-field. Those of us working with body-field dynamics hope one day to find ways to 'treat' the body-field, so that we have new therapies not only for cancer but for all diseases, which appear to have a common cause in the distortions of energy and information fields at the level of the body-field. Instead of treating cells and organs individually, ours will be a holistic approach, working at the level of the overall structure of the body-field - of the structure in space that informs the physical body. This is a radically different approach from that of orthodox, molecular medicine, and is based on quantum biology. I'll end by discussing briefly the hope for quantum biology.

## Quantum Biology

Let me conclude with some comments that tie things up very broadly. Quantum biology as it applies to bioenergetics and bio-information is an emerging science that can explain how the human body powers itself and maintains physiology beyond the biochemical model. It applies to the development of the body as well as to how the body powers itself throughout life - it uses field dynamics dependent on at least three mechanisms apart from the well-known nutritional

way of making energy. One of the major mechanisms is by using the sounds created by the body to set a quantum effect that produces light and heat. Not to oversimplify, but a healthy person will have a glow, while a sick one will be ashen. Sickness also results from shock (which can be chemical, surgical, emotional and from other causes) that results in very slight phase shifts at the quantum-field level that over time express themselves at the level of physical matter, causing changes in the body's biochemistry. Quantum biology at its most basic is the study of the interactions of the fields of living things, which are found to communicate with themselves and other living things, particularly with those of the same type.

In time, and I hope during my lifetime, quantum medicine will evolve so that we can get to the root cause of illness, the field interactions at the level of the body-field. We are already finding ways, via the NES Infoceuticals - which are imprinted with information to correct distortions in the body-field according to the data I have amassed via my space resonance matching tests - to correct the body-field in specific ways using sets of what amount to magnetic signposts to give the body what it needs to return to homeostasis. We can correct structures in space, which in turn correct everything that those structures affect, so there is no need to drill down to specific organs or tissues or cells or chemical processes.

This approach changes the nature of diagnosis. It is truly a holistic approach to health. Information transfer and regulation between the body-field and body may be restored without recourse to giving people punishing and dangerous treatments. If ever I had a dream, this is it. And my entire adult life has been devoted to furthering this possibility.