

## **The Solidity of States**

### **Subquantum Theory and the Fluidity Paradigm**

Theory Written By: **Nicholas Joseph Albertini**

Mathematical Conversion from Superstring Theory By: **Dr. Terry Janicek**

#### **Contents:**

1. Opening
2. A Ripple in Space-Time or a Particle?
3. Swartzchild Singularity Theory and the Quantum of Matter
4. Density and the Fundamental Mass Unit
5. The Three Solid States of Space-Time
6. Magnetic Space-Time Waves
7. Fluidity of Solid Matter Quanta
8. Reaction of Neutral Matter Quanta to Magnetic Stimuli
9. Sin./Cos. Function of Magnetic Charges
10. Relativistic Wave/Particle Duality of Pure Energy Quanta
11. The Illusion of Magnetism
12. Matter Quantum Annihilation
13. Subquantum Magnetic Systems
14. Solitons and Subquantum Magnetic Systems
15. Detectable Evidence of Subquantum Magnetic Systems
16. Soliton Space-Time Wave Induced Structure Copying in Nature
17. Non-Polar/Alias Magnetic Space-Time Wave Production and Anti-Gravitation

18. Soliton Space-Time Waves and Matter Arrangement
19. Subquantum Theory and the Prospect of Quantum Computing
20. Space-Time Wave Induced Annihilation
21. Quantification of Electronic and Mechanical Devices
22. Space-Time Flows and Intergalactic Travel
23. Subquantum Theory and Unified Field Equations
24. The Unified Set
25. Comprehensive Theory of Gravity
26. Relative Motion, the Twins Paradox, and the Universal Sum of Relativity
27. The Infinite Trajectory Universe
28. Twenty-Eight: The L.C.D.
29. Evidence of Space-Time Waves: the Double Slit Experiment
30. Destiny in the Universe
31. The Impossibility of Time Travel
32. The Law of Entropy and Void Expansion
33. Einstein: the Prophet of  $\Lambda$
34. Calculating Matter Quantum Density and the Fundamental Mass Unit
35. The Unification of Forces and Fields: Conclusion

Solidity of States – Equations

In Physics, man's great quest to decipher God's universal code, we must never quantify our reasoning to the most direct logical inference for only the virtue of simplicity; nor can we afford to fear our intuition, because of the possible, or even probable, failure of our intuitive assumptions. For intuition and assumption, when tested for truth may bring failure, but also triumph... All theories, which become great discoveries, are, at first, leaps of faith.

## 1. Opening

The definition of matter is that it has mass and takes up space. If our concept of matter is divided infinitely, and so it would seem to be, within our present concept of the physical universe, then, in its essence, it cannot, possibly, match this description. The essence of the universe lies far beyond such simplistic ideologies as are expressed in our fragmented, and extremely counterintuitive, modern theory base, widely known as the Standard Model. As we have witnessed the proliferation of so much logically corrupt thinking throughout the development of modern physics, a more complex, and physically driven, interpretation of the existing data must be derived. We must defragment the realm of physics, and attain a more incorporative concept of the universe.

Quantum mechanics has the habit of describing most things as waves. However, it must be remembered that this is only a mathematical description of real particles that happen to possess a unique type of wave/particle duality. From the earliest Greek philosophy, regarding the essence of matter, the world has been seen as particles: atoms. The

idea of atoms was originally conceived by Democritus of Abdera in 430 BC. Atoms were viewed as being made of solid matter. The indestructible, hard, geometrically solid spheres of matter had mass and took up an amount of space in an infinite void. This earliest of quantum physics does well in describing the very essence of matter. Much later, during the late 19th, and early 20th, centuries, mostly thanks to the work of J.J. Thomson and Ernest Rutherford, humanity discovered that atoms were not solid, and, therefore, not the quantum of matter. It, then, was shown that atoms were composed of smaller, so called "elementary", particles. These particles were the proton, neutron (which are baryonic hadrons) and the electron (a lepton).

Then, in 1978, in the Tavatron, the mile long particle accelerator at Fermi National Accelerator Laboratory in Batavia IL, it was conclusively shown, with the discovery of a hadron with a fifth type of quark, the bottom quark, that hadrons consist of smaller particles of matter: that is, quarks. The discovery of the charmed quark in '74 was proof enough of the quark model for most who were still skeptical, but the fifth convinced all of those within the reach of reason. There, probably, are many other types of material, subatomic particles, and more quarks, to be found. I am convinced that leptons, like the electron, are of a separate class of non-hadronic, that is, unbound, single quarks. At this point in particle accelerator technology, though, quarks are the smallest particles, which are detectable in any sense. It is unlikely, however, for many reasons, that the quark is the quantum of matter. The greatest reason being the non-uniform range of masses displayed by different flavored quarks. We must, then, ask: what are the dynamics of the quantum of matter? Because, by the very definition of matter, this quantum must exist.

## **2. A Ripple in Space-Time or a Particle?**

The first possible dynamic of the quantum of matter is that, since most of the mathematical description of these particles would be as waves, the quantum of matter is actually the quantum of a wave or a ripple in space-time that represents a particle that is in the reality of our universe. The problem with this concept is that "representations" are a mathematical precept and not a physical one. Physically we are talking about a particle that is the quantum of matter, and therefore takes up three dimensional space and has mass. Having mass means to obey the law of motion and gravity. (This concept of mass will be further discussed later in the paper; see "The Unified Set": heading 24 and "Comprehensive Theory of Gravity": heading 25). The mathematical wave function that describes this is a result of the unique wave/particle duality possessed by matter quanta and the fluidity of solid space-time states, which will also be discussed in detail, later (see "Magnetic Space-Time Waves" heading: 6).

## **3. Swartzchild Singularity Theory and the Quantum of Matter**

For now, lets imagine that the quantum of matter is, in all reality, a particle, and the smallest possible. If this particle is the quantum of matter, it must be geometrically solid. From a macroscopic or quantum physical standpoint, this would mean that it is of a total density or an infinite density. The first reaction that I would expect you to have is that: if any material body is of such a density, being that this density would form a singularity, that it would be in the form of such. You would be correct from the standpoint of both, the flat and curved space-time relativity paradigms. The implications on the particle would be such that, according to modern physics, it would have to posses an infinitesimal volume, making it a point. Then, this is paradoxical; because how can a particle that essentially does not exist in three-dimensional space have mass or density. (For, then, it certainly cannot take up any space at all.) A point is spatially zero dimensional. Since the quantum of matter cannot be in the form of a point if it is to fit our basic definition of matter, this is not possible. Therefore, the fact is that the quantum of matter cannot be in the form of a singularity, for this would be impossible in our universe. However, this does fit the description of a singularity, so perhaps it is our definition of matter, which is flawed. That would mean that all matter quanta in the universe might be singularities. Nothing can transmit or propagate out of a singularity. They cannot radiate at all. If all matter quanta in the universe were singular, they could never interact with each other, because none of them would actually be in the same universe as any other. There must be a quantum of matter; otherwise, there can be no matter. Therefore, singularities, which by definition have an infinite density and an infinitesimal volume, cannot exist, because there has to be a limit on the density of matter, which must also be specific to a matter quantum's exact volume and mass. Therefore, singularities cannot exist in our universe. This is also true because if a singularity has an infinite mass and is in our universe, then our universe has an infinite mass and is a singularity. This is obviously not the case. Our universe is at the very least four-dimensional. You see, this is based upon a new relativistic paradigm, that not of flat or curved space-time, but fluid space-time. The repercussions of this new paradigm are far more extensive than the, relatively short, examples that are given in this paper. Due to the changes in physical law, which are incorporated into this theory because of this new paradigm, a black hole's formation is based upon more than just density. An external black hole is formed if the gravitationally induced flow of space-time toward an object exceeds the speed of light above the surface of that object. That is, a black hole is the space-time within a light horizon. An external black hole can only occur if there is a sufficient amount of matter in a sufficient density in an object. There cannot be a sufficient mass possessed by any hypothetical matter quantum to cause a strong enough gravitational force to accelerate its gravitationally induced flow of space-time to a speed greater than that of light above its surface. That too would interfere with interaction of any quantum with another. Therefore, the density of a matter quantum is greater than the minimum

density needed to form a black hole, because a black hole's core must not be geometrically solid, however the mass of a matter quantum must then be less than the minimum amount of mass needed to form an external black hole at that density. Therefore, the quantum of matter is not in the form of singularities or black holes. Each must have a finite mass, volume and density.

#### 4. Density and the Fundamental Mass Unit

Density is equal to mass over volume. If the density of this particle is said to be geometrically solid, its mathematical description of density is 1 mass unit/1 proportional unit of volume, because in being solid, its mass can be described, in a sense of universal constancy, as equal to its volume, being the maximum amount of mass that is physically allowed to exist in that smallest of material volumes. This creates a universal constant, that is a fundamental mass unit (F.M.U.) equal to the mass of one matter quantum, based upon the solid fundamental material density (F.M.D.) of all matter quanta. Therefore, one F.M.U. is equal to the amount of matter contained within the volume of a matter quantum with the geometrically solid density that is the F.M.D. This fundamental density of one is not related to the density of water such as the equivalent term in the field of chemistry. Due to the, therefore, relative nature of this constant, all true densities consist of the number of F.M.U.s within a given space divided by that space's volume. Therefore, one F.M.U. over the volume of a matter quantum equals the F.M.D. Due to lack of experimentation, at this time, the exact amount of mass contained in a matter quantum, and the volume of a matter quantum, is not available, however, further parameters will be given later in this paper.

#### 5. The Three Solid States of Space-Time

Based upon this essential view, there is implied a solidity of three fundamental states of space-time which reside, with the exception of pure energy, at this sub quantum level. The three fundamental states of space-time are: matter, pure energy and void. The term solidity, as it is used here, as stated, refers to the idea of the indivisibility, and uniform geometric solidity of these three fundamental states. At the essential level of the universe matter quanta and pure energy quanta exist, and interact within a state of non-substantial void. That is to say, that void is a solid space-time state, which permeates the entire universe, and is the medium inside of which matter and pure energy reside, propagate, and interact. The space-time state of void is supremely stable, in the sense that it has only one possible state of existence; while matter and pure energy are convertible. Matter is in the form of matter quanta, a solid state of space-time, each possessing the exact same mass, volume and density; since all of these are universal constants of matter itself. Matter quanta are substantial, meaning that they are coagulative. So, the state of a matter quantum is as an indestructible, however energetically convertible, particle, which has mass (mass being the property of the substance of matter to obey the law of motion), and the ability to reflect, and in some cases, produce, a magnetic charge (see: Magnetic Space-Time Waves: heading 6, and: Reaction of Neutral Matter Quanta to Magnetic Stimuli: heading 8). Pure energy, in the form of quanta, is another solid state. These are also substantial, so they are coagulative, are not a catalyst for magnetism, so they do not carry any charge, do not possess inertia (mass) but are susceptible to the effects of gravity (gravitational lensing). The principle of *horror vacui* in the sense of substance becomes irrelevant, at this level, to the third solid state of void. The void state is non-energetic. It cannot be converted to or from any type of energy. The solid space-time state of void, however, is full of waves generated by the magnetic space-time wave production of all charged matter quanta in the universe. These waves are fluctuations in the fabric of the void state, and are energetic, but not substantial. Because these waves spread from every charged matter quantum in the universe, the void state of our universe is intrinsically full of space-time waves.

#### 6. Magnetic Space-Time Waves

The prior mentioned waves are a result of the fluctuating shape of a charged matter quantum. The particle's surface fluctuates, sending out ripples in space time. The oscillating concentration of mass in a wave pattern creates a paralleled fluctuation of the particles' gravity, and because gravity warps space-time, there is a symmetric fluctuation in the fabric of space-time that ripples outward from the source as a space-time wave. The Sin or Cos wave function of these waves may be translated as positive or negative magnetic charges. The amplitude may translate into the strength of the wave. This physical fluctuation, or *fluidity*, of the solid material state of space-time is the reason that these particles can be mathematically described as both particles and waves, possessing a specific type of wave/particle duality. This fundamental state of wave/particle duality is not relativistic, and therefore not similar to the wave/particle duality of energy quanta whose wave/particle duality is a product of the warpage of space-time due to their enormous speed. (Relativistic Wave/Particle Duality is the function of energy quanta to oscillate up and down in their light speed ray due to the oscillating warpage of space-time caused by traveling at such a high speed.) Since gravity is the effect of the substance of matter to warp space-time into a flow toward the center point of mass of a specific material body such as a planet or matter quantum, fluctuations in the shape of such a material body, as I stated, would cause a fluctuation of the surrounding space-time flow, creating space-time waves. Space-time waves negate the need for the advanced waves from Maxwell's equations as they act in Cramer's Transactional Interpretation of the Wheeler-Feynman Absorber Theory; that is to say that, space-time waves cause an instant change of space-

time densities throughout the entire universe. However, there are no advanced or retarded pure energy quanta to deal with in this case, only a single gravitational wave, which is not restricted by the velocity law which governs the propagation of pure energy quanta. Therefore, space-time waves propagate at an infinite velocity across space-time; and they are instantaneously felt across any distance. This, of course, solves the problem of the emitter's "knowledge" of the absorber's energy deficit, causing there to be no need for, nor any existence of, advanced negative energy photon exchange between the two particles.

## 7. Fluidity of Solid Matter Quanta

The apparent fluidity of these solid particles of matter is in contrast to the ancient Greek philosophy regarding the quantum of matter as solid, but *hard*, spherical particles. It is, though, in step with modern wave mechanics. The idea of hard quanta is logically flawed. Only a *fluid*, solid, mass would have the ability to attempt to form the spherical shape to which it has an inherent radial gravitation toward.

Even though it has gravitation toward such a radial, and therefore spherical, shape a matter quantum would tend to fluctuate in the same way as a glob of water in zero gravity does. Those who have seen video of water in zero gravity from recordings made on space shuttle missions can attest to its fluidity, gravitation toward a spherical shape, and, macroscopically speaking, it's geometric solidity.

## 8. Reaction of Neutral Quanta to Magnetic Stimuli

A free floating liquid is a good visual model of the fluid aspects of matter quanta which possess no magnetic charge. The glob of water is not fluctuating on its own. Many matter quanta do not inherently carry a charge. Monopoles have either a sin or cos fluctuation, but many matter quanta in the universe are inherently neutral, and do not fluctuate on their own. These would, necessarily, fluctuate, though, due to the magnetic space-time waves of charged quanta acting as stimuli. (Just as if an astronaut gently blew on the glob of water, the water would react by fluctuating.) If a neutral matter quantum is spatially close to a positive monopole matter quantum, the portion of it closest to the positive monopole will fluctuate with the wave function, frequency, and amplitude of that monopole. If a negative monopole were on the other side, the same would happen to the other hemisphere. This would create a dipolar matter quantum.

## 9. Sin/Cos Function of Magnetic Charges

Mathematically, magnetic charge is a fluctuation of space-time in either a Sin or Cos wave function. The Sin or Cos function of the magnetic space-time waves produced by a matter quantum correspond to either a positive or a negative magnetic charge. This, however, is not the case in a physical sense. The fluctuation of one monopole matter quantum, either "positive" or "negative", would produce both Sin and Cos space-time waves. Due to the obvious existence of polar magnetism, though, there is suggested a universal rhythm to the fluctuation of matter quanta. Sin and Cos space-time wave production by the fluctuation of a matter quantum must occur in a 1-2-1-2 rhythm. This is because, in production, timing is the only thing that determines whether a wave is Sin or Cos. In reality, a positive monopole does not produce only Sin or Cos waves but Sin then Cos then Sin then Cos. Negative monopoles would then, at the same time, and at that same rhythm, produce: Cos then Sin then Cos then Sin. They follow the same rhythm; only produce the opposite wave function as the other charge during each beat. This all means that to assign Sin or Cos wave functions to either positive or negative charges is physically wrong, because each produces both. Because the propagation of any space-time wave is instantaneous, this rhythm is temporally symmetric over any distance.

For the benefit of the mathematics involved, and due to the irrelevance of which wave function is assigned to which charge; positive will always be considered Sin, and negative will be considered Cos. Due to the opposing rhythms, the math has no need to compensate for the production of both wave functions by each charge. It may be mathematically ignored by assigning permanent wave functions to the charges.

## 10. Relativistic Wave/Particle Duality of Pure Energy Quanta

It is possible, yet still uncertain to me, that: the larger the amount of energy released in the form of a quantum, the larger size of that quantum. A larger energy quantum travels in a wave having greater amplitude, shorter wave length and a higher frequency than a smaller quanta. Pure energy (electromagnetic) radiation sometimes acts as a wave and sometimes acts as a particle. It has also been shown to act as both at the same time. Therefore pure energy quanta travel in a wave trajectory. Relatively speaking, quanta unto themselves do not travel in wave trajectories, but in

rays. The effect unto us, due to the warpage of space-time into a state of back and forth or up and down oscillations, caused by the quantum's relative propagation, is that they seem to possess a true wave/particle duality while this duality is, in truth, purely relativistic.

The differences in wavelengths, frequencies and amplitudes of pure energy quanta are not simply *related* to the size of the quantum in question. The size of the quantum determines these things. A larger quantum must travel faster causing faster, therefore shorter, and larger oscillations of space-time when traveling at such a higher speed, and will therefore travel relatively with a shorter wavelength, higher frequency and greater amplitude of wave trajectory than a smaller quantum traveling at a slower speed (but not a slower velocity). This is because there is more of the substance of pure energy traveling at that rate of speed in the fabric of near space-time.

**Note:** The wave mechanics equations for the electron done by Schrödinger only worked when they took into account the electrons' quantum spin. Schrödinger's equations were for electron orbital propagation and therefore show electron relativistic wave/particle duality, while the reliance upon spin in these equations show the property of an electron to be a soliton-magnetic system. According to *Relativistic Wave/Particle Duality*, any propagating particle will warp space-time into such oscillations; more if that speed is great. An electron travels at near the velocity of light. Electrons possess a relativistic wave/particle duality which is relative to their speed (unlike the fundamental wave particle duality of monopolar, or stimulated neutral matter quanta, and solitons are, which, in essence, both particles and waves: not particles traveling in a wave trajectory). It may also be that all energy quanta are the same size and only their relative speed gives their relative energy. I am leaning toward the latter.

### Eliminating the Uncertainty Principle:

Relativistic wave/particle duality, is a result of a limiting function upon velocity in nature; where as, if a particle has enough energy to exceed the speed of light, it will do so. In fact it must do so. However, nothing is permitted to exceed the speed of light as a vector quantity. (See the Unified Set: heading 24) Nothing may travel faster than the speed of light in any one direction relative to any reference frame. This limit produces the effect of Relativistic wave/particle duality. Natural law calls for all relative motion to have a wave trajectory as a solution to this speed problem:  $v = \lambda \nu$  where  $\lambda = h/p$ . Obeying this law, a particle with a speed which is higher than that of light will also travel in a wave trajectory which allows it to travel at a velocity equal to the speed of light, to permit the particle to simultaneously travel at a speed higher than light without breaking the limit upon velocity. The distance traveled in this wave trajectory (d2) is greater than the distance traveled in vector motion (d1) over the same change in time: while  $v = d1/\Delta t$ ,  $s = d2/\Delta t$ . This concept also allows for a clarification of the red shift of electromagnetism as it pertains to relative motion. If one moves in the opposite direction of the vector motion of electromagnetic radiation one will see a red shift of that radiation relative to what one would see if one traveled in the opposite direction. This is because of the relative speed factor. Where as the electromagnetic quantum will always have the same velocity relative to one's reference frame: that of light; the relative speed is the quantity that will change relative to motion. From the previous variables one can calculate the position of a particle (x) at some time (tn) only as a probability distribution. The width of this distributions' spatial coordinates correspond to twice the amplitude of the particles wave trajectory, while the probability correlates to the time the particle spends in each position along its' wave trajectory over the period of one wave length of motion. This probability distribution only gives the probability of finding the particle at an arbitrary point in the particle trajectory's wave phase. It is evident, therefore, that if one wants to know the particles position at some specific time (tn) one must simply calculate to find the wave's phase at that time. This eliminates any uncertainty between particle position and momentum by adding a y-axis and eliminating the reliance upon pilot waves, therefore, defining an infinitely quantifiable position at all times. One may now calculate both momentum and position for the motion of any particle simultaneously and exactly.

**Equations with explanation:** The equation governing the gravitational spectral shift of pure energy quanta is as follows:  $\Delta \lambda = mG/dc^2$ , or the relative change in wavelength is equal to the mass of the gravitating body times Newton's gravitational constant divided by the distance to the center of mass of that object times the velocity of light squared. The formula for the Swartzchild radius of a material body is:  $r = mG/c^2$ . Therefore, the speed of a gravitational flow is equal to the square root of the mass times Newton's gravitational constant divided by distance:  $s = \sqrt{(mG/d)}$ . From these two equations [ $s = \sqrt{(mG/d)}$  ,and:  $\Delta \lambda = mG/dc^2$ ] it follows that the change in speed of a frame relative to a quanta (when both travel upon a single axis) is equal to the square root of the change of that quanta's relative wavelength divided by the velocity of light squared:  $\Delta s = \sqrt{(\Delta \lambda /c^2)}$ . Therefore, the change in relative speed squared times the velocity of light squared equals the relative change in wavelength of the quanta:  $\Delta \lambda = \Delta s^2 c^2$ . Since the change in speed may be considered as a change from c and the change in wavelength may be considered as a change from infinity, it follows that:  $s = \sqrt{(\lambda /c^2)}$  ,and:  $\lambda = s^2 c^2$ . Also, since velocity equals the quanta's relative wavelength times it's relative frequency:  $v = \lambda \nu$  , and the velocity of a quanta is always equal to c, and the quanta follows trajectory (t) which is greater than the wavelength ( $\lambda$ ) ; and since the speed of the quanta along it's trajectory is equal to the length of that trajectory times the relative frequency:  $s = t\nu$  ,  $\therefore$  the speed of a quanta must always be greater than c. So:  $v = \lambda \nu = c$  ,and:  $s = t\nu > c$ . Therefore, the trajectory length of a quanta can be calculated by a

function of it's wavelength. The square root of (the relative wavelength divided by the velocity of light squared) all over the relative frequency equals the quanta trajectory's length:  $t = \sqrt{(\lambda / c^2) / \nu}$ . However, at closer examination, this equation only applies to material bodies because energy quanta have a constant velocity irrelevant of the motion of any specific reference frame. We must, once again, examine the change in speed as a function of the change in wavelength. We again find that the change in wavelength from the maximum limit is equal to the wavelength itself. However, we find that, since the minimum limit of the change in speed is equal to the velocity of light as a constant, the change in speed ( $\Delta s$ ) becomes the change from the velocity of light (s-c). Therefore many of the equations that apply to material bodies do not apply to energy quanta. The difference is notable in the following list of equations:

#### Equations for Material Bodies:

**Velocity:**  $v = \lambda \nu = \lambda / t = \frac{E\lambda}{h} = \sqrt{(\lambda / s^2)}$

**Speed:**  $s = \frac{t}{\lambda} = \sqrt{(\lambda / \nu^2)} = \frac{t}{\lambda} \nu$

**Relativistic Energy:**  $E_R = mRv^2$

**Rest Energy:**  $E_r = mrc^2$

**Total Energy:**  $E = E_R + E_r = h\nu = p\nu = h\nu/\lambda$

**Momentum:**  $p = mv = h/\lambda$

**Total Mass:**  $m = m_R + m_r = p/\nu = \frac{h}{(s^2\nu)}$

**Wavelength:**  $\lambda = h/p = \nu/\nu = h\nu/E = \frac{(s\nu)^2}{\nu^2}$

**Frequency:**  $\nu = E/h = \nu/\lambda = \frac{s}{t}$

**Wave Trajectory Length:**  $t = \frac{s}{\nu}$

**Plank's Constant:**  $h = E/\nu$

## Equations for Pure Energy Quanta:

**Velocity:**  $v = c = \lambda \nu$

**Speed:**  $\underline{s} = \underline{t} \nu = \sqrt{(\lambda / c^2) + c}$

**Total Energy:**  $E = ER = h \nu = mc^2$

**Momentum:**  $p = mRc = h/\lambda$

**Total Mass:**  $m = mR = p/c$

**Wavelength:**  $\lambda = c/\nu = h/p = \underline{(s-c)^2 c^2}$

**Frequency:**  $\nu = c/\lambda = \underline{s/t} = E/h$

**Wave Trajectory Length:**  $\underline{t} = \underline{s/\nu}$

**Plank's Constant:**  $h = E/\nu$

## 11. The Illusion of Magnetism

What we call magnetism is an illusion perpetrated by space-time waves of the magnetic frequency, and gravity. Say, that the wave function of a matter quantum that we call magnetically positive is Sin, making negative Cos . When a space-time wave hits a quantum with the opposite space-time wave function, it causes a repulsion which affects its originating quantum as well as that quantum, repelling that quantum away from the originating quantum, and vice versa. This repulsion acts against the flow of gravity, which attracts all matter quanta toward each other. If a Sin space-time wave produced by a Sin function quantum hits another Sin function quantum (or Cos to Cos), it causes more of a repulsion than if a Sin space-time wave, produced by that quantum, hit a Cos function quantum. Due to the counteractions of repulsion against gravity in both scenarios, being more in the Sin to Sin (or Cos to Cos) scenario than in the Sin to Cos scenario, there is more attraction between two matter quanta if one is bearing a wave function of Sin



and the other Cos, and more repulsion between two matter quanta if both bare the same wave function. This means that positive repels positive (and negative repels negative), and that positive repels negative, just less. The positive and negative charges of magnetism are truly Sin and Cos space-time wave functions that simply repel their originating quanta more when they hit another quantum with the same wave function than if they hit one with a different wave function. The attraction of a positive pole to a negative one is actually gravity. All of this results from the force of repulsion in the Sin to Sin (or Cos to Cos) wave interaction being greater than the force of gravity attracting the two interacting quanta, and the force of gravity attracting the two interacting quanta being greater than a Sin to Cos wave interaction's force of repulsion.

This also takes into consideration that magnetism decreases with distance. As a space-time wave spreads from its originating matter quantum it becomes less condensed. The farther from a monopolar quantum the less condensed its space-time waves will be, and the closer, the more condensed. The less condensed a space-time wave is, the less concentrated its force. This means that there is less repulsion. Also gravity is radial and therefore its' force will also be weaker the farther from the source. This interaction will be discussed in much more detail later, as it pertains to Einstein's  $\Lambda$  term (the Cosmological Constant).

## 12. Matter Quantum Annihilation

If a matter quantum carrying a Sin wave function physically comes into contact with another matter quantum carrying a Cos function, the waves of the two will cancel each other out causing an annihilation of the quanta into pure energy. What about a dipole or other multipole? In a dipole Sin and Cos wave functions act upon the same matter quantum. Wouldn't these cancel each other out causing annihilation? The answer might as well be no. If neutral quanta did annihilate due to these canceling wave functions acting on them, their remaining inertial resistance to propagation, due to the rapidity of this change in space-time states, could cause them to rematerialize and return to their initial space-time state of matter. One reason for them not to annihilate at all, however, could be that, since dipoles or any multipoles for that matter, do not fluctuate or produce either Sin or Cos wave functions on their own, and are inherently neutral, they are not annihilated by Sin and Cos wave functions acting upon them. Nor, then, would monopoles annihilate when there is an opposite wave function acting upon them. Therefore, matter quanta may annihilate do to opposite wave functions acting upon them, however, if this is not in physical contact with another matter quantum carrying an opposite charge the rapidity of the annihilation produces an energy quanta which cannot propagate because of remaining inertia and has no choice but to rematerialize. (or) Matter quanta do not annihilate due to wave functions acting upon them, but only annihilate when two monopoles come into substantial contact either through a multipole or on there own. I prefer the latter.

## 13. Subquantum Magnetic Systems

Lets put aside for the moment, "The Illusion of Magnetism", and focus on the reality of the force which we call magnetism. Just because we, now, know that magnetism is not a fundamentally attractive force, doesn't mean that the relevance or power of magnetism is diminished by any means. The force of what we know as magnetism is behind the construction of the most fundamental systems in the universe. The most basic subquantum magnetic system, the system that makes up all larger subquantum magnetic systems, is the fundamental magnetic system. The fundamental magnetic system is composed of one positive monopolar matter quantum, and one negative monopolar matter quantum, with one neutral matter quantum between the two monopoles. (see diagram) The Sin space-time waves produced by the positive monopole collide with the side of the neutral quantum closest to it. The Cos space-time waves produced by the negative monopole collide with the side of the neutral quantum closest to it. The reaction to the waves' stimulation of the neutral quantum cause it to become a magnetic dipole. The side of the dipole affected by the positive monopole would fluctuate with a Sin function producing Sin waves which would ripple toward the positive monopole repelling it. The same would happen on the other side with the negative monopole. The Sin and Cos waves produced by the two monopoles would reach each other and cause repulsion, however, this repulsion would, obviously be less than their gravitational attraction. This stable symmetry would cause a balance to occur. The two monopoles attract, but cannot reach each other to annihilate because of the repulsion of the dipolar quantum.

These systems self arrange. (see diagram): A Sin monopole and a Cos monopole interact with a neutral matter quantum. The Sin magnetic space-time waves of the monopole to the left converge with the Cos magnetic space-time waves of the monopole to the right upon the neutral quantum. The Sin waves reflect off of the neutral quantum and interact with the Cos monopole. The Cos waves reflect off of the neutral quantum and interact with the Sin monopole. This reflection causes there to be a Sin/Cos wave interaction which, as stated, repels with less force than the attraction caused by gravity. This results in a magnetic 'attraction' of the neutral quantum to both the Sin and Cos monopoles. Being attracted to both, the neutral quantum is pulled to a position directly between the two. It then assumes its earlier stated function as a dipole in a fundamental magnetic system.

The dipole cannot be easily moved from its' stable position between the monopoles. This means that

fundamental magnetic systems are of a semi-linear structure. All fundamental magnetic structures in a larger magnetic system are therefore to be considered linear unless taking into account *magnetic system vibration*. (see: Solitons and Subquantum Magnetic Systems: heading 14) These larger systems would have the tightest possible configuration. Larger systems are composed of rings of fundamental systems. There are two types of rings. (See Diagram) The first is of two Sin monopoles and two Cos monopoles in a ring. It possesses a semi-square shape. This is the primary structure composing all non-fundamental subquantum magnetic systems. The second kind of ring is the hexagonal ring composed of three of each Sin and Cos monopoles. There is one hexagonal ring per odd numbered system. A systems number is equal to the number of either its Sin or Cos monopoles. Odd numbered systems are composed of  $(([\text{that systems number minus three}] / \text{two}) \text{ square rings})$  plus one hexagonal ring. Even numbered systems are composed of a number of square rings equal to one half of the systems number.

Rings are joined at the multipoles. All rings attempt maintain an equal distance from one another. The closest neutral quantum will be attracted to anywhere a multipole is needed to separate monopoles. All magnetic systems also have a central multipole. (See Diagram)

**Note:** Magnetic Field lines are resultant of the equalization of force within dipolar systems. Therefore, these lines of force are truly trajectories, so that if one were to release a positive particle at the north pole of a Ferro magnet it would naturally follow the nearest magnetic field line to the south pole. It is the staggered internal magnetic structure of all material structures, from fundamental magnetic systems and up, which is the cause of this equalization, creating magnetic field lines.

#### 14. Solitons and Subquantum Magnetic Systems

A soliton is a stable, particle-like, solitary, wave state that is the solution of some equations for propagation. By definition subquantum magnetic systems are solitons. The appearance of solitons in any quantum mechanics equation may show a direct mathematical link from known, detectable, particle physics to subquantum level physics.

Solitons have varying frequencies. This is in accordance with the idea of Magnetic System Vibration: When a neutral quantum is attracted and pulled to a needed position between two oppositely charged monopoles so as to produce a fundamental magnetic system (possibly part of a larger magnetic system), it would tend to proceed a small amount farther through that position. It would then be attracted once again though that position and be pulled back. It would overshoot again, and so on. The dipole would, therefore, tend to vibrate 'up and down' in its central position. This would cause the monopoles on either side, because they are stabilized by the oscillating dipole, to oscillate themselves, vibrating 'back and forth' with that same frequency. Matter gravitationally warps the fabric of space-time, so the vibration of these quanta would emit space-time waves. These waves would, of coarse, be of a different frequency and amplitude than magnetic space-time waves, due to the larger material oscillation. These waves are produced by the oscillation of entire quantum, not just the oscillating shape of a quantum. Anyway, the frequency of these space-time waves would be equal to the frequency of the soliton produced by an equation describing this fundamental magnetic system. The soliton frequency of a larger magnetic system composed of these smaller fundamental magnetic systems, is to be considered the sum of the wavelengths of the soliton space-time waves produced by all of the quanta making up that larger system translated into frequency. The action of all of the matter quantum's vibrations upon each other may be considered as to cause there to be, not many space-time waves produced by many vibrating matter quanta, but one fluid wave motion produced by the entire magnetic system. There occurs a unifying effect of those many space-time waves of higher frequency into one fluctuation of space-time having a specific frequency that is the sum of the individual wave-lengths of the many space-time waves at a lower frequency. This gives a larger magnetic system a lower soliton frequency than that of smaller systems and each fundamental system of which it is composed. The unification of these many space-time waves into one outward rippling space-time fluctuation can be considered as a kind of aliasing of the soliton frequency of a subquantum magnetic system. The true frequency could be considered as the sum of frequencies of each individual quanta space-time waves. An observed frequency is likely to be an alias of the true frequency. There most likely are ramifications to this aliasing, but this will probably need to be worked out experimentally.

In a subquantum magnetic system there are points of concentration of the space-time waves produced by each matter quantum's vibration. Each subquantum magnetic system has a specific number of points of space-time wave concentration. Each matter quantum has approximately the same frequency of vibration, and, therefore each quantum's vibration produces space-time waves with approximately the same frequency. The frequency of one matter quanta space-time waves is equal to one soliton frequency unit (S.F.U). Depending on the number of a subquantum magnetic system and the location of the space-time wave concentration points, there is a specific number of S.F.U.s in each point. The sum of all of the S.F.U.s in all of the points is equal to the true frequency of the specific system in S.F.U.s. The true frequency of that system divided by the number of points of concentration is equal to the average frequency per point of concentration. The average frequency per point of concentration is equal to the alias frequency of that magnetic system.

**For Example:** The number of points of concentration of soliton space-time waves in a magnetic system having a system number of two is sixteen. Three of these concentration points are just off of each, the top, bottom, left and right sides of the system. Four more are just off of the four corners of the square system. The three on each side have a S.F.U. number of two each. The four other points off of the corners have a S.F.U. number of one each. This creates a sum of twenty-eight S.F.U. from all of the points. Since the sum of all of the S.F.U.s from all of the points is equal to the true frequency, this systems true frequency is equal to twenty-eight S.F.U.s. Since the average number of S.F.U.s per point of concentration is equal to the alias frequency, and the average S.F.U.s per point is one decimal seven five, the alias frequency of this magnetic system, having a system number of two, is one decimal seven five S.F.U.s.

Alias soliton frequencies of subquantum magnetic systems are the best way to differentiate between a magnetic system and a collection of free fundamental systems. The alias frequency of a magnetic system, most likely, will be instrumental in inducing the arrangement of magnetic systems with the use of soliton space-time waves. (See: "Soliton Frequency and Matter Arrangement".) This institutes an allowance for there to be not only specific soliton frequencies of each matter quantum in a magnetic system but one alias soliton frequency for that magnetic system.

## **15. Detectable Evidence of Subquantum Magnetic Systems**

Evidence of subquantum magnetic systems which are in the realm of virtual processes, below the level of delectability, can be found in the accumulation of these systems into virtual particles.

In vacuum fluctuation virtual particles seem to pop in and out of existence as if by some mysterious occurrences of quantum fluctuation. Each is thought to be like a tiny big bang, creating matter out of void. When the matter destabilizes it disappears, returning to nothingness.

The idea that modern physicists would harbor the notion of spontaneous creation, of something out of nothing, is appalling. This notion is contradictory to the laws of conservation of matter and energy. Fortunately the occurrence of vacuum fluctuation can now be *reasonably* explained.

Subquantum particles remain in the chamber after the air is evacuated, however, the chamber is void as far as the scientist can detect. These particles erratically attract and repel each other and are affected by soliton space-time waves which are chaotically emitted by the walls of the chamber. When they attract and bunch up or are formed into larger systems by the specific space-time warpage caused by the soliton waves, the scientist doing the experiment detects a new particle or pair. When there is a collision or repelling force that interferes with that particle/pair or a soliton wave of a lower alias frequency or true frequency, it disrupts the space-time in which the particle/pair resides, the particle shatters into smaller subquantum particles leaving no detectable trace. To the scientist, the particle/pair seemingly disappeared from reality. The scientist then wrongly concludes that the particle/pair appeared from nowhere and then popped out of existence.

This is no quantum fluctuation. The apparent virtual nature of the interaction of these systems is simply a result of the human race not possessing enough technology to detect particles beyond the size of a quark.

## **16. Soliton Space-Time Wave Induced Structure Copying in Nature**

Sometimes water molecules may remain in a liquid state even though the overall temperature of the molecules in the liquid is well below the point at which water should freeze. However, when a single crystal of ice is introduced to the liquid water it rapidly begins to freeze. Due to the difference in the structures of ice and liquid water, there are two distinctly different soliton space-time wave frequencies emitted by each form. Under the right conditions, such as at a temperature below the level at which water freezes where by calculated chance an amount of water has not yet become crystalline, when such a crystalline structure is introduced to this liquid its' own soliton space-time waves will warp the surrounding space-time, filled with other water molecules, in a resonant pattern causing the surrounding water molecules to arrange in a, sort of, copycat fashion. This automatic arrangement of molecules into a crystalline lattice will spread through the liquid a an increasing rate until practically all of the molecules are part of one solid crystalline structure. Without the introduction of an ice crystal to the liquid water, it may take any amount of time for the water become ice. The amount of time it may take is uncertain, because until the chaotic motion of the liquid water causes a crystal to form and emit its' soliton waves, the water will remain in a liquid state. This probably the way all liquids freeze. This kind of structure copying process is most definitely not limited to occurring in only the instance of freezing, but likely plays a vital role in the interaction of matter on many levels. For instance, this structure copying dynamic gives an explanation for the fact that the characteristics of matter throughout the entire known universe seem to be quite uniform. I mean, for example, that antimatter is an extreme rarity in nature, and that atomic isotopes are also fairly rare under natural circumstances; while the data gathered via astronomic spectral analysis of stars and galaxies shows that almost all of the matter which composes them is hydrogen and helium with relatively low amounts of any other

elements. This also accounts for the fact that most matter consists of common hadrons and leptons. So, there is a wide range of application for the study of this natural structure copying.

## **17. Non-Polar/Alias Magnetic Space-Time Wave Production and Anti-Gravitation**

By producing space-time waves with a slightly higher or lower frequency than that of magnetic space-time waves there can be no cancellation of said waves such as in the Sin/ Cos cancellation of magnetic space-time waves, producing an amount of repelling force relative to the repulsion of like magnetic charges, however, acting upon all matter quanta: repelling them from the source producing those space-time waves. This creates a counteraction to the gravity attracting objects together, causing the effect of anti-gravitation upon the object producing these waves in the same way as like magnetic charges repel each other originating matter quanta. This has already been seen in physics, in a way. When ferromagnets are cooled to a point as close as possible to absolute zero they have the tendency of hovering in the air over metal, floating by some mysterious means, and, in the process, defying gravity. This cannot be fully explained by modern physics. It can however be explained in relation to this theory. The magnetic space-time waves of the ferromagnet are aliased, somehow, by the super-cold temperature, thereby being converted into anti-gravitational waves. (The term anti-gravitational does not refer to these space-time waves as being similar to gravity in the sense that gravity is a type of space-time flow caused by the destruction of void by matter, and these waves which I term as anti-gravitational are similar, in fact probably almost exactly the same, in effect but not necessarily in method) These can be considered as non-polar magnetic waves due to the fact that at least there is no more differentiation between Sin and Cos functions. The effect is that there is only a repulsion of the emitter of such anti-gravitational waves from any sufficiently close material bodies in the same way that two emitters of like magnetic charges repel. Because we have the ability, already, to produce such waves, all be it that they may not be the exact frequency that would be most beneficial for our future uses, we can discover the frequency of this kind of anti-gravitational wave by using a variant of a magnetic resonance imaging device (M.R.I.). This would need to be a machine capable of displaying numerical readings of resonant frequencies in conjunction with a pictorial reading. The idea is to place a super-cooled ferromagnet, so that it is the focus of the machines detectors, and take a reading on what the magnetic frequencies are and where. It would be nice if the magnet was hovering at the time that the readings were taken so that there is proof that the anti-gravitational wave frequency is present. What this should give, possibly after a number of attempts at verification, is a reading of the frequency or resonance of these anti-gravitational waves. Possessing that information will then aid in producing these waves in an alternative, electronically controlled manner; so that a switch may be flipped and the anti-gravitational space-time wave generator may begin production of the waves. I believe that the answer to this challenge lies in reversing the process of detecting the waves so as to produce them instead. A variation of a reversal of the M.R.I. device which was used to detect the waves should be the machine that produces them. Some variations of specific soliton space-time wave frequencies should be able to produce anti-gravitational space-time waves by stretching or compacting magnetic space-time waves. This would occur due to a Doppler effect caused by the motion of the particles involved while they move as a soliton. The change in the frequency of the magnetic space-time waves, in this instance, would also be because of the space-time compression and decompression caused by the soliton space-time waves themselves. Therefore, depending upon the variation of a soliton frequency, there can be a certain resonant quality to the resultant frequency of the anti-gravitational space-time waves produced causing them to only repel specific materials. This is why a super-cooled magnets only hover above metals. There are many possible uses for anti-gravitational space-time wave generators. It would be possible to equalize the G-force felt during extreme acceleration such as that which is experienced by a shuttle crew upon liftoff. The human bodies intolerance to the high G-force of fast acceleration is a wall in the way of progress that need not even exist. By compensating for it via a computer which could monitor the level of acceleration and at the same time adjust anti-gravitational space-time wave generators surrounding the cabin and cockpit of a vehicle so that the G-force inside remains almost constant, this problem can be overcome. Another problem is the fact that the human body is also not suited very well to a zero-G environment. Astronauts loose muscle and bone mass. There is a whole range of problems that the human body must cope with in micro-gravity. By having anti-gravitational space-time wave generators on the "ceiling" of a space-vehicle producing one G of "downward" force, it is possible to have simulated gravity in space. If this is reversed on earth and there is a room with anti-gravitational space-time wave generators on the floor producing one G of force upward, it is possible to create a simulated zero G environment on the earth. Anti-gravitational space-time waves could also be used for propulsion and lift force for many new vehicles.

## **18. Soliton Space-Time Waves and Matter Arrangement**

There likely is a correlation between the alias soliton space-time wave frequencies of specific subquantum magnetic systems and the possible ability of us to institute the creation of these systems out of free fundamental magnetic systems residing in a given space. One of the reasons that virtual particles appear as vacuum fluctuations is that when a specific frequency soliton space-time wave passes through an evacuated chamber and affects a sufficient number of fundamental magnetic systems within a sufficiently close proximity of each other, they will form a virtual particle having that specific soliton frequency. These soliton space-time waves that chaotically form virtual particles in an evacuated chamber are, most likely, due to background soliton space-time wave radiation emitted by the magnetic systems which make up the walls of the chamber. If this could be controlled, and directed accurately enough, this

process could be used for matter arrangement.

If the resonant soliton frequency of a specific numbered magnetic system's space-time waves can be otherwise generated with a high enough amplitude and be projected to focus on a given space containing a sufficient number of fundamental magnetic systems, those fundamental magnetic systems may then be forced to self-arrange into larger magnetic systems having the same number and producing the same resonant soliton frequency of the specific system number's resonant soliton space-time wave frequency used to institute the arrangement of that system. The soliton space-times waves which are resonant to such a specific numbered system cause the space-time of the space that they are focused on to be warped to fit that magnetic system. The soliton space-time waves themselves in the rippling of the affected space-time create the simulation of gravity; as in a two dimensional space-time grid diagram, matter goes to the lowest point. The lowest points of that space-times grid, or fabric, are where a magnetic system producing soliton wave's matter quanta would generally be. The fundamental systems within that space move to those positions that they then occupy after the forming of the magnetic system.

The production of these space-time waves having specific frequencies being directed at many targets which form a complex pattern pertaining to a large number of particles making up atoms, which in turn make up the molecules, that make up an object, can assemble said object from free fundamental magnetic systems in a given space. The prospect of matter arrangement is one of the most intriguing of the possibilities to arise from Subquantum Theory. To attempt this, however, may necessarily require the use quantum computers to read, store, and access the large amount of information pertaining to the relative position of each particle in an object.

## **19. Subquantum Theory and the Prospect of Quantum Computing**

Due to the better understanding of the quantum world to be generated by Subquantum Theory, and the many new concepts therein, the prospect of quantum computers is now more realistically attainable. The development of a quantum computer is reliant upon the ability to operate a switch that is on the quantum level by some kind of electrical stimulation. This likely would be done via a control mechanism (such as a key board) operated by the user. This would electrically cause some action to occur on the quantum level within a controlled material substance in which a change would occur from one to another of three attainable states, thus, storing a bit of information in the form of one of two information carrying detectable states of a quantum entity. This information could then be read by detecting, in a sequence, which state each individual entity is in. This sequence may take the same format as the current digital silicon chip computer binary code sequence having each information carrying state be either one or zero. The object of this computing strategy is simple. The much smaller circuits consisting of quantum entities create more storage room and allow faster computing than a silicon chip based or even cellular/DNA based computing system. This also gives a quantum computer the ability to be immensely strong yet possess the ability of being microscopic in size.

The best way to cause an action such as the one needed in a quantum entity is to control this action on a subquantum scale with the use of an electrically controlled soliton space-time wave generator. This generator would need to be capable of producing three frequencies of soliton space-time waves. The first of which would cause an action which could be read as being a non-information carrying state of a quantum entity. The soliton space-time wave generator must be able to produce such a non-information carrying frequency if a quantum computer system is to be capable of being over written with new information or erased. The second would be equal to a zero in the common computing code. The third would be equal to a one in common computer code. These three states would be the only ones needed to be detectable. They would not need to be the only states that are detectable, nor the only states present. All other states, if detected, should be considered non-information carrying states.

## **20. Space-Time Wave Induced Annihilation**

Specific soliton space-time waves can be used to induce the arrangement of a subquantum magnetic system out of free fundamental magnetic systems and neutral quanta. In the same way, another specific soliton frequency of space-time waves could be used to induce the annihilation of oppositely charged matter quanta within a given space. This would, in effect, detour the comparatively primitive means of annihilation fission and fusion nuclear reactions. Nuclear fission and fusion produce a minimum matter to energy conversion which is so small as to have an immeasurable decrease in mass. The ability to cause the maximum conversion of mass lies in the use of space-time waves to induce a total annihilation of the affected space's charged matter quanta. This is virtually all of the mass within such a given space minus free neutral quanta, of course. There may be initial problems in the controlling of such an induced annihilation of quanta. The problem of how to sufficiently contain the space-time waves and prevent the annihilation or disintegration of the entire universe.

## **21. Quantification of Electronic and Mechanical Devices**

The ability to arrange magnetic systems into particles and those particles into atoms, and so on, results in the ability to design and produce via directed soliton space-time waves, machines and electronics as specifically aligned particles and atoms which could perform the same basic functions and tasks. Combining many of these quantified machines would greatly multiply their strength and ability to perform a given task. This follows the same basic principle as the quantification of computer systems. Large numbered arrays of quantum machines could be directed by quantum computers which in turn could be operated via remote control by a human. The work that such machines would produce would be unimaginably precise.

## 22. Space-Time Flows and Intergalactic Travel

So far, space-time waves may be useful in the prospects of "anti-gravitational" devices, matter arrangement, quantum computing, new energy resources, and the quantification of current technology. There is also, due to the ability to warp space-time specifically, a possibility of being able to open and sustain wormholes via the use of space-time flows produced by some variation of space-time wave generators. A wormhole could be created with space-time flows by using those flows to bend the fabric of space-time far enough to where it bursts through itself somewhere else in the space-time of the universe. This would be a "tunnel" through hyperspace to another distant space-time in the universe (actually the length of said "tunnel" would be infinitesimal due to the fact that space and hyperspace could not exist within each other.). Space-time waves may also hold the key to sustaining a wormhole once it is opened. If one or multiple space-time flow generators could generate or concentrate one or more space-time flows into a single flow with a force great enough for its speed to exceed the speed of light, a wormhole could be created. This wormhole may be sustained, possibly, by the use of lasers focused at the edges. The speed of the light passing through the wormhole may be sufficient. Otherwise, space-time flows with a speed higher than that of light may be used to sustain it. The realistic ability to construct a wormhole, however, could be used to explore very distant space and utilize the assets which lie in it, previously not within the reach of the human race.

Wormholes have already been discovered in a way. Experiments involving the photon tunneling effect have shown that a photon that tunnels through a shield arrives at a detector much sooner than the velocity of light allows. Say that we fire a photon through a vacuum at a detector. This will be experiment X. Say that we record the time of the photons emission as  $t_0$  and the time of detection as  $t_1$ . We also know the distance that the photon has traveled in vector motion ( $dv$ ), which is the distance from the emitter to the detector. The velocity of the photon is calculated as  $dv/\Delta t_x = v_x$ . We will, of course, find that  $v_x = c$  (the velocity of light). This is no surprise. Now we shall perform experiment Y. Say that we place a material shield in the next photons way midway between the emitter and the detector. Now, say that we fire the photon and detect it. We have, of course, recorded the time of emission ( $t_0$ ) and the time of detection ( $t_1$ ) and we may now calculate the velocity of the quanta. We find that  $\Delta t_y < \Delta t_x$  and that  $v_y > c$ . This is not possible according to the laws of physics, in that it is impossible for a photon to exceed the velocity of light from any reference frame. However, it seems as if the photon in experiment Y did so relative to the lab frame. Let us not start to doubt relativity yet. What could have caused this behavior? There is only one answer. That is that the photon has traveled through a wormhole and that in the process of propagating from the emitter to the detector encountered this wormhole and traversed space-time via hyperspace. Say that we know that it is, for the most part, only when we add a barrier to the photons path that this occurs. The barrier must then play a role in creating this wormhole. A photon does create space-time pilot waves and therefore some space-time flow must proceed the photon. This flow would, however, be localized just in front of the photon as it traveled and would, therefore, travel at the same speed as the photon. The particles which make up the barrier create gravitational flows. If the photon were to get very close to one or a few of these particles, and the particles were in front of the photon, the combined speeds of the flows could be greater than the velocity of light. If they are greater, a wormhole would be created.

Equations:  $c = dv/\Delta t$ , if:  $dv/\Delta t_y > c$ , and:  $d_{nv}/\Delta t_y = c$ , then the distance traversed hyperspatially by photon Y or  $d_{nv} = dv - d_{nv}$

## 23. Subquantum Theory and Unified Field Equations

Of the three states of space-time, two are substantial. The third is non-substantial. Since these substantial space-time states are the quanta of matter and pure energy, the third being the non-substantial space-time state of void. All are solid in the sense of their possession of uniformity of geometric solidity. These states are that which the universe is fundamentally made up of. This relates to the idea that there is a possibility of formulating a unified mathematical equation or set of equations for this universe, by the, therefore, intrinsic nature of these three states, to be viewed as direct and basic functions of this combination of physical and mathematical properties which we call our universe.

These three fundamental states could be, if it weren't for some dimensional and particle property complications, viewed in the same way as the two digital and single spatial components of binary computer code. Consider a single matter quantum as a one, an energy quanta as a zero and each cubic space of void measuring a

specific number of units as a space in binary code. The system of bits and bites that govern the lay out of binary computer code obviously doesn't apply when referring to the universe as code. This is likely because of the dimensions of binary code relative to that of this universal code. Binary code is two dimensional. It is written as lines of code on a plane. The dimension of time is only related to computer code by it's access. Since this is a function of a processor activated by a human existing intrinsically only in the processor's and human's related space-time which is of the universal code and not intrinsic within the binary computer code, time is not incorporated into the dimensionality of that computer code. Anyway, time is a function of this universe in the relativistic sense of space-time and is therefore intrinsically a part of this universes code. The dimensional aspects of this universal code are, therefore, four dimensional being of length, width, height and time. The digital functions composed, as stated, of the quanta of matter and energy, are not grouped into lines, but are free floating.

This free-ness is governed by inherent universal laws which are outside of the realm of this universal code being that the code itself does not contain, and therefore does not govern itself with, but is governed by, these laws. These laws are universal constants and are out of the reach of human explanation. Laws such as these can be considered as Laws of God. The free floating aspect of this code can be considered as a product of it's possessing four dimensions. These states are *of* four dimensional space-time, *in* four dimensional space-time. This is because the *dimensionality of space-time* is part of a Law of God. Because the universe is similar to computer code, and can be, somewhat, thought of as such, then it is possible to write such a unified set of equations. However, I do think that a unified field equation or set of unifying equations based solely upon this universal four dimensional binary code would fail due to the absence of accounting for space-time waves and hyperspace. The point is that discovering the dynamics of the essential level of the universe has opened up a door for a realistic unification of physics where once there stood a brick wall of counterintuitive logic.

## 24. The Unified Set

I have seen, as I have been reading books on physics, that there is some definitive confusion over the Unified Field Theory. I mean that I come across different definitions of this term every time I pick up a different book. Then there is the Unified Field Equation a.k.a. the Theory of Everything, GUTs, QED, QCD, and the incorporation of gravity, magnetism, electromagnetism a.k.a. pure energy, strong and weak nuclear forces, matter, kinetic energy, Thermodynamics, and Relativity. This is just to name a few! This has become cluttered! We must start over from the essential level and move upwards. We must also return to the original idea of the Unified Field Theory, which is to decipher our entire universe. This calls for a Unified Equation. This can only be accomplished after there is a fundamental description of the inherent law of the universe or a unified set of laws which governs the entire universe. These laws are the "computer program" that essentially makes this universe. *Every* physical occurrence is an effect of this set of laws. These laws are the true universal theory, which will give birth to the universal sets of equations, which will in turn make up the Unified Field Equation.

The Unified Set - a list of all of the essential physical Laws of God

Physical Law of God - any physical occurrence in the universe, which has no physical mechanism of causation

Classification : A physical occurrence is classified as a Law of God if there is no physical mechanism that is known to cause it.

Declassification : If a physical occurrence which is classified as a Law of God is later found to have a physical causation, which may happen in the future progress of this theory, it is to be reclassified.

### The Unified Set :

**1. Law of Sums** -  $1+1=2$  in instances of concentration or perspective.

**2. Law of Existence** - There exists space, time and hyperspace.

**3. Law of Relativity** - Space and time are relative.

**4. Law of Parallelism** - Space and hyperspace are parallel but separate: where as, hyperspace is always considered totally at rest, and at rest relative to the Universal Relativistic Minimum of space-time motion.

**5. Law of States** - There are three states of space-time: void, matter, and pure energy which are each geometrically solid and fluid relative to hyperspace and each other.

**6. Law of Substance** - There are two substantial space-time states: matter and pure energy.

**7. Law of Kinesis** - There are two types of energy, pure and kinetic, which are convertible.

**8. Law of Hyperinertia** - Void has a resistance to motion relative to hyperspace, or hyperinertia. The constant of this hyperinertial resistance (or The Hyperinertial Constant) is Newton's Gravitational Constant.

**9. Law of Matter** - There is a quantum of matter, and, therefore, a fundamental material density ( $dq$ ) which is specific to the exact mass ( $mq$ ) over the exact volume ( $vq$ ) of a matter quantum.

**10. Law of Energy** - There is a fundamental energy density which is not specific to any single amount of energy per unit of volume of any particular energy quanta.

**11. Law of Speed** - No substance can travel at a higher rate of speed in vector quantity than the speed of light (or  $2.99792458 \times 10^8 \text{ m s}^{-1}$ ) in any reference frame, and no material body can attain this speed as a vector quantity.

**12. Law of Transference** - If an impulsive flow of void is accelerated to a speed greater than the speed of light relative to The Universal Relativistic Minimum (or hyperspace), it will be transferred hyperspatially (via hyperspace) in the universe creating a wormhole proportional in direction, length and diameter to the opposite direction of impulse, relative space-time density and speed and volume of the impulsive flow.

**13. Law of Conversion** - Matter and pure energy are convertible.

**14. Law of Conservation** - The universal sum of matter and energy does not change.

**15. Law of Motion** - A material body at rest relative to a point in space-time tends to remain at rest relative to that point in space-time unless acted upon by a sufficient opposing force, while a material body in motion relative to a point in space-time tends to remain in motion relative to that point in space-time unless acted upon by a sufficient opposing force.

**16. Law of Gravity** - The substantial solid space-time state of matter destroys any void in physical contact with it uniformly and at a specific rate, which is proportional to The Hyperinertial Constant (also known as Newton's Gravitational Constant), so that space-time is warped into a flow toward the central point of said matter.

**17. Law of Magnetism** - A number of matter quanta physically fluctuate to a rhythm, and one half of these fluctuate with a Sin wave function on each beat while the other half fluctuates Cos The number of positive monopoles is *always* equal to the number of negative monopoles.

**18. Law of Entropy** - Entropy is transferable, and its universal sum does not change.

**The Law of Sums** states that when one thing in the universe is viewed as being in conjunction with something else the resulting properties of that unit, made up of those two things, is equal to the sum of the properties of each. It lays down the basis of all mathematics which is based upon the principle that one plus one always equals two. **The Law of Existence** states that there is space, which is three dimensional, a single dimension of time, and hyperspace which is also three dimensions. **The Law of Relativity** states that space and time are relative (General Theory of Relativity). **The Law of Parallelism** states that space is parallel but separate to hyperspace meaning that the length, width, and height of space coincide with the length, width, and height of hyperspace making them parallel. The three dimensions of hyperspace are separate of those of space. This separation means that any substantial space-time entity cannot travel in hyperspace only through it, but the void space can travel 'in' (relative to) it. It states that Hyperspace is, in every reference frame, to be considered as at rest and is also to be viewed as at rest relative to the Universal Relativistic Minimum. **The Law of States** states that there are three ways that space-time manifests it self in the universe. These are the space-time states of: matter, pure energy, and void, (See the heading: The Three Solid States of Space-Time) and that these states possess a geometric solidity and a fluidity. **The Law of Substance** states that of the three solid, and fluid, space-time states two are substantial, meaning that they coagulate into particles. **The**



**Law of Kinesis** states that energy, when not pure in form as a space-time state, is kinetic, and that these two forms of energy are directly convertible. **The Law of Hyperinertia** states that the void state has a kind of 'inertial' resistance to motion relative to hyperspace in the same way as a material body has an inertial resistance to motion relative to the void state in which said material body resides. Therefore, it takes a sufficient force and energy to create a motion of some amount of void relative to its parallel hyperspace. Newton's Gravitational Constant represents the equal effect of the Hyperinertial Constant in gravitational equations. **The Law of Matter** states that there is a quantum of matter. The quantum of matter is the only *material* body in the universe that is geometrically solid. The smallest amount of matter is in the form of a particle called a matter quantum. Each matter quantum in the universe has exactly the same volume, mass and density. **The Law of Energy** states that there is a fundamental density of pure energy and that therefore the greater the size of an energy quanta the greater the amount of pure energy in it as proportional to the fundamental density of pure energy. **The Law of Speed** states that there is a speed limit in the universe. This is a necessity due to the fact that pure energy quanta have no mass nor inertia and, therefore logically, if not prohibited, could travel at an infinite rate of speed. This would destroy all physical order in the universe. This law prohibits any substance from an infinite rate of travel as well as establishes the universal wave equations for all relative propagation; where as, all relative propagation occurs as a wave trajectory due to this limit with the equations acting as a simplification:  $v = \lambda \nu$ ,  $\lambda = h/p$ , and:  $s > c$ , when a quanta's energy is greater than zero; and for material particles:  $v \neq c$  (if  $n \geq c$ ). (See: "Relativistic Wave/Particle Duality"- "Equations") **The Law of Transference** states that it is possible to open a hyperspatial tunnel between two points in space. If one induces a space-time flow with a greater speed than that of light relative to hyperspace it will open two holes, one at the point of induction and another elsewhere in space-time, with a tunnel through hyperspace connecting the two. This tunnel through hyperspace is negligible from the reference frame of space-time due to the separation of space and hyperspace. **The Law of Conversion** states that matter can be converted into pure energy and that pure energy can be converted into matter. The relation of this is expressed in the equation  $E = mc^2$ . Matter converts to pure energy when two oppositely charged self fluctuating matter quanta come into physical contact with each other. Pure energy converts into matter when there is a collision of two pure energy quanta of specific amplitudes. **The Law of Conservation** states that the total sum of matter and energy, in whatever form, in the universe can never increase or decrease. **The Law of Motion** states, somewhat differently than Newton's Law, that an object in motion is only in motion relative to some specific points in space-time, however, the law still basically means the same thing. This law causes matter to have inertia relative to void and, therefore, mass. **The Law of Gravity** states that matter destroys all void which physically contacts it at a specific rate where as the constant of this rate is proportional to The Hyperinertial Constant, warping all space-time into a flow toward its center point. Gravity is not simply the attraction of matter to matter it is a flowing of space-time itself. The flow of space-time toward the central point of a macroscopic material body is due to the Law of Sums as it pertains to concentration. **The Law of Magnetism** states that there exists a rhythm to the universe. This rhythm is always steady and it never changes beats. This rhythm applies to the Sin vs. Cos wave functions produced by the fluctuation of monopolar matter quanta. **The Law of Entropy** states that there are pockets of order and disorder in the universe. When order is transferred from one of these pockets to another disorder is traded back. This is caused by the Law of Entropy, due to its provision of the conservation of entropy in the universe. The Second Law of Thermodynamics is caused by the Law of Entropy due to the transferable nature of entropy, therefore allowing for its build up in a closed system which expends energy and therefore enthalpy. This law is separate from the Law of Conservation because entropy is not a space-time state.

There should be an order to the Unified Set. The listing should be in order of dependence. For example: The Law of Gravity is dependent upon the existence of the Law of Relativity due to the idea of space-time incorporated within the Law of Gravity. The Law of Relativity is dependent in this way upon only the Law of Existence, which is dependent upon the Law of Sums because without mathematics there cannot be dimensionality. The Law of Sums is the only Law in the Unified Set, so far, that is truly independent of any other law. Each Law of God in the Unified Set may be dependent upon some previously listed Law, or Laws, of God, but should always be independent of any laws that proceed them according to their listing. This will give a logical order to the list, and clearly mark a progression of complexity, so that in the end a complete listing of all of the Laws of God will carry the explanation of all occurrences in and physical aspects of, our universe.

## 25. Comprehensive Theory of Gravity.

Every physical occurrence, which is not, itself, a Law of God, is an effect of these Laws of God. For instance: at first, I assumed that the property of matter to possess mass, or that matter is effected, in the way that it is, by gravity, was a Law of God, however, it turns out that it is not. In the process I have worked out a comprehensive theory of gravity based upon the Unified Set. The property of mass is a direct result of the Law of Motion, and as it pertains to gravitation: the Law of Gravity. The law of motion states that a material body at rest relative to a point in space-time will remain at rest relative to that point in space time unless acted upon by a sufficient opposing force. This is otherwise known as the property of inertia which is an aspect of having the property of mass. It goes on to state that a material body in motion will remain in motion unless acted upon by a sufficient opposing force. This is called momentum, which is in a relativistic sense simply another view of inertia. The Law of Gravity states that matter warps space-time into a flow toward its central point by destroying its surrounding void at a specific rate proportional to The Hyperinertial Constant (which is equal to Newton's Gravitational Constant). The Hyperinertial Constant is equal to the resistance of

space-time to move relative to hyperspace (hyperspace is always considered static and unwarped, neither compressed nor decompressed and always at rest in every reference frame) where as  $G$  is the amount of resistance that any flow of space-time encounters when in motion relative to hyperspace.  $G$ , then, also constitutes the inertial permeability of that space-time flow or the permeability of any gravitationally flowing space-time to any material body as it will possess inertia relative to void (due to the law of motion). So, the rate that any body of matter destroys its surrounding void is proportional to  $G$ , which is also proportional to the resistance of a space-time flow in motion relative to hyperspace, and the permeability of that flow of space-time to any material body attempting to escape a flow being in motion opposite to the flow velocity in some way. To calculate a flow velocity relative to the center of mass at a specific distance from a gravitating body one must first calculate the force of gravity of the body in question. The force of gravity is equal to mass times Newton's Gravitational Constant divided by the distance squared or  $mG/d^2$ . This must then be multiplied by the fluidity of the flow relative to hyperspace. To do this, it is necessary to divide by the amount of resistance possessed by the flow to motion relative to hyperspace which, as stated, is The Hyperinertial Constant (equal to Newton's Gravitational Constant or  $G$ ). So, the velocity of a gravitational space-time flow is equal to  $(mG/d^2)/G$ . This also means that the speed of the flow will increase as distance from the center of mass decreases and proportionally to the flow's force; so that a more massive body will create a stronger faster flow which compresses and becomes stronger and more rapid the closer to the center of mass that one ventures.

### **Falling Material Bodies**

Say that material body A is gravitationally attracting material body B. The gravity of body A warps space-time into a flow toward itself. Say that body B resides in that space-time. As this space-time, which body B resides in, flows toward body A, body B will remain at rest in that space-time. Therefore, Body B will move, relative to body A, toward body A. Thus, the property possessed by body B is mass. This will also work in reverse.

The gravitational flow of space-time is from all directions toward the center of a material body. Therefore gravitational space-time warpage must be considered radial. Due to this radial pattern there is a weakening of the strength of this space-time warpage as distance from the center of a material body increases, and an increase in the strength of this space-time warpage as distance from the center of a material body decreases. This radial pattern also causes space-time to be compressed further and further as it approaches the center of a material body. This means that space is compressed, and so is time, due to their relativity. This is why gravity causes a time dilation.

### **Orbitals**

The dynamics of an orbital body's sustained orbit as related to centrifugal force and as viewed in light of the Unified Set is contrary to Mach's principal. Mach's principle of centrifugal force is that the gravity of distant stars and galaxies pulls at a rotating or revolving body forcing it away from its center of rotation or revolution. The same laws of gravity and motion that show the dynamics of the simple gravitation of a falling object (where body B remained at rest in its space-time which was flowing toward body A) also show the complete gravitational dynamics of orbitals. Say that material body A is again gravitationally attracting material body B. Body A warps space-time into a flow toward its own central point of mass. Body B resides in that space-time. This time, however, body B is in motion relative to both its space-time and therefore Body A. Say that the direction of that motion is toward a point over the horizon of body A. While the space-time which body B resides is flowing toward body A body B will remain in motion relative to that space-time in a direction somewhat opposite to that flow. If the speed of the motion of body B is great enough to where its force is able to be equaled to the gravitational force of body A, at a specific and sufficient distance from body A, body B will orbit body A. The height of this orbit depends upon the speed of the opposing motion of body B. The greater the speed the greater the opposing force, so the orbit of body B will be higher the greater the speed of its opposing motion.

### **Gravitational Time Dilation**

The gravity of a material body causes a time dilation where the greater the gravitational force effecting a position in space-time the slower the flow of time is relative to a position in space-time affected by less gravitational force. Due to the Law of Gravity which states that matter warps space-time into a flow toward its central point, there is, as previously stated, a radial pattern to this gravitational warpage of space-time. This causes space-time to be further and further compressed as it nears the center of a material body. Because there is no law of conservation of void, that void permeates macroscopic objects, and due to the Law of Sums; the universe can be said to possess universal measurements of space and time irrelevant to the relativistic nature of individual occurrences. This arises due to the Law of Sums, because, if everything in the universe is viewed as a whole there arises a universal measurement of space and time not affected by smaller occurrences involving relativity. Every occurrence in the universe related to the relativity of space and time is therefore calculated based upon this universal sum of the measurement of space and time. So, in the relativity between any part of space-time to another each part is also relative to the whole of space-time. This universal relativity of space-time is composed of a universal underlying grid of space and a universal arrow

of time which is broken into units of measurement that must be involved as comparison to relativistic occurrences, not able to be affected by the relative speed of travel or space-time compression happening in a single occurrence, or number of occurrences less than the universal sum, but as the average of the sums of relativity between all things in the universe. This universal arrow of time does not, coincide with a spatial direction, however, it is another dimension all together. This means that near any point of greater gravitation, and therefore compression, there is more time per unit of volume relative to the universal space-time grid (see: Relative Motion, the Twins Paradox, and the Universal Sum of Relativity). In this sense we must treat space and time as being equal in all respects, therefore, by passing through one Plank length of space you must add one Plank unit of time to yours relative to a frame which is stationary in that space. Flow speed accomplishes much of any gravitational time dilation, however, this factor is multiplied by the amount of space-time compression. The concentration of time into this specific ratio of time to volume, by means of gravitational space-time compression, causes time in that space to move slower relative to a space affected by less gravitational space-time compression. Space-time compression can only be measured in a relative sense. To find the amount of gravitational time dilation between two reference frames that are at rest relative to each other and a mass, where as, these frames are in the gravitational flow produced by this mass: The distance from the center of mass to the first frame must be considered  $d_1$  and to the second frame,  $d_2$ . The frame which is the greatest distance should be the first frame at distance:  $d_1$ .

( $\therefore d_1 > d_2$ ) One must set the relative space-time density at  $d_1$  as equal to one for reference: ( $D_1 = 1$ ). Space-time density and distance vary inversely. (So:  $\Delta D = -\Delta d \therefore D_2 = d_1/d_2$ )  $s_1$  and  $s_2$  shall represent the gravitational flow speed at frames one and two. The additive time dilation of frame two is equal to the space-time density at the second frame, times the flow speed at the second frame, minus the relative space-time density at the first frame (set as one) times the flow speed at the first frame:  $T = D_2 s_2 - D_1 s_1$

T is the additive time dilation for frame two when relating these frames, therefore the time flow at frame two is equal to the time flow at frame one plus the additive time dilation: ( $t_2 = t_1 + T$ ).

## 26. Relative Motion, the Twins Paradox, and the Universal Sum of Relativity

If an object moves relative to another object, there is a time dilation between the two. This time dilation is caused by that movement through space due to the relativity of space to time. In a two dimensional space-time diagram showing the world-line of a moving object relative to the world-line of an object at rest, in which the time dilation is seen from the view of the object at rest relative to itself, there is a time dilation where the flow of time for object moving relative to the object at rest is slower. Due to the relativity of this motion, the object previously viewed as being in motion can also be viewed as being at rest, and the object previously viewed as being at rest, in motion. Then, the object now viewed as in motion relative to the object now seen as at rest, seems to suffer a slower flow of time relative to the object, now, viewed as at rest. This causes a twins paradox. This paradox stems from this occurrence's relativity to the universal sum of relativity. The relativistic interaction occurring due to the relative motion of each object to the other is also relative to the universal arrow of time. Time is relative to space; so which direction in space does the arrow of time point? This is relative to the view and world-line in question. There is no real universal arrow of time which coincides with a specific direction in space, yet an object in motion would tend to create, by that motion, unto itself, a specific directional arrow of time. Relative to any object in motion, the arrow of time points in the same direction of that motion. This is why the relative motion between two objects causes a paradoxical time dilation. The arrow of time relative to object A points in the opposite direction of the arrow of time relative to object B because these two objects are in motion relative to one another and the universal spatial grid (or space-time grid, due to the relativity of the two aspects). There must be a third view in order to fully understand any relativistic occurrence. This grid is that third view.

### Hyperspace and The Universal Relativistic Minimum

The Universal Sum of Relativity must coincide with the one specific point in the space-time of the universe that is *most* at rest relative to every other point in space-time. This is the point of the universal minimum sum of relativity. This Universal Relativistic Minimum is created by the Law of Relativity in conjunction with the Law of Sums. The relativity of space and time when viewed in a universal perspective creates a sum of relativity in the universe and also shows that there are pockets of concentration of this relativity. There is also a point in the space-time of the universe which has the lowest concentration thereof. This is a point in the space-time of the universe which possesses the minimum amount of motion relative to all other points in the space-time of the universe. The point of the universal minimum of relative space-time motion is most likely located near the "center" of the universe. This point, being the only point in space-time considered to be at rest, should be thought of as the origin of a non-fluid universal grid underlying the fluid space-time of the universe, which extends from this origin in three axis'. The direction of one of these axis' must be proportional to a specific point in space and at this time. This point could be the center of a specific

star in a specific galaxy. However, as that star, in that galaxy, moves relative to the Universal Relativistic Minimum it would no longer be set upon that axis. The measurements upon this grid may be in light-years or nanometers, as long as all calculations are relativistically proportional to this point of minimum relativity and extending grid. The universal relativistic minimum is in constant motion due to the constant and chaotic shifts of motion of the space-time in the universe. This imaginary grid extending from the universal relativistic minimum, therefore, is capable of motion also, however it is best to think of the relativistic minimum and its coinciding imaginary grid as always being at rest in the universe and that all motion is relative to it. As this imaginary grid is separate but parallel to the three dimensions of space and can be thought of as possessing no motion unto itself or as being universally considered (most) at rest, therefore possessing no dimension of time, it seems to have the exact same characteristics as attributed to hyperspace. This is what the three dimensions of hyperspace are. As you can see these dimensions must exist in our universe.

## **27. The Infinite Trajectory Universe**

Due to the Law of Conservation and the Law of Entropy, the Universe cannot grow or shrink in its' size and is forever one finite unit. That is to say that the universe changes only internally over time, for there is nothing outside of it that it might interact with. The laws which govern it prohibit it from gaining or loosing any part of itself. The universe does, however, posses a strange dimensionality so that, to say "outside of the universe", or "past the borderline, which is the end of space-time" is also strange in nature. These places may not exist even though the universe is finite. And so, I am convinced it is, but also that it likely possesses an infinite trajectory from any point in any direction. As a result of the parallelism of spatial and hyperspatial dimensions there is created a looped universe. Picture a hollow sphere. Consider the outer surface of the sphere as our space. This two dimensional representation of space is of course lacking its third dimension. For now this can be ignored. Now, consider the inner space of this sphere as hyperspace. This is three dimensional. Due to the fact that the sphere itself is also three dimensional this sphere mimics the parallelism of space and hyperspace except for the missing spatial dimension. On this spheres surface, or in our space, if one moves in any direction for a sufficient distance one will circumnavigate this hypothetical sphere. Now of course, if we add this missing spatial dimension, we find that we can no longer view the parallelism of space and hyperspace three dimensionally. But if we take hyperspace into consideration basing our assumptions upon what we saw with our theoretical sphere, we see that the universe is a geometrically solid 'sphere' and that due to the parallelism of space with hyperspace it is finite but, possesses the ability of infinite and constant velocity trajectory. This means that in our universe (in space-time) if one travels at a constant velocity in a path upon a radial line one will end up where one started. Since this universe is spherical (this is almost certain judging from microwave background radiation scans) it has a central point. This point is the Universal Spatial Minimum. The surface of this sphere is not the end of space, a borderline which one cannot travel beyond, but is the beginning of space at exactly the opposite end of the universe. I have termed this the Mario Brothers Scenario due to the resemblance to the original Mario Bros video game that I use to play on Nintendo. In this game, if you travel beyond the right side of the television screen you pop out on the left side of the screen. This is comically similar to the actual dynamics of the universe, except for the fact that the computer recreates Mario on the other side of the screen in the game. This "jump" is not a recreation it is a simple crossing of a point on a line, which cannot be adequately, displayed two or three dimensionally due to the seven dimensionality of the universe. So, in the Mario Bothers Scenario Diagram which is a cross section of the universe, if point A lay on the universal spatial borderline at the left side of the circle representing this borderline then it would also lay on this borderline at the opposite end of the universe. If a line of diameter were to extend from point A through the universal spatial minimum to a point lying at the opposite side of this circle (the universe) on the borderline, that point would also be point A. There aren't two point As, just one. In this diagram it happens to fall on the borderline twice due to the Mario Brothers Scenario. Now look at points B and C. If one wanted to take the shortest path from B to C one would transverse the borderline to point C rather than travel a larger distance, taking a route through the bulk of the universe. If a path crosses the borderline at a different angle than that of a radii it emerges at that point on the opposing side of the universe with the same angle of trajectory relative to the borderline at the point of intersection.

## **28. Twenty-Eight: the LCD**

In classical theory, the universe consists of four dimensions. This was challenged and beaten by the laws of relativity. Relativity introduced three more dimensions of hyperspace making seven dimensions. This was further explored in Super Symmetry and String Theory. Super String Theory demonstrated an enormous leap to twenty-eight dimensions, but also had amazing success with this, seemingly absurd, dimensionality. Super String Theory also attempted to somewhat explain, physically, these many new dimensions. It is that physical explanation, not the mathematics, which seems so illogical from my point of view. Although, I realize that there are many striking similarities to this theory if you only replace Super String Theory's strings with space-time waves. Now, Super String theory did find that most of the problematic zeros and infinities in many equations, which so plague physicists, disappear at a dimensionality of twenty-eight. This, of course, does not mean that there are twenty eight dimensions, as many physicists realize. There are seven dimensions. The dimensions of space are parallel to those of hyperspace. This results in a strange dimensionality that is, in many respects, seven dimensional but, also, four dimensional. How can mathematics describe such a strange dimensionality of the universe as this? It is possible, by using the lowest common

denominator of seven and four. Twenty-eight. This is why those zeros and ones disappear at a dimensionality of twenty-eight. This number does not describe the universes actual dimensionality, but is the lowest common denominator of the universe's strange dimensionality.

## **29. Evidence of Space-Time Waves: The Double Slit Experiment**

The double slit experiment, which was first performed in 1801 by Thomas Young, is now about two centuries old, and is regarded by modern physics as to show the mysterious property of electrons and photons to act as waves and particles. The problem with this notion is that the type of waves which they seem to behave as in this experiment are impulse waves. This does not follow the Einsteinian notion regarding the wave/particle duality of electrons, photons and the like as particles traveling in a transverse wave pattern, where their field fluctuations, not they themselves, are as waves. The reason for the diffracting pattern, which occurs as electrons pass through a slit, is a result of the photons or electrons traveling in a near ray (macroscopically their wave trajectory is negligible) passing through a virtual lens created by the steady emission of space-time waves by the edges of the shield around the slits. These space-time waves can be considered as an extension of the shield through the slit. The properties of this extension resemble those of a concave lens. The farther from the edge of the shield, the less concentrated the space-time waves and the force of those waves, therefore, the less interference with any photon or electron passing through the slit. The closer to the edge of the shield, the stronger or more concentrated the force of the space-time waves and the more they will interfere with an electron or photon passing through the slit. These turn out to be the same dynamics as any normal concave lens. This lens is virtual because there is no actual change in substantial medium. However, the change of the medium of travel, relating to the speed change, which occurs upon a medium change, is exactly like a normal concave lens. The medium change is related to the change in the fabric of space-time in that specific way. Surprisingly enough this is exactly what occurs within a normal lens. Surely photons and electrons don't refract off of other similar quantum particles. Any normal lens is truly a space-time wave lens. By normal lens, I'm referring to glass lenses or other similar lenses, not gravitational lenses. The gravitational effect of the shield upon the electron or photon passing through the slit is negligible in this case. The point is that the apparent impulsive wave nature of electrons and photons in the double slit experiment is smoke and mirrors, or, actually, lenses in this case. This explains the pattern of diffraction emitted from the slits, but not the interference pattern. The interference pattern detected on the screen may be attributed to a projection of the interference pattern of the space-time waves making up the virtual lens which, in turn, cause the diffraction pattern to appear on the screen. The space-time waves making up a virtual lens not only change the velocities of electrons and photons passing through it, but change those velocities specifically so as to create a kind of impulse wave pattern of electrons or photons which mimic the wave patterns of the space-time wave lens itself. This diffracting impulse wave pattern of photons or electrons creates a kind of projection of the dynamics possessed by the space-time waves making up the virtual lens. Due to the angles of the emitter or first slit relative to the two slits in the shield there is a higher buildup in the bright spot at the center of the screen which slowly tapers off to the sides. The wave patterns of the two slits produce a second refraction dynamic, which causes the interference pattern of particle distribution on the screen. As for the photons or electrons knowing that, they are being observed; this is really not so mysterious. By placing detectors near the slits, the space-time waves, which create the virtual lens in each, which are responsible for these "strange" occurrences, are disrupted. You then end up with two blobs on the screen, as verified in experiments which employ the use of detectors near the slits to detect which of the two slits a lone particle travels through. This quantum model provides a consistent history for each quantum particle, which passes through either slit. All of this discounts the Copenhagen Interpretation, the Sum Over Histories Interpretation, the Multiverse Theory (or the Many Worlds Interpretation), and the idea of quantum superposition of states (decoherence).

I must, however, further address the problem of time and detection in the double slit experiment. There have been deviations of this experiment, which address the problem of the influence of detection upon previously occurring quantum actions. In a certain experiment, detectors are not placed at the slits, but between each slit and the screen. In this case, it may not be correct to say that the placement of the detectors have interfered with the space-time wave lens created by each slit. The operation of the detectors, between each slit and the screen, do not allow for an interference pattern. Due to the fact that this position of the detectors does not necessarily interfere with the virtual space-time wave lenses at the slits, and that when the detectors are not operating they do not change the interference pattern of the particles which hit the screen, it may be inferred that the operation of the detectors creates a space-time wave field which does interfere with the paths of the particles, and, therefore, the interference pattern. That is that, by observing the particle we must, essentially, create space-time waves which physically interfere with the particle in such a way as to change the angle of the particles path relative to the screen and other particles with which that particle might have interfered, creating the normal pattern of interference. The same type of detector space-time wave 'noise' is likely to cause the same kind of effects in other experiments as well.

## **30. Destiny in the Universe**

Time is, in essence, a dimension which provides the universe with the ability to change. Space and time are, of

course, intricately connected. Time is an expanding dimension akin to two rays spreading from a point upon one line, so that previous occurrences in the universe act as either direct or indirect causes of presently occurring events, causing the universe to be chaotically deterministic. This concept is similar to the butterfly effect in Chaos Theory. Therefore, the very existence of time prohibits any true randomness or probability, causing all events to be chaotic ones with levels of complexity proportional to the sum of entropy in all occurrences which caused them. Entropy must then be considered as the number of possibilities in an occurrence where there is, as of yet, chaos clouding the direct causes of the, truly, deterministic outcome. The sum of complexity in an event, being the number of, and amount of influence of, previous occurrences acting in unison to create the event. The *full* complexity of any occurrence is incalculable, therefore, all events are chaotic. (except for, possibly, the creation of the universe) Because all occurrences in our universe are effects of an incalculable number of causes, the universal time continuum is completely deterministic in this correspondingly chaotic way. For example: The probability of a coin landing heads or tails in a toss is fifty percent each. However, if you flip a coin one hundred times the odds are that you will not come up with exactly a fifty/fifty ratio of the times the coin landed heads to tails. The reason for this is that each time you flipped the coin different circumstances created different outcomes. Being that the circumstances which caused the outcome of any particular toss are almost, but not actually, infinite, with their exact effects being practically, but not actually, incalculable, each coin toss was chaotic and not probabilistic. So that, if I were to, say, build a device which flipped the coin exactly the same way each time, I would always know the outcome beforehand. Probabilities are an imaginary device to simplify events mathematically. Some physicists have assumed that the quantum world is, in reality, probabilistic. This is, simply, not true. The universe is, in fact, totally chaotic, and therefore, totally deterministic. This includes the quantum world. The quantum world is our world. It is what our world consists of, and to say that the laws governing the quantum realm are different than those that govern any other part of the universe is foolish.

### **31. The Impossibility of Time Travel**

Time travel in it's essential meaning is impossible. I do not refer to time dilation caused by relativity. However, it is not possible to, say, step through a wormhole and travel through time in a truly universal sense. By doing this you would be violating The Law of Conservation, The Law of Entropy and The Law of Magnetism. Time travel, by means such as this, would violate the Law of Conservation due to the fact that it would take matter and energy out of our present universe and deposit it in the past or future universe. It would violate the Law of Entropy by decreasing the amount of entropy in the present universe and increasing entropy in the past or future universe. Finally, it would violate the Law of Magnetism due to the fact that the number of positive monopolar quanta in your body is extremely unlikely to be exactly equal to the number of negative monopolar quanta. This would violate the Law of Magnetism by offsetting the universal magnetic balance. Therefore, true time travel is an impossibility.

### **32. The Law of Entropy and Void Expansion**

Void is constantly being destroyed and resurrected by the universe. Due to the Law of Gravity every matter quantum in the universe destroys it's surrounding void at a specific rate. As stated, that rate is relative to the weak equivalence of each quantum. The destruction of void constantly attempts to shrink the universe. This shrinkage cannot be allowed in the universe due to the Law of Entropy. If the universe shrunk, the universal sum of Entropy (or the number of possibilities of every pending occurrence in the universe where chaos still clouds the deterministic outcomes) would decrease. According to the Law of Entropy, the universal sum of entropy is always constant. Therefore, the destroyed void must be resurrected elsewhere in the universe, so as to instantly compensate for the loss of entropy. At every point lying within void, more void is created at a semi-infinitesimal rate. The rate of expansion of one cubic centimeter of void, over the course of one particular second in time, is equal to one divided by the number of cubic centimeters of void in the universe at the instant that the second began, multiplied by the average number of matter quanta in the universe in that second, times the rate at which each matter quantum destroys it's surrounding void. Therefore, as matter destroys void gravitationally, an equal amount of void is created by the expansion of all void in the universe due to the Law of Entropy.

#### **Void Expansion and the Hubble Constant:**

When Edwin Hubble first observed the correlation between galactic red shift and distance he assumed that this meant that the galaxies (out side of the Local Cluster) must be receding from the Milky Way, and that they were doing so at a higher rate the farther away they were, because of the fact that this correlation is a multiple of a constant (the Hubble Constant). Hubble's equation is: recession velocity (v) equals Hubble's Constant (H<sub>0</sub>) multiplied by the distance to an object (r):  $v = H_0 r$ . H<sub>0</sub> is now estimated to be between 50 and 100 km/s/megaparsec. Since this effect is generally observed to be uniform in all directions, Hubble assumed that the distant galaxies must be receding uniformly, giving birth to the Big Bang Theory. The Theory of Void Expansion gives us another, extraordinarily different, hypothesis; that is: that the correlation between distance and spectral shift is a direct result of the universally uniform expansion of the void state. A quanta travels as a wave. When a quanta travels through the void, which is expanding at a uniform rate, its wavelength is stretched causing it to shift to the red. The farther a quanta travels through this

expanding void state (therefore, the more time it spends in the expanding void state), the more it is red shifted. Therefore, the Hubble constant is actually a measure of the rate of void expansion in the universe. The reason that this effect is not completely uniform with all bodies is due to gravitational effects and/or effects of motion that are specific to each galaxy or body. This implies that the material bodies in the universe are not drifting apart, but are generally static universally. That is that, irrespective of there local motion, orbits, and effects of dark matter, the galaxies are static within the universe. This, also, means that the cosmic background radiation most likely consists of radiation of higher spectra quanta emitted very far away that have been red shifted accordingly due to this effect. Mathematically Hubble's equation is correct upon a hypothetical basis, for, if one assumes that the galaxies are receding, Hubble's Constant gives the expansion rate of the distance between an observer and any galaxy. Since it is clear that the galaxies are not actually receding but that the void state is expanding at the same rate that it is destroyed by the gravitational effect of all matter in the universe, it is clear that Hubble's Constant actually gives the rate of void expansion: as X number of kilometers of linear void expansion per second per megaparsec of void (where X is then still between 50 and 100). In that case, the recession velocity is virtual only mathematically viable.

### 33. Einstein: The Prophet of $\Lambda$

At extreme distances positive and negative magnetic space-time waves act in a repulsive manner as they do at close quarters. Magnetic waves are stronger than the attractive force of a flow of gravity at a specified distance, which is do to the fact that their strength diminishes less with distance than does the strength of a flow of gravity. There would, then, be a specific distance at which the magnetic force of repulsion between two material bodies exceeded the gravitational force of attraction between them. This is a known, but previously not understood, consequence of The General Theory of Relativity. It is related closely to Einstein's Cosmological Constant or  $\Lambda$  term: a term incorporated into Einstein's Field Equations which signifies an unknown repulsive entity, consisting of a repulsive gravitational force (or  $\Lambda$  force), as a counteraction to gravity that increases in strength proportionally with distance. The magnetic and gravitational tug of war I just described fits the bill quite nicely. The repulsion of the magnetic waves would increase relative to the force of gravitational attraction proportionally with distance. Therefore, Einstein's  $\Lambda$  force is truly magnetism in disguise. The reality of this term and Einstein's vision come to light with this new paradigm.

#### Variables:

Let  $\mu_o$  represent the magnetic constant.

Let G represent Newton's gravitational constant.

Let m represent the mass of a specified material body.

Let  $H_p$  represent the total positive external magnetic field strength of a specified material body.

Let  $H_n$  represent the total negative external magnetic field strength of a specified material body.

Let d represent a specified distance between the two material bodies in question.

Let FG represent the force of gravitational flows between the two bodies at the specified distance.

Let FM represent the total repulsive force of magnetism between the two bodies at the specified distance.

Let  $\Lambda$  represent the  $\Lambda$  force, or the total repulsive magnetic force after subtracting the force of gravity.

#### Equations:

$$FG = m_1 m_2 G / d^2$$

$$FM = H_1 H_2 \mu_o / d^2$$

$$\Lambda = FM - FG$$

∴ For multipolar bodies:

$$\Lambda = H_{p1}H_{p2\mu} o/d^2 + H_{n1}H_{n2\mu} o/d^2 + (H_{p1}/\mu o)(H_{n2}/\mu o)\mu o/d^2 + (H_{n1}/\mu o)(H_{p2}/\mu o)\mu o/d^2 - m_1m_2G/d^2$$

∴ For monopolar bodies, where both bodies have the same charge:

$$\Lambda = H_1H_{2\mu} o/d^2 - m_1m_2G/d^2$$

∴ For monopolar bodies, where both bodies have opposite charges:

$$\Lambda = (H_{p1}/\mu o)(H_{n2}/\mu o)\mu o/d^2 - m_1m_2G/d^2$$

### 34. Calculating Matter Quantum Density and the Fundamental Mass Unit

Density equals mass multiplied by volume. The volume of a matter quantum is partially known. Because we have inferred that the quantum of matter is not in the form of a black hole. This means that the radius of a matter quantum must be of a higher value than the Swartzchild radius of the quantum ( $r_q > m_q G/c^2$ ). From this we see a limitation upon mass depending upon the known variable in this equation where as, if  $r_q$  is known then:  $m_q < (r_q c^2)/G$ . Therefore we have the equation for the fundamental material density where two known variables are needed to determine the third. Since we have calculated only one possibility of only one variable and are calculating properties of a currently undetectable particle, there is no way presently to determine the exact measurements of matter quantum density or the of the fundamental mass unit (F.M.U. or the mass of one matter quantum). However, due to the black hole parameters of a matter quantum coinciding parameters of measurement may be assigned. Also, as far as determining anything further than the mass and radius of a matter quantum as related in the already given variations upon the Swartzchild radius equation, there must be a closer look into the wave mechanics as related to magnetic space-time waves. Experiments must be carried out. Modern Quantum Theory and its' use of wave mechanics for its' quantum particles, including all other equations currently used by physicists in any field of the study, must be reexamined in relation to this new relativistic paradigm and ontological view. Planks constant may play a greater role than almost any other mathematical/physical relationship that I can think of at the moment. When Plank related energy to frequency in reference to electromagnetic quanta, it set the stage for the paralleled wave mechanics of all quantum entities. This relation must be reviewed. As for this, the purest relation of the metaphysical ontology of the universe to the actual science of physics, there is just as much, if not much more, importance in knowing and understanding the fundamental energy density, the relation of energy to quanta volume in electromagnetism, than Planks Constant. I retain my Platonic view. Essence precedes Existence. Of this I have no question. So, if this is true there are few possibilities, all of which are similar in the ways I have described in this paper. However, it is, certainly, true that all of our uncertainty must be slain, especially in the process of the mathematical rationalization of this theory.

### 35. The Unification of Forces and Fields: Conclusion

So far, we have unified the forces of magnetism, gravity, pure energy (electromagnetism) and electric energy in the third relativistic paradigm of fluidity and its unified field perspective. It can be said that electricity is also part of this unification, although the fact that it is not a fundamental force is well established due to its composition being, simply, of propagating electrons and not any real field of force in the same manner of speaking as gravity or magnetism. It has, further, been shown that pure energy (electromagnetism) is not truly a fundamental force, but a solid substantial space-time state. Now, for this theory to truly unify the forces, which are apparent in the science and philosophy that is physics, we must also chalk up the last forces remaining. I do this to be tidy. The last two, so called, fundamental forces, the strong and weak nuclear forces, have not yet been dealt with in this paper. I have, unwittingly, saved this for last. First we must address quark colour. This term, colour, refers to nothing more than the subquantum make-up of a quark, that is, its' soliton wave functions. The differences displayed between baryons, each possessing three quarks, are only truly due to the make-up of their quarks. This is true for all hadrons. This simply amounts to different properties such as mass, density and soliton space-time wave frequency, amplitude and emission. (This soliton fluctuation is commonly termed quantum spin) It is truly these things, which cause there to, seemingly, be nuclear forces. It is the density, mass and the soliton wave properties that inadvertently cause atomic structure to have the dynamics, which it has. These nuclear forces are, therefore, phantom forces, which only appeared to exist due to lack of understanding of the realm beyond the quantum realm - the subquantum. There may, also, be more than six quarks. There could be many rarefied types that are presently undetectable. This theory clearly divides itself between certain philosophical



lines. It is, however, complimentary, as it is necessarily specified to be by Bell's inequality, because it denies a superposition of quantum states and affirms the non-local causality of space-time waves. This is done, in a way, which does not undermine the relativity of space and time, through the fluidity paradigm. In the end, the only two true fundamental forces in the universe, seem to me, at this time, to be magnetism and gravity. Which, in turn, seem to be intrinsically interconnected possibly even feeding each other in some way. These forces, however, have already been unified in this paper along with the fields of physics. This completes the theory.

### The Solidity of States - Equations:

#### Gravitational Variables:

Let **m** represent the mass of a specific material body.

Let **d** represent a specific distance from a material body or between two material bodies.

Let **Gx** represent a variation of Newton's gravitational constant (the hyperinertial constant).

Let **s** represent a specific speed of a gravitational flow.

Let **g** represent the gravitational force exerted by a specific body at a specific distance.

Let **FG** represent the gravitational force between two specific bodies at a specific distance.

Let **D** represent relative density of space-time at a specific distance from a specific mass.

Let **T** represent the additive gravitational time dilation of the second frame when comparing two frames of reference that are at rest in a gravitational flow.

Let **t** represent the time flow in a specific reference frame.

#### Gravitational Equations:

$$FG = m_1 m_2 Gx / d^2$$

$$g = m Gx / d^2$$

$$s = \sqrt{(m Gx / d)}$$

$$d_1 > d_2$$

$$D_1 = 1$$

$$D_2 = d_1 / d_2$$

$$T = D_2 s_2 - D_1 s_1$$

$$t_2 = t_1 + T$$

#### Lambda Force Variables:

Let  $\mu_0$  represent the magnetic permeability of free space (the magnetic constant).

Let **Hp** represent the total positive external magnetic field strength of a specific material body.

Let **Hn** represent the total negative external magnetic field strength of a specific material body.

Let **FM** represent the total repulsive force of magnetism between two bodies at a specific distance.

Let  $\Lambda$  represent the total repulsive force minus the force of gravity (the Lambda force).

### Lambda Force Equations:

$$FM = H_1 H_{2\mu} 0/d^2$$

$$\Lambda = FM - FG$$

∴ For multipolar bodies:

$$\Lambda = Hp_1 Hp_{2\mu} 0/d^2 + Hn_1 Hn_{2\mu} 0/d^2 + (Hp_1/\mu 0)(Hn_2/\mu 0)\mu 0/d^2 + (Hn_1/\mu 0)(Hp_2/\mu 0)\mu 0/d^2 - m_1 m_2 Gx/d^2$$

∴ For monopolar bodies, where both bodies have the same charge:

$$\Lambda = H_1 H_{2\mu} 0/d^2 - m_1 m_2 Gx/d^2$$

∴ For monopolar bodies, where both bodies have opposite charges:

$$\Lambda = (Hp_1/\mu 0)(Hn_2/\mu 0)\mu 0/d^2 - m_1 m_2 Gx/d^2$$

