THEORIE PERDUE DES QUATERNIONS

LA THEORIE DES CHAMPS UNIFIES DE L'ELECTROMAGNETISME ET DE LA GRAVITATION PERDUE DE MAXWELL

Dès 1864, Maxwell établit 20 équations «quaternioniques» composées de 3 vecteurs dimensionnels + un chiffre scalaire. D'où le terme quaternion utilisé par Maxwell. Heaviside supprimera tous les chiffres scalaires et transformera les 20 équations originelles en 4 équations, communément nommée équations de Maxwell :

$$\nabla . \vec{E} = \frac{\rho}{\epsilon_0}$$

$$\nabla . \vec{B} = 0$$

$$\nabla \wedge \vec{E} = -\frac{\partial \vec{B}}{\partial t}$$

$$\nabla \wedge \vec{B} = \mu_0 \, \vec{j} + \frac{1}{c^2} \frac{\partial \vec{E}}{\partial t}$$

Tom Bearden reprend donc l'esprit des équations quaternioniques de Maxwell pour réintégrer les chiffres scalaires non pris en compte par Heaviside. A ce propos, il donne sur son site internet une retranscription des équations de Maxwell en ces termes. (© T.E. Bearden 1997).

Maxwell's four equations reduce to:

$$\nabla^2 \Phi + \frac{1}{c} \frac{\partial}{\partial t}(\nabla \bullet A) = -4\pi\rho \qquad [1]$$

$$\nabla^2 A - \frac{1}{c^2} \frac{\partial^2 A}{\partial t^2} - \nabla(\nabla \bullet A + \frac{1}{c} \frac{\partial \Phi}{\partial t}) = -\frac{4p}{c}J \qquad [2]$$

A is replaced by A', where

$$A' = A + \nabla\Lambda \qquad [3]$$

The new B' field then becomes

$$B' = \nabla \times (A + \nabla\Lambda) = \nabla \times A + 0 = \nabla \times A = B \qquad [4]$$

A new E-field will also be formed. So let

$$\Phi' = \Phi - \frac{1}{c} \frac{\partial \Lambda}{\partial t} \qquad [5]$$

Per Jackson, (A,Φ) are *habitually* chosen so that

$$\nabla \bullet A + \frac{1}{c}\frac{\partial \Phi}{\partial t} = 0 \qquad [6]$$

The *net symmetrical* regauging separates variables.
Two inhomogeneous wave equations result:

$$\nabla^2 \Phi - \frac{1}{c^2}\frac{\partial^2 \Phi}{\partial t^2} = -4\pi\rho \qquad [7]$$

$$\nabla^2 A - \frac{1}{c^2}\frac{\partial^2 A}{\partial t^2} = -\frac{4\pi}{c}J \qquad [8]$$

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Equations [1] and [2] *arbitrarily* changed to [7] and [8]

Explication de la Théorie des Quaternions
par Thomas Bearden

EXTRAORDINARY PHYSICS
Maxwell's Lost Unified Field Theory

About the time of the U.S. Civil War, James Clerk Maxwell succeeded in unifying magnetism and electricity. Actually he did far more than that, in his theory as originally written.

In fact, he had produced a theory which also captured the free interchange between electromagnetic energy and gravitational energy, but no one - including Maxwell himself - realized it at the time.

Maxwell wrote his original theory in quaternion and quaternion-like mathematics. The modern form of vector mathematics had not yet been finalized by Gibbs and Heaviside. It is most instructional to examine some of the fundamental differences between a vector and a quaternion.

In a conventional 3-dimensional vector, one may have three vector components, such as

$$v = ai + bj + ck \qquad (4\text{-}1)$$

where i, j, k are unit vectors in the directions of the x, y, and z axes respectively and a, b, and c are constants.

Obviously if the vector components of vector v are zero, then

$$v = 0 \qquad (4\text{-}2)$$

We shall be interested in the "vector product" of two identical vectors v, where

$$v \times v = AA \sin\emptyset = 0 \qquad (4\text{-}3)$$

and A is the length (magnitude) of vector v, Ø is the angle between
the two vectors (in this case zero), and 0 is the zero vector.

Now let us look for a moment at the quaternion situation.

First, in addition to the three vector components, a quatemion also has a separate scalar
component, w. So the quatemion q for this
situation is

$$q = w + ai + bj + ck \qquad (4\text{-}4)$$

Now when this quatemion is multiplied times itself, the vector
part zeros, just as it did for the vector expression. However, the scalar part does not go to
zero. Instead, we have

$$q \times q = A^2 = a^2 + b^2 + c^2 \qquad (4\text{-}5)$$

There is a very good physical interpretation of this result. It is a square of the amplitude,
hence for the vector part of a wave, it is directly proportional to the energy density of the
vacuum, as a function of time, at the particular position. However, we now need to make a
short explanation of variation of stress energy density of spacetime.

First, we note that, according to general relativity, the "gravitational potential" is just a
conglomerate of potentials of all kinds. Basically, a potential represents a G-potential, and
consequently a curvature of spacetime. The potential also represents "trapped energy."

Second, we note that Kaluza combined electromagnetics and gravitation as a unified
theory in 1921. Kaluza added a fifth (spatial) dimension to Minkowski's 4-space, and applied
Einstein's relativity theory to 5 dimensions.

To Kaluza's delight, a common 5-d potential is responsible for both electromagnetic field
and gravitational field. The "bleed-off" of this 5-potential in the 5th dimension (which is
wrapped around each point in our 3-space) is what we know as the electromagnetic force field.
The bleed-off of this 5-potential in and through our 3-space is what we know as the
gravitational force field.

Since the EM field is very much stronger (by a factor of 1042 for electrons) than the
gravitational field, it is obvious that most of the bleed-off of the 5-potential is in the 5th
dimension, as EM force field. Only a tiny bit is left to bleed-off in 3-space, producing a very
weak gravitational field. l

**l Electromagnetics is 5-gravity sliding around our 3-space. 3-gravity is 5-gravity oozing
through our 3-space.**

We state this fact: as a mass moves in space, it generates increased "activity" with the
virtual particle flux of vacuum itself. The increased virtual particle flux activity exchange
between vacuum and mass is analogous to a strange kind of "virtual resistance." Since the
resistance is virtual, it does not observably slow down an observable object moving in an
(unobservable, virtual-particle flux) vacuum.

The increased flux activity represents an increased "virtual energy density" of space time,
and an increased "trapped potential" (mass; resistance to an accelerating force) of the moving
object. It represents a rotation of the spacetime frame, vis a vis the laboratory observer).

In the virtual vacuum (which contains both positive and negative time), one sees two antiparallel virtual forces: one in positive time, along the velocity vector of the object, and one in negative time (time reversed, or phase conjugated). The reason one sees virtual forces is that each virtual (subquantal) change in the virtual flux activity represents an individual (unintegrated), separate change, hence a virtual acceleration. The observer (where things are integrated), sees the integral of all these accelerations, hence observable velocity.

The vector sum of these two virtual forces in the vacuum is a zero vector; however, the two taken together represent a stress in the local energy density of vacuum.

Since we may regard an EM wave as a stream of virtual electrons/positrons, each engaging in tremendous virtual particle flux exchange with the vacuum, then the same basic picture applies.

Now for our physical interpretation of (4-5): If we refer to an EM wave moving in the vacuum, the rotation of the frame is maximum (90 degrees). But this same rotation is just the same as additional vacuum stress, so the vacuum stress is maximum.

This leads to these conclusions: An electrical force field vector represents a local maximum linear stress in spacetime, along the line of the vector. (Note we specifically deny that the electrical force field vector, of an EM wave in vacuum, is transverse. Instead, it is longitudinal. That has been addressed elsewhere by the author and will not be covered further here.)

Another electrical (stress) vector interacting with the first one adds more "urging" stress to the first. However, this action is occurring in the rotated frame of the moving wave, and so is rotated 90 degrees from the electrical velocity vector. Therefore it is lateral (but in a hyperdimension, not in 3-space) at right angles to the electrical velocity vector.

The combined "urging" action of the two vectors thus sweeps out an area with respect to the laboratory observer .

This means that the total "urging" or "stressing" action of the two vectors is analogous to a vector area.

It also means that this "area" function may be taken as the "swirl" of the electrical vector, but in a hyperdimension, not in 3-space. That is, we have described the magnetic force field.

Thus any two electrical vectors that interact will have an "area" or "resistance" component generated. Any two that interact. Whether they add vectorially, cross-product multiply, or dot-product multiply.

What is actually happening is that the wave exists in the 5-potential. The E and B fields just represent the oscillations in that 5-potential. They represent oscillations in the bleed-offs of that potential as E-field (longitudinal) and B-field (swirl).

The drag-area represents the accumulation of extra potential- hence the local rotation of spacetime. Since this accumulation is moving (along with the EM wave), as it passes a point it represents a change in the local virtual particle flux density of vacuum at that point, hence a local curvature of spacetime.

Hence, the EM wave makes a 5-dimension G-potential wave as it travels. The 3-dimensional gravity wave associated with this is normally very, very much smaller in magnitude - say, by a factor of 10-42 or so.

However, if the two vectors interact so as to produce a vector zero resultant, then all the electromagnetic energy of the two vectors is captured. That is, all the "EM vector zero" resultant means is that the EM bleedoff of the 5-space gravitational potential wave has been stopped. The 5-potential is still oscillating, and now all its trapped 5-energy must bleed off as 3-gravity force field.

Mass acts as an accumulator for this "trapped-EM energy turned into local curvature of 5-space." If we continually irradiate a mass with such a wave, the atomic nuclei of the mass

slowly charge up with the new energy. Note that this potential delta may be positive or negative, if one adjusts accordingly.

In this fashion one may change the mass of a static object in the laboratory. One may either increase the mass or decrease it, or cause it to float, or even cause it to accelerate upwards.

But to return to our vector interaction and our interpretation of the scalar remainder of the quatemion.

The rule is, when the two EM vectors interact so as to form a zero EM resultant, then the EM energy represented in each of the two vectors has been converted into a special form of 5-space gravitational potential, one that is not bleeding-off in the fifth dimension (electromagnetically), but one which will gradually produce a 3-gravity potential in a mass's atomic nuclei as a function of time, the individual element, permeability and absorption factors of those nuclei, etc.

Therefore in our mathematical theory we ought to have a scalar component remaining when two EM vectors interact to form an EM vector zero resultant. That scalar component represents what is happening in the 5-potential, that will only bleed into 3-gravity.

With exploration of this phenomenology in the laboratory, one can work out the functions, constants, coefficients, and parameters which specify how the "5-G to 3-G and vice versa" component works in conjunction with mass, motion, and other fields.

That's the magic secret of electrogravitation.

It was captured inherently by the quaternion theory of Maxwell published during the American Civil War!

After Maxwell's death, when the scalar portion of the quaternion was discarded (by Oliver Heaviside) to form "modern" EM theory, that also discarded the unified field interaction between electromagnetics and gravitation.

Electromagnetic field and gravitational field were then modeled and regarded as mutually exclusive. EM field, therefore, was thought to produce no specific gravitational effects in the vacuum itself.

Hence when Albert Einstein was formulating general relativity some decades later, he knew only one way to "curve" spacetime: that was gravitationally, by "attraction of mass" forces.

But gravitational force was so weak that only a huge collection of mass would exert enough of it to measurably curve spacetime. That would require a sun or star. Since the observer and his instruments would never be on the surface of the sun or a star, Einstein assumed that the local spacetime of the observer
 would not be curved.

Hence he severely crippled his general relativity theory. In the West, it remains an assumption to this day. It is not a universal assumption in the Soviet Union, however, since the Soviets have long since written - and developed in the laboratory - unrestricted general relativity with local spacetime curvature, and hence local violation of conservation laws.

So the scalar part of the quaternion interaction, that remains when the vector part of the resultant is zero, is magic indeed.

That is the magic unified field portion that everyone has been seeking for decades and decades!

It was there at the beginning. Then we inexplicably threw it away!

But to return to our vector/quaternion examples.

Note also that the two vectors

$$v1 = ai + bj + ck,$$
$$v2 = -ai - bj - ck \qquad (4\text{-}6)$$

sum to zero vectorially when added, such that

$$v1 + v2 = 0 \qquad (4\text{-}7)$$

However, quaternions may behave quite differently, even under addition. For example, the two quaternions

$$q1 = w + ai + bj + ck,$$
$$q2 = w - ai - bj - ck \qquad (4\text{-}8)$$

sum their vector parts to a vector zero resultant, but do not sum to a scalar zero as well. Instead, they sum to

$$q1 + q2 = 2w \qquad (4\text{-}9)$$

As can be seen, quaternions which have the same vector parts as vectors, do not necessarily yield a complete zero when the vector parts sum to zero. And when two vectors multiply to provide a zero vector resultant, corresponding quaternions may yield a scalar term that is equal to the product of the magnitudes of the two vectors.

In this way, the quaternion approach can capture the stress of the medium, induced by opposing or multiplying vectors. In the vector approach, the stress of the medium is entirely lost when the two vectors sum or multiply to a zero resultant.

Let us see just how important this "vacuum stress" can be.

First, the "stress in the medium" represents curvature of space-time when that medium is the vacuum/spacetime.

In other words, the quaternion approach captures the ability to utilize electromagnetics and produce local curvature of spacetime, in an engineering fashion. Heaviside wrote a subset of Maxwell's theory where this capability is excluded.*

* Dr Henry Monteith has independently discovered that Maxwell's original quaternion theory was a unified field theory.   See his important "Dynamic Gravity and Electromagnetic Processes," in publication.

Note that, by Maxwell's original quaternion theory, however, Einstein's assumption need not be true at all. For example, look at equations (4-5) and (4-9): Here we may utilize electromagnetic force quaternions to produce zeroed EM forces, and an increased stress in local spacetime. In other words, we have curved local spacetime electromagnetically. Since (with electrons) electromagnetic forces are about 1042 times as strong as the gravitation force, this local curvature of spacetime is not negligible.

That is, we have produced a scalar effect from zeroing vector operation between electromagnetic forces. I have called this scalar electromagnetics, and pointed out that it is truly electrogravitation.

We stress again that this violates one of the severely limiting assumptions that Einstein placed upon his theory of general relativity. He assumed that curving spacetime could only

be done by the weak gravitational force due to mass. Since gravitational force is so weak, only a stupendous collection of mass - such as the sun or a star - could curve spacetime enough to notice experimentally.

Since obviously the observer and his laboratory instruments would never be located on the surface of the sun or a star, Einstein assumed that the local spacetime would never be curved! In other words, the local frame would always be a Lorentz frame. This meant that, locally, the familiar conservation laws of physics would always apply. Curvature of spacetime would only occur at great distances, and at huge collections of mass such as a star or dwarf star.

Einstein did not write a complete, unlimited general relativity. He wrote a sort of "special relativity with distant perturbations."

If Einstein had had electromagnetic theory in quaternions, the scalar "vacuum pressure" parts would have been there for him to ponder. It is highly probable that he would have captured the "electromagnetics-to-gravity conversion remainder" in the quaternion interactions.

If so, he would have written the full theory of general relativity, involving local violation of conservation of energy, a unified field theory, and the direct engineering of gravitational and antigravity effects on the laboratory bench by electromagnetic means.

In that case, we should long since have navigated all around the solar system, colonized the planets, produced practical free energy devices and power systems, and avoided two great world wars and a host of little ones.

But let us now see if we can make a gravitational wave, electromagnetically.

Again, regard equations (4-5) and (4-9). Suppose these are instantaneous operations of EM force quaternions whose vector parts are varying in magnitude, but in such a manner that the vector parts always form a zero vector resultant. Now one can see that the scalar part remaining - which represents the stress of local space-time - is varying as the product of the magnitudes of the vectors in the interaction vary.

This means that one has now produced a scalar wave that represents the local variation of spacetime curvature in an oscillating manner .

Rigorously this is a gravitational wave. It has been produced locally. It has been produced by Maxwell's original unified theory.

Again, I have called this area scalar electromagnetics. The Soviets call it energetics.

Where local spacetime curvature is varied, conservation laws (energy, conversation, etc.) need not hold. Curved one way, the local spacetime acts as a source (of energy, charge, etc.) Curved the other way, the local spacetime acts as a sink (of energy, charge, etc.)

The Soviets often do not utilize the same restricted kind of general relativity that Western scientists adhere to.

Soviet papers in general relativity regularly point out the complete and unrestricted theory, where local spacetime curvature is allowed. They also point out that all conservation laws may be violated by such local curvature. Thus the Soviets have no unduly dogmatic respect for conservation laws.

Further, by assuming the possibility of local spacetime curvature, Soviet scientists have assumed the possibility of direct experimentation with general relativity on the laboratory bench.

In the West, we have assumed that such cannot possibly be done, because of Einstein's limiting assumption of no local spacetime curvature. Thus Western physicists are strongly conditioned away from electrogravitation.

This is particularly ironic since the basis for just such an experimental theory was produced by none other than Maxwell himself in his original theory of electromagnetism.

Indeed, shortly after the U. S. Civil War, we should have been developing antigravity spaceships. We should have developed electromagnetics a la Maxwell and been on our way

to the planets of our solar system. For Maxwell had - admittedly somewhat unwittingly - given us the basis for the necessary engineering theory of unified electrogravitation.

Heaviside's Mutilation of Maxwell's Theory

Well after Maxwell's death, Oliver Heaviside helped to finalize what is today vector analysis.

Then he undertook to "translate" Maxwell's theory from quaternion form to the new vector mathematics form.

Now quaternions were devilishly difficult to calculate in. So much so, that a majority of the electrical scientists (there were not very many of them in those days!) were in despair.

Not to worry! Heaviside took a broadax, figuratively speaking, and simply chopped off the scalar term, leaving only the vector components.

With that artifice, he greatly simplified the calculations to be performed.

Of course, he also threw away the EM stress of spacetime! That is, he threw away the "gravitation" part of Maxwell's theory!

Let me stress this fact most strongly. After Maxwell's death a single man - Oliver Heaviside - directly altered Maxwell's equations, eliminating localized electrogravitation and producing the form of the theory taught throughout the West today as "Maxwell's theory."

Maxwell's theory has never been taught in Western universities! Only Heaviside's crippled subset of the theory has been taught!

Then, shortly before the turn of the century , a short, sharp "debate" erupted in a few journals - mostly in the journal Nature. Only about 30 scientists took part in the "debate."

It wasn't really much of a debate! The vectorists simply steam- rolled right over the remaining quaternionists, sweeping all opposi tion before them.

They simply threw out the remaining vestiges of Maxwell's quaternion theory, and completely adopted Heaviside's interpretation.

Thus, a little over a decade later when Einstein wrote his general relativity theory , he did not know that the original work of Maxwell already indicated the unification of gravitation and electromagnetics, and indicated the ease with which local spacetime could be electrogravitationally curved locally and engineered.

Accordingly, he placed the scientists of the West on a road which rigorously assumed that a unified field theory was yet to be discovered. It also strongly discouraged any experimentation aimed at curving local spacetime, for it assumed that such could not be done.

After Potsdam and World War II, a frustrated Stalin was to drive his scientists to review the entire scientific literature of the Western world, actively seeking a great new technical breakthrough area such as the Allies had demonstrated with the development and use of the atomic bomb.

Great Soviet institutes - one staffed, for example, with over 2,000 PhD's - were set up to thoroughly review all the Western scientific literature from its very beginning. Anything interesting, anomalous, or unknown was put aside for further examination.

It is a good bet that the meticulous Soviet scientists discovered the difference between Maxwell's original electromagnetic theory and Heaviside's mutilation of it. Great mathematicians that they are, Soviet scientists would have realized the implications of the difference. With their knowledge of unlimited general relativity, they would have made the connection to electrogravitation.

By 1950 they had indeed done so, and were deeply into the development of what they called "energetics", and I have called scalar electromagnetics.

They had also reached another milestone about the same time - 1950 or so.

After WWII, both the Soviets and the U.S. were keen on securing the best of the German scientists. The U.S. particularly wanted missile scientists and rocket engineers. The Soviets wanted them too; but they also wanted the German radar specialists and infrared specialists.

The West didn't care about the German radar scientists and engineers, and the IR fellows. The Soviets did, and they got them. That was to prove a most spectacular benefit indeed.

During the war, the Germans had placed extreme emphasis upon radar and radar absorbing materials (RAM). The German scientists had fantastically developed and extended the science of radar cross section - which is the heart of the matter and very, very complex. They were much further ahead in radar cross section theory at the end of WWII than where the U.S. is today, in the opinion of some U.S. radar experts.

So the Soviets started with a great jump on us in radar knowledge, and they have steadily increased the lead over the years.

In addition, the Germans had developed highly successful radar absorbing materials, and much of the theory to accompany them.

Such materials turn out to be the key to how to build and develop a radar phase conjugation mirror, to produce a time-reversed radar wave.

Thus, because of the German scientists, by 1950 or so the Soviets had already discovered phase conjugation. And they had discovered it in radar first, not in optics!

They would have been primed for the discovery by their great review of Western literature and the foundations of science, since they would probably have noticed that the time-reversed wave is a solution to the wave equation. If so, they would certainly have realized its generality throughout all physics, all frequency bands, and all types of waves.

Superb mathematicians that they are, the Soviets would certainly have made the Kaluza-Klein theory connection, and also realized that phase conjugate waves carry negative energy as well as negative time. They would quickly have seen the gravity and antigravity implications.

So about 1950 or so, the Soviet Union would have started phenomenology experimentation in earnest, with phase conjugate radar mirrors and phase conjugate radars. This is what was referred to as energetics. The Soviets began a massive program in energetics about the time of the beginning of the Korean War.

By 1957-8 the Soviets had progressed to the point of a giant scalar EM accident in the Urals which exploded nearby atomic wastes, devastating the area. They had also progressed to development of great new superweapons using their new energetics - weapons to which Khrushchev referred in 1960 when he informed the Soviet Presidium of a new, fantastic weapon in development, a weapon "so powerful that it could wipe out all life on earth if unrestrainedly employed."

About the same time (mid-to-late 50's), the Soviets had also started the eery low-level microwave radiation of the U.S. Embassy in Moscow, to see if the U.S. knew of scalar electromagnetics (energetics) and was developing its own electrogravitational weapons and defenses.

Building Upon Whittaker's Fundamental Work

In 1904, a most fundamental paper in the foundations of electro- magnetics was delivered by the British mathematician E.T. Whittaker. (E.T. Whittaker, "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.).

In this important paper, Whit taker showed that the electromagnetic force field equations can be replaced with the derivates of two scalar potential functions.

He also derived the most general form of electromagnetic disturbances in the ether.

This means that the coupling of two dynamic scalar functions can replace vector electromagnetics in the vacuum.

Note that Whittaker's work pointing out the overriding importance of scalar fields also accents the erroneously discarded scalar part of Maxwell's quaternion electromagnetic theory even more strongly.

Let me explain now how I got from Whit taker's paper to scalar electromagnetics, Soviet Tesla weapons, free energy, antigravity, and electromagnetic healing.

When I discovered Whittaker's paper, I had already strongly objected that "charges" and electromagnetic vector force fields - as presently included in the Heaviside version of Maxwell's equations - included observable mass. Of course there was no observable mass in the vacuum, hence the prescribed kind of EM force fields could not exist as such in the vacuum.

Obviously the foundations of our ordinary electromagnetics theory were seriously flawed. Although my objections fell on deaf ears, I determined to examine the foundations of EM theory , discover the flaws, and at least point out the necessary corrections to be made.

Though this was an arduous task to undertake and it required many years, slowly the flaws showed themselves, and the necessary corrections slowly became clearer.

Most exciting of all, in working with several unorthodox researchers, I was able to see many of these new ideas tried, adjusted, and demonstrated. In addition, the proprietary discoveries of these colleagues continued to reveal new and unique principles and concepts. The only disadvantage was that I could not reveal the propriety apparatuses and demonstrations of my inventor associates, but only the principles and concepts that developed. In turn, I also developed principles and concepts to explain what they were doing and the results they were obtaining.

So over the years I have slowly been releasing the principles and concepts. Some of them are my own discoveries, many of them are the discoveries of my associates. Some of them are simply a mixture of both.

Early on, it became obvious that the Soviet Union was far ahead on this path, and was already utilizing the new unified field theory to build eery, powerful new superweapons.

Since no one else in the U.S. seemed to be "watching this particular store" (I was rather universally regarded as some peculiar sort of fool!), I also began to compile information and data on the Soviet weaponization of this unrecognized technology. This information I have released in a series of papers, briefings, and books, the most recent being a 1-hourvideotape, "Soviet Weather Engineering Over North America," 1985, and a detailed book, Fer-de-Lance: A Briefing on Soviet Scalar Electromagnetic Weapons, Tesla Book Co., Greenville, Texas, 1986.

Building upon Whit taker's important work, I formulated a conceptual revision to electromagnetics, which I dubbed scalar electromagnetics to accent that the observable EM vector force fields did not exist as such in vacuum, but dynamic scalar fields did. I also wished to call strong attention to the fact that observable force does not exist until an observable particle of mass is coupled to the interference of the two scalar fields (much like in the Aharonov-Bohm effect). The Soviets, of course, call this area energetics. Energetics technology has been used in gigantic weapons programs of the Soviet Union for decades, and it appears to be developed under the most highly classified program that the Soviet possess. All development and deployment of energetics weapons is under the KGB and controlled directly by that organization, not by the Soviet Armed Forces.

Peter Kapitsa, the great Soviet physicist, was once pressed by Nikita Khrushchev for a total defense against missiles and air- and space-borne vehicles. Kapitsa replied that it could only come from the new energetics. In 1960, of course, Khrushchev gleefully announced to the

Presidium that a new, fantastic Soviet weapon was in development, "so powerful that, if unrestrainedly used, it could wipe out all life on earth."

Ironically, Khrushchev "jumped the gun" before his new super-weapons were deployed. In the fall of 1962 he began inserting long range missiles into Cuba, bracketing the U.S. with nuclear firepower in an attempt to immediately change the balance of power. Kennedy, of course, backed him down "eyeball to eyeball," so to speak, in a blunt confrontation, but promised not to invade Cuba.

Khrushchev, with his days numbered, was desperate to deploy his new superweapons and provide a dramatic demonstration to recover face.

By destroying the U.S.S. Thresher on April 10, 1963 and, on the next day, producing a gigantic underwater explosion 100 miles north of Puerto Rico, the Soviets demonstrated that the new superweapons had been deployed. Khrushchev managed to retain his position a while longer.

In the 1960's and early 1970's, I was also deeply involved in the study of paranormal phenomena.

In 1969, I entered the Georgia Institute of Technology to pursue a Master's Degree program in nuclear engineering, graduating in 1971.

In 1973, I published a rather simple paper, "Quiton/Perceptron Physics: A Theory of Existence, Perception, and Physical phenomena," in which I pointed out the nature of quantum change, gave a new definition of mass and acceleration, and pointed out the fundamental nature of inversion of time. The paper also contained a simplified derivation of Newton's laws of motion, relativistic form. The elements of this paper had been worked out in 1971 while I was finishing my Master's program in nuclear engineering. Finishing the work had been interrupted by a slight sidetrack - a tour in Vietnam from summer of 1971 until summer 1972.

At about the same time, I formulated a fundamental correction to Aristotle's logic, adding a fourth law of logic to Aristotle's three, and a proof of it. The new logic was of great use in discovering and uncovering new concepts in unified field theory .

Incorporating Kaluza-Klein 5-dimensional concepts, scalar EM became a field theory that unifies electromagnetics and gravitation.

Incorporating dynamic sum-zeroed EM vector systems (which are discarded in normal EM theory) allowed the direct engineering of the unified field theory, including structuring the vacuum, curving local spacetime, and producing effects at a distance and in higher dimensions. Actually it allowed the recovery of much of the scalar part of Maxwell's original theory.

I then realized that, inside a vector zero EM force field summation/multiplication, the virtual particle flux of vacuum/spacetime was ordered and controlled locally and macroscopically. This of course violated one of the major assumptions (a postulate) of quantum mechanics; the assumption that the structure of vacuum was randomized, and could not be deliberately ordered, engineered, and curved locally.

Adding phase conjugation (time reversal) aspects and extended quantum mechanical concepts allowed local antigravity and local curvature of spacetime to be included - again, on an engineering basis. It also allowed one to produce a mechanism responsible for Newton's third law, and to engineer the reaction force at will. Further, it revealed that the law of entropy was simply the positive time statement; it showed that there was another half of the law, the negative time part or the law of negentropy.

In addition, a startling new concept of mind, thought, life, biofields, disease, and healing emerged from all this - again, on an engineering basis. As we stated in the beginning of this book, it is now an urgent necessity to release my work on the basis for electromagnetic

disease and electromagnetic healing. We must produce a very quick, positive treatment and cure of AIDS and other coming lethal viruses before the world is decimated.

Accordingly, this work is being released in this book.

In this chapter we will next present some perhaps surprising material on phase conjugation, from the scalar EM viewpoint, after first briefly explaining symmetry and parity.

In following subsections, we will cover briefly the remaining major concepts in scalar electromagnetics. This will then set the stage for the following chapter, Extraordinary Biology, in which we will deal with the basis for unparalleled electromagnetic healing.

Symmetry and Parity

The basic idea of symmetry is the arrangement of the parts of a body or system about an axis so that two or more parts appear the same with respect to some operation.

The most obvious example is to look in a mirror, where we notice that our image has been reversed, left to right. Yet otherwise there is no difference; and so we may say that the reflection has "mirror symmetry." It's the same except that left and right are reversed.

If you know the details of a system at one point, and at another

Source : site de Thomas Bearden
http://www.cheniere.org/books/aids/ch4.htm