Fitzpatrick's

Vector S calar relationship

between

F orce, S pace and T ime

A vector quantity has magnitude and direction while a scalar quantity has only magnitude.

I write this as a tribute to my good friend *Dr. Milo Wolff* who was the first to understand that while light can be seen, by us, as a scalar resonance existing in space that the electron can be seen as a scalar resonance existing in time.

Light, that resembles a wave, is made up of numerous quanta with each quantum resembling a particle and the electron that resembles a particle seems to be made up of numerous de B roglie waves.

G eorge B erkeley, E rnst Mach, J ames C lerk Maxwell and many others have told us surroundings are part of the story but present science simply ignores this even though it is a known fact that a gyroscope holds its position to the surrounding stars. S o if you want to know how everything really works then surroundings must be included as you search for the whys and wherefores of all the forces. S ee *Aufbau Laws*.

O n this insignificant spot in the universe, that we call earth, we have developed logic. We have not, however, heeded the warnings of K urt G oedel (G oedel's proof) that clearly show us that logic developed in a subset system, such as our logic, may be absolutely worthless in trying to ascertain any universal laws.

T his short paper may be the very antithesis of what's being proclaimed today, but to make any sense whatsoever out of the force, space, time relationship, the following must be done:

C ontemplate quarks and electrons and, in fact, everything in this universe to be in a binding balance with entities similar to them in the surroundings.
C onsider kinetic energy to be a temporary upset of this binding balance.

B inding energy of these individual, quantum binding units does <u>not</u> fall off with the square of the distance. Neils B ohr won the Nobel Prize for proving how a quantum of energy from a far away star comes to your eye with no loss of energy whatsoever. O nly the <u>number</u> of these quanta falls off with the square of the distance.

F orce has to be considered, binding energy, as quantum theory sees it. It also has to be considered both potential and kinetic energy. Potential energy has to be seen as a binding <u>balance</u>* between nearby similar entities and the surroundings. F orce, as in potential energy, is a <u>steady</u> binding vector resonance relationship such as the attractive force present, between two *individual* electrons, in sigma and pi chemical bonding and in magnetism.

Whereas force, as in kinetic energy, is a binding <u>shift</u>*, a simple vector resonance relationship <u>change</u>, usually between a nearby object (nucleus) and the surroundings and/or between two *individual* electrons such as exists in a quantum of light being given and received.

*A binding <u>balance</u>, between close objects and their surroundings, exists between all the entities in this universe. Please remember this very important concept along with the fact that each quantum of binding force does <u>not</u> diminish with distance.

S pace has to be considered a scalar quantity or <u>sum</u> of all these <u>surrounding</u> *individual* vector resonance relationships for each specific phase cycle of the detector.

T ime, for a certain entity, has to be considered a *<u>Dr. Milo Wolff</u>* scalar wave cycle compared to other scalar wave cycles. T he cycle of a scalar wave entity (electron or quark) is the time that this particular spherical, standing wave entity is being completely rebuilt via its surroundings. It is also a special type of phase cycle. S calar wave phase cycles are specific: for instance two electrons cannot exchange a quantum of energy unless they are in the same specific scalar wave phase cycle (on the same Minkowsky light cone**).

* B inding is like its cousin energy: It can neither be created nor destroyed. E ach quark, inside of protons and neutrons, only has so much binding

capacity. If quarks bind more with near quarks to provide fusion energy then they must lose that same amount of binding with the surroundings, If a quark gains binding with nearby quarks, during the process of fission energy, then it must lose that same amount of binding with quarks in the surroundings. T he same binding balance with the surroundings is true with electrons as well, giving us chemical energy. T herefore all kinetic energy, whether it is fusion, fission or chemical energy, is really nothing but a binding shift. S o B erkeley, Mach and Maxwell were right: S urroundings do matter not only in the macrocosm but in the microcosm as well.

T hings that reproduce stay here. T hings that don't -- don't. E ach electron reproduces itself as a spherical, scalar, standing wave entity via similar frequency surroundings. T his has been proven mathematically by *Dr. Milo Wolff*. T he quark also reproduces itself in this manner, via frequencies in surrounding quarks but quarks reproduce faster, at the square of the rate that electrons do.

You must remember that your detectors are built from scalar wave entities themselves and therefore are in phase sync with the entities you are detecting.

A scalar wave is far different from a regular wave in that a scalar wave goes in all directions into the surroundings. You can throw a rock into a pond and see something like 2 dimensional transverse scalar waves that are being made.

Many centuries ago C hristiaan Huygens showed us the scalar aspect of light and exactly how wave fronts worked. We know that all the waves on a wave front are in phase and this is of the utmost importance as we look at a spherical, scalar wave entity.

Less than a century ago quantum scientists showed us this scalar dispersing light was actually made up of individual vector force chunks called quanta.

A s in light, these individual vector quantum forces approach a scalar type force the more numerous they are and the higher in frequency and shorter in wavelength that they are in respect to the observer's detection frequency. A scalar, standing wave entity, such as the electron, would be built up like the many skins of an onion in which the waves in any skin would all be in the same phase. Its surface therefore would appear, to a single detector, to be flashing

on and off just like a movie or cinema frame. And this essentially is the scalar ticking of our time clock*.

This is why a 3D scalar, spherical, standing wave is not detected as a wave. Instead we are having these movie frames which we detect as an entity or as a spin of that entity. Doctor Milo Wolff discovered that the electron and its spin were both scalar, standing waves resonating with same frequency surroundings.

A detector can only detect things that have the same phase cycle and have the same phase angle, as well, as our detectors. For instance we see wave fronts where the waves in that front are all the same frequency phase cycle and in the same scalar phase angle with the waves in our detectors.

Same scalar phase angles are, as I said, more like movie frames flashing on at the same time. They are not similar to the phase angles in matching spots of regular transverse wave forms.

What we sense as c (the velocity of light or $3x10^8$ meters/sec) is really the scalar phase cycle (that we sense as velocity**) of the electron's space just as c^2 or $9x10^{16}$ meters/sec) is the scalar phase cycle (that we sense as velocity and acceleration) of the quark's space.

This angle of these *individual* phase cycles, as shown by the math of QED, rotates like a clock hand and corkscrews through space like a helix. QED has proven beyond any doubt that the detection of an electron (scalar, standing wave entity) can only take place when a portion of both detector and entity have the same phase cycle and the same phase angle. This is the essence of "squaring the amplitude" in QED. See *Feynman lectures*.

Because it takes at least 6 quanta for your eye to see the minimum amount of light, you will not see the importance of the phase angle as seen in QED. They are measuring one quantum. But the individual detectors in your eye are spread a bit in space so they will, of necessity, have different phase angles and will be detecting different phase angles as well. This is why we view a spherical, standing wave as a thing and not a wave and this is one of the reasons why we don't see the scalar flashing movie frames. This is also the reason for the

distinct phase angle that we detect, when things are reduced to only <u>one</u> quantum, as in Q E D and as in *Young's experiment* where we then see a random spot instead of the light and dark bands. T hese bands are seen because the distance between the two slits will always correspond to a definite phase angle.

A ll of this is going to need some explaining but the above is the whole ball game for understanding space, time and force.

T here is no such thing as force in the tensor math of general relativity. T here is simply more or less space creation compared to the average space creation. T he same force = un-average space approach is used herein.

B oth the electron and the quark must be seen as a *Dr. Milo Wolff* type spherical, scalar, standing wave entity.

Q uantum theory teaches us that this is really a wave, resonance universe. T he *Michelson-Morley experiment* warns us not to believe what our ancestors believed about space having a certainty of size.

S pace has to be considered valid for only one particular spin/orbit frequency** so let's begin with space, time and force as seen by the electron.

T his necessitates using *Ampere's Laws*. and the unifying aspect of using the concept of motion that Richard F eynman points out in his famous *Quantum E lectro Dynamics*.

A long with other quantum theorists I would prefer not to consider the electron as a spinning top having motion. A s quantum theory has proven, resonances are the underlying cause <u>not</u> motion. B ut because surroundings must now be involved, the wave aspect becomes far too complicated even for our best present computers. S o this compels us toward F eynman's important unifying concept of relative motion.

O ur motion and the motion that we consider the microcosm to have are far different. We will not have accuracy with this concept. B ut we will finally have a model and the approximation that D irac predicted. While this isn't even close to the final step, it is light years ahead of our present no unification piecemeal

science.

If you have clicked all the above red or blue links then you can visualize the approach needed as we look at the electron's spacetime realm even though it is not exactly our spacetime realm.

Let's approach force similar to the way the tensor math of general relativity does it but show space being built of a multitude of force units instead of force being a component of more or less space. Let's do this with the electron now. For unification let's forget all those things restricted to certain realms such as gravity, charge and magnetism. Let's employ motion that has no restrictions. So we'll use Feynman's important motion concept even though QED shows us it's really in phase and out of phase resonances causing these effects.

We can consider every spherical, standing wave entity, no matter the size, to act similarly to the electron, as we dispense with charge and magnetism and simply use motion in the two short paragraphs below.

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The individual electron pole to pole attraction in both magnetism and pi bonding occurs whenever an electron, "locked" on an orbital, has its pole rotating on a parallel path, in the same direction, as another "locked" electron. In this instance both electrons spin, in the same direction, on the same spin axis.

The individual electron side to side attraction in magnetism and sigma bonding occurs whenever the closest sides of a spin up and a spin down electron, "locked" on orbitals, are going in the same direction on the same parallel path. In this instance both electrons would be on orbits or orbitals that lie in the same plane.

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You have maximum repulsion when the paths are in opposite directions in the two above paragraphs.

This is exactly what is happening. No magnetism or charge is needed to

explain it. In fact this is all that is needed to explain the entire universe including why electrons, stars and galaxies repel each other and why we have gravity. Surprised? It's all explained using *Ampere's Laws*.

Nobel scientist Feynman was on the right track. Using something as simple as motion, you can see how this entire universe is operating. See *Fitzpatrick's First Book* (FREE)

Space, then for the electron, is the average of the total of these vector repulsive forces that occur every scalar wavelength cycle. (Sort of a reversal of the way the tensor math of general relativity does it.)

But that is for the electron's force, space and time.

For gravitational force, and the mass energy relationship, simply use the spinning quark with the same rules and concept.

The phase cycle frequency (scalar, standing wave frequency) of all quarks is the square of the phase cycle of the electron. Quarks completely rebuild themselves at the square of the speed that electrons rebuild themselves.

Quarks may have different (vector force) spin frequencies, all of which may be harmonically linked to the electron's spin frequency and this may determine the different quark masses.

Please remember both c and c^2 are really nothing but scalar phase cycles that we sense as a velocity because, for us, it seems like a velocity once a certain frequency space is built via all the spin frequencies.

We sense c as a velocity (space per unit of time).

We sense c^2 ($9x10^{16}$ meters/sec) as a gravitational acceleration simply because a speed this fast cannot be measured directly in our spacetime realm according to Wheeler and Feynman.

Isn't this why *Van Flandern* and Yale University are telling us that gravity acts almost instantly and far faster than the speed of light?

You are more attracted to the earth than the surrounding stars simply because you are traveling on the same geodesic with the earth and therefore more quark spins are aligned between you and the earth than between you and the surrounding stars (Ampere Corollary). Gravity then gets quantified via individual quark spins.

Therefore this new primary, super theory has the elements of general relativity, quantum theory and string theory contained in it. And these observed gauge groups of SU(3), SU(2) and U(1) are there because of simple harmonic actions because while one single spin/orbit frequency spacetime realm is limited to a certain bandwidth of frequencies, these different symmetry, spin/orbit, spacetime realms are linked via harmonics.

The total number of out of phase spin frequencies give us the space average while certain individual in phase spin frequencies give us attractive forces. Other individual out of phase spin frequencies give us repulsive forces.

Scalar space is the sum of all these vector forces.

*Earlier it was stated that the scalar wave cycle was the ticking of our time clock. Yet clock ticks have a noticeable length of time. Is there such a thing as a "blitzseit" or fastest interval of time? Is there something that acts instantly across our entire universe?

The answer to this is yes. You have seen herein that the speed of light (communication), or electron to electron reaction, is slower than the speed of gravity, or quark to quark reaction. But remember, the higher the scalar wave frequency, the faster the time rate. And quarks are built from numerous even higher frequency entities. It is these entities that act instantly across our universe, which provide us with our backdrop from which we recognize slower time scales.

There are certainly even higher frequency entities than these but I think, for all intents and purposes, that we can stop here because this is probably the limit to what we will ever be able to discern.

**Thus we get different space/time scales at each different spin/orbit frequency. Neils Bohr showed us that for us to see light from a distant star, an

electron on that star had to drop to a lower orbital to cause the electron in our eye to go up a higher orbital. This is an instantaneous binding balance reaction. But because of these different space/time scales at different spin/orbit frequencies, we see the event not as instantaneous but separated by millions of light years. If you could ride a light wave then your time would stop and you would be riding that same instant of time through space. This, essentially, is what happens as starlight enters your eye. This is what being on the same Minkowsky light cone means.

This also shows you the difference between a scalar light wave that is really a wave of time going through space and a *Dr. Milo Wolff* type scalar, spherical, standing wave entity, which is really a space wave going through time.

We must try to understand this and why a balance exists between spherical, standing wave entities such as quarks and electrons and also solar systems, galaxies and super clusters because they too are scalar, standing wave, space entities. And what are the various harmonic linkages between all these different spin/orbit frequency entities? All we have so far is the electron to quark harmonic link as seen from our spacetime realm.

The important vector scalar relationship not only exists at the quark and electron spin/orbit frequencies bur seems to exist at all spin/orbit frequencies as well.

This vector scalar relationship is why we see the spacetime interval remaining a constant in one particular spacetime realm (spin orbit frequency system) even though both space and time can change with a change of mass or motion.

Last but not least is the important role played by same scalar frequency surroundings that, *Dr. Milo Wolff* has proven, give us these particular scalar wave entities. It also gives us their spins along with same spin frequency surroundings that give us inertial mass.

The big quest today is for controllable atomic fusion because the half life of the residuals is in microseconds and not millions of years thus no radioactive waste problem.

You will not get controllable atomic fusion unless you understand that

Berkeley, Mach and Maxwell were right. It is same frequency surroundings and not centrifugal force in the macrocosm and it is same frequency surroundings and not plus and minus charges in the microcosm.

Use *Occam's razor* utilizing motion until we have future super computers to measure all the in phase and out of phase resonances that are really causing this.

That's it in a nutshell.

It's as simple as that really but see also *12/10/2005 Understanding the wave aspect of space and time.*

Daniel P. Fitzpatrick Jr.

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