The Solar System and The Cosmic Cycle.

9/4/04

Earlier papers have noted that the Energy not only has mass but suggested that it must have an intrinsic electrical state akin to that of an electrical charge. To test for this we need go no further than our Sun and its Planets.

For this purpose the magnetic fields of the planets are assumed to be electro-magnetic, in origin, such that if the planet is actually carrying a positive or negative charge its rotation will cause that charge to move, and as a "moving charge" it will create the planets magnetic field. The magnitude of this field will be a function of the size of the charge and the rate of its rotation, with its North/South orientation being determined by whether that charge is positive or negative. For this exercise, the planet is (arbitrarily) considered to be a one-turn solenoid with a dimension that has both its length and diameter equal to 70% of the actual diameter of the planet.

Without re-doing the math, it turns out that the charge on each planet is proportional to its surface area, all are negative, and the required charges are massive! Going a step further and considering each planet as one plate of a spherical capacitor, the other being the ionosphere (or distant space), its capacity is calculated and is given the charge, as calculated above. Then, using Q = CE, we solve for E. Again, a surprising result is obtained: Not only is E exceedingly high but it is essentially the same for all planets!

Now, if we accept that the outer plate of the Earth-to-Space capacitor is positive due to the Solar Wind, then the surface of the planets will be highly negative, leaving their cores positive (electrons will be drawn to the surface), and as the outer surface of the planet is moving at a much greater rotational speed than is the core, the *effect*, insofar as its magnetic field is concerned, is as though the planet were negatively charged.

Obviously, it is the Sun that must be generating the positive charge carried by the Solar Wind, and it appears that it is its nuclear fires, in converting material mass into energy mass, are the cause. And, going the next step, the energy mass leaving the Sun must be negative (in some intrinsic manner?) in order to carry away the negative solar charge and leave the Sun at a high positive potential.

This, then, provides the self-repulsive characteristic of the Dark Mass as it is pulled towards the galactic center, and comprises, along with gravity, the forces that build the galactic Dark Mass atmosphere and gives it its 1/r^2 density gradient (r = galactic radii.).

It is important to note that while the attraction/repulsion of the negative energy is towards anything that is positively or negatively charged there is no actual *flow* of charge into, or out of, the circuit. It simply *acts* like a charge, e.g., as in a capacitor where it is attracted and compressed by the positive plate and repelled and made less dense by the negative plate, or, e.g., as it appears as a magnetic field by being pumped through a solenoid by a DC current flowing in that solenoid. We are immersed in the Energy Mass, the Aether.

Jim Wright
S A Solar Charge

To: Edwin Hatch
From: Jim Wright
Re: Modern Physics, from a Classical Scale Perspective.
Date: 11/25/04

I've gone through your booklet and find it to be interesting, especially your derivation of the many constants from a very short list of fundamentals. These fundamentals are, in turn, determined by the nature of physical reality and have nothing to do with length or time, although those tools might help us to understand that reality. As a matter of fact, I believe that those particular fundamentals are not really constant, in any long-term sense.

Consider: Some years ago I took issue with the idea of an "Expanding Universe" (EU) and decided to find an alternative explanation for the Cosmological Redshift (CRS) upon which it is based. In the process I concluded, with considerable cause, that the Universe is actually a small sampling of an Infinite and Eternal state of Existance. This conclusion mandated that there was no place for our Universe to expand into. (The basic upon which my conclusions are based is the total rejection of "Creation", or other magic, in any of its guises, i.e., and that therefore there could be no beginning, nor end, either in time or in space.)

A concurrent conclusion, of fundamental importance, is that the material mass and the energy mass, spewed into space by the stars of the galaxies, has to be recycled back into new galaxies of stars (much like Halton Arp describes) at an efficiency of 100%.

This, then, provided a mechanism by which a CRS could form: As the energy moved from the stars into space, it (being an actual medium called the aether) gradually, and gravitationally, accumulated around its galaxy of origin, gradually building up its (the aethers' density. This energy mass (or aether, or dark mass) provides substance for another item of magic, the transmission of electromagnetic waves by a "vacuum of nothingness"! The so-called fields are actually waves in that underlying medium. Otherwise, there'd be no way that they could carry the power of our TV transmissions, nor the maga-watts of power transmitted by our radars.

Now, in that this is so, then it is this medium that provides the characteristics of space, it's permeability (μo) and it's permittivity (εo), upon which the speed of light (C) depends, and, so, obviously, if its density is increasing so are they and C cannot be a constant (not over the long run, at least).

In an attempt to reconcile this belief from the evidence, I chose to assign the "Dark Matter" its role as actually Dark Mass, or as the aether, or energy-

mass. If we then accept the claim that a Dark Mass is common to all galaxies and has a mass equal to ten times that of its parent galaxy, then divide this mass into the amount of energy mass being generated by that galaxy as its stars burn, we find that, for the Milky Way at least, this comes out to about 2.2 x 10-22 gr./gr./sec. as its rate (R) of mass increase.

Taking the EU folks expansion number of 70 km/mega-parsec/sec. and reducing it to meters/meters/sec. we discover another number, of about 2.2 x 10-18 m/m/s., as it (supposed) expansion rate-of-increase. This could as easily be expressed in gr/gr/sec., or even in hz/hz/sec., as its ultimate effect. So, if my reasoning is correct, why the difference? Simple! We are measuring the rate-of-increase in mass of a middle-aged galaxy. When the Milky Way was young, its rate-of-mass increase would have been far, far, greater, and so, if we realize that the light we're looking at is passing through the spaces occupied by galaxies of all ages, we also should accept that what we are seeing is the average of their rates-of-change,

The Seyfert-type galaxies, that eject the quasars (which grow into galaxies, per Arp), very gradually accumulate the material mass and the energy mass of space until they reach a critical stage at which they undergo some sort of massive convulsion from which they eject two quasars in opposite direction, only to repeat this action periodically. So, the energy mass is used up as it is generated, but at a very steady rate, as opposed to the rather rather rapid rate at which it is generated {over ten's of billions of years (?)} for the average galaxy, at which its' effects are to help negate the rapid increase effects of it younger neighbors.

So, while there is no everlasting energy-mass buildup for a given galaxy, the compound effect on the light (or any e.m. wave) traveling through a succession of galactic spaces is a constant, even though the change in individual galactic density is not, over the long term. A second constant, underlying even this, is the fact that, from an overall standpoint, the material mass and the energy mass of Existence are involved in a constant conversion of one into the other, eternally.

The CRS may be expressed (in observed and source frequencies) simply as:

Fo = Fs (1-R)t, with R being the 2.22 x 10-18 number and t being the number of 1 seconds increments of space (using the average distance covered by C in one second) traveled by the e.m. wave. This is more easily calculated by using the Rate of Increase/Decrease formula:

Log Fo/Fs = -Rt (log e).

There is another characteristic of the energy-mass, which I believe to exist, and that is that it possesses an intrinsic negativeness, behaving in an

attraction/repulsion manner, when near an electron, e.g., but not flowing into or out of a circuit. This is suggested by the fact of the Solar Wind being a flow of positive ionic gasses, as a result of loosing negative charge (?), and by another calculation factor that people seem to avoid:

This is to take as one's premise that the magnetic fields' of the planets are caused, not by "circulating liquid cores" but by the possibility that the planets each have an electrical charge and that these moving charges generate their fields as the planets rotate. Doing the arithmetic, the first discovery is that the gaseous planets behave according to the formula, but that the rocky ones vary somewhat, due, perhaps, to their having a primeval fixed magnetic field that adds to their currently generated e.m. field. In any event, all appear to be highly and positively charged! Furthermore, the size of their charge is a function of the surface area of the planet.

Going a step further, by calculating the electrical capacity of the planets (as an isolated sphere in space) and, by applying the charges obtained (in the previous paragraph) to each, it was discovered that the voltages so obtained were all about the same! All positive, and very, very high! So, if we accept this as the cause of a positive Solar Wind, we must conclude that the energy-mass leaving the Sun is carrying the negative charge with it as it leaves.

Conclusions: What we see is certainly from a myopic perspective, and colored by what we would like to believe. We hate to think that we aren't too important to the overall nature of things. We also seem reluctant to agree that some form of intelligent being, as we see him, can be expected to exist in many places throughout Existence, simply because there's so much out there and we cannot expect to be a unique creature.

Jim Wright, 11/24/
S CosmologyToEdwinHatch.htm

FREE ENERGY DEVICES and the AETHER©

Introduction. In any scientific discussion one's philosophy affects what that person is willing to believe. It is necessary to consciously recognize this in order to avoid being unconsciously swayed in one's conclusions. Philosophically:

1. The fact of Existence is self-evident, i.e., is axiomatic.

2. There is no magic, and the creation of Something from Nothing is pure fantasy.

3. From this it follows that the Universe had no beginning and has existed forever. It is Eternal, and, therefore, there must be some mechanism for re-cycling the material mass *and* the energy mass, produced by the stars of the galaxies, back into new galaxies.1

4. It further follows that the Universe is Infinite. There cannot be a volume of Something juxtaposed to a volume of Nothing.

So, what we have is an infinite and eternal state of Existence, of which our Observable Universe is but a small sample. The thoughts to follow are all affected by these basic conditions as the point of beginning, and by the acceptance of Objective Reality, and of Reason, as the only means of comprehending that Reality.2

The Aether exists, and is identified as the energy produced in the E = mc2 transformation. Its characteristics are:

1. It has mass, and so is gravitationally responsive, and it displays the inertia and momentum common to massive bodies.

2. It is intrinsically negative, and so is self-repulsive, responding to charged bodies by being attracted to the positive and repelled by the negative.1.b.

3. It is compressible, responding to charges by becoming compressed around a positively charged body, and by becoming rarified around a negatively charged body.

4. It exhibits the permeability and permittivity that determine the speed of light (C) in a (so called) vacuum.

Free Energy experiments all report the following common features:

1. All claim to be utilizing the aether as the source of energy.

2. All use some combination of coils, capacitors, and magnets, and/or high voltages.

3. They report that the device they built is resonant at some moderately high frequency (~100 Khz?).

4. Some report that their device actually grew colder as it delivered energy.3

The Aether as a dielectric. Some time ago, in an effort to have a dielectric that had a specific relative dielectric constant (Er) of about 4.5, I mixed some 1 mil glass spheres with vaseline, determining that a 60/40 mix did the job. This lead me to realize that all dielectrics were actually a mixture of the aether and the particular material being used, in some proportion. So, if we (figuratively) take an amount of aether, with an Er of 1 and mix it with vaseline, with a given Er of ~2, the "2" given for the vasoline is actually the Er of the aether as affected by the Vaseline, and therefore the actual permittivity of the aether, when mixed with the Vaseline, is 2, indicating that the effective Er of the vasoline is ~1, with the mix ratio inherent in the vasoline. The next step was to reconsider the atomic structure of any dielectric, a tiny nucleus surrounded by even tinier orbiting electrons, all immersed in the aether and affecting that aether by imposing a load and causing it to exhibit the higher Er.

The Aether in a Capacitor and the BB Effect. If we construct a capacitor (for example) with two 12" diameter disks separated by 10" and place it in a vacuum (aether only, no air) it will have a capacity of about 2.54 pico-farads. By applying 1,000 volts across the capacitor it will acquire a charge of ~0.00254 micro-coulombs. Consider the aether in this capacitor: The electrons in the circuit have gone to the negative plate and so repel the aether, while the positive plate attracts it. This causes the aether to develop a density gradient in the plate-to-plate space of the capacitor, such that we have a negative plate adjacent to a positive aethereal space, this positive aethereal space blending into a negative aethereal space, and this negative aethereal space adjacent to a positive plate. So long as the plate charges remain the aether is held in its unnatural 'warped', or charged, state. Also, note that an attractive force is present that would draw the plates together if they were free to move.

Consider further the aether on the outer sides of the plates of the capacitor. Here, the aether repels the negative plate, and attracts the positive plate. Again, if the capacitor were free to move it would move (as a whole, this time) in the direction that the positive plate was facing as a result of the *two* aethereal forces. This is precisely the situation observed in the Biefeld-

It should be pointed out, as relevant in the study of the aether, that wherever the aether is compressed the speed of light (C) is lessened, and conversely, where it is rarified C is increased. A case in point is where the aether is gravitationally compressed around a galaxy and, due to its self-repulsion, forms into an atmosphere-like volume around that galaxy which has a density gradient that is an inverse function of the square of its radial distance from the center of the galaxy. This is what Vera Rubin5 reported in the '80's, as the Dark Matter (Mass). This aethereal distribution extends into space far beyond the visible extent of the galaxy, comprising a natural Luneberg Lens6, one that is responsible for the so-called "gravitational/galactic lensing effect" seen by the astronomers around some galaxies.

Free Energy Resonance. A critical question must be answered: "What is there about the aether that could lead to a unique resonant frequency, one that is not necessarily common to all experiments?" Note:

1. The permittivity (ε) of the aether is: 8.85 x 10-12 farads/meter.

2. The permeability (μ) of the aether is: 1.257 x 10-6 henrys/meter.

3. The speed of light (C) on Earth is: $1/(\mu\varepsilon)0.5$ meters/second.

4. The frequency (F) of a resonant circuit is: $1/\{2\pi(LC)0.5\}$ hertz.

Observe the similarities in the formulas for 3 and 4, and the fact that L is expressed in henry's and C in farad's, just as are the permeability and permittivity of space. If we substitute the values given for μ and ε in the frequency formula we get a frequency of 47.7 Mhz. Realizing that μ and ε have to do with an aethereal volume we can increase this volume by any arbitrary number (N), thus increasing both μ and ε by N. If we then make N = 100, we end up with a frequency of 477 Khz. The conclusion here offered is that a free energy device, by the nature of its design, couples into a unique volume of the aether which can be made to resonate at a frequency that is related to the fundamental values of μ and ε.

Free Energy Experiments report the necessity of developing a "dipole" in the aether, this being a magnetic field in the Motionless Electromagnetic Generator (MEG) of Tom Bearden, and an electric field in the Electricity Generating Apparatus (EGA) of Harold Aspden. In both instances the effect of the field on the aether should be visualized. In the case of the electric field, if the probe is positive and raised somewhat into the air, it will cause the aether to become more dense above and around it,

forming a density gradient extending into space. In the case of the magnet, it is believed that the magnetic field is literally a flow of the aether, entering at the magnet's So. Pole and exiting at it's No. Pole. If this is so, then there should exist an aethereal low-density volume (+) at the So. Pole, and a high-density volume (-) at the No. Pole.7

An **Atmospheric Potential Gradient** exists from the Earth's surface to the ionosphere that is said to be 300 volts per meter. If this gradient were linear there would be a potential of ~30 million volts at an altitude of 62 miles. Aspden's +30,000 volt dipole, when thrust into this aether, will cause a dome of high aetheral density to form over and around it, and should bend the +30,000 volt atmospheric potential gradient (normally 100 meters at 300 v/m) downward to pass through at the dipole level.

Conclusion, General. Information has been gathered from numerous sources in the "Free Energy" field, and I've added my personal views of the aether, including some ideas that I believe to be completely new, especially that concerning a resonant aether. The characteristics given for the aether, deduced from the evidence, are those that appear to be necessary for the aether to behave as it does, and for it to do what we envision it doing. I've also stayed away from anything akin to "magic", as well as from hypotheses which are fantasies without a basis (called "floating abstractions", by Ayn Rand).1

The aether must be recognized as pure energy, that which results from the E = mc2 transformation. The aether enveloping the Earth contributes some 99.95 % of the mass going into the permittivity of our atmosphere, which stores an immense charge, that created by the 30 million volts. Beyond the ionosphere there's a vast reservoir of aetheral energy pressing in on us, ready to immediately replenish what little we may manage to capture, whether individually, or collectively with the rest of the World. Whatever mechanisms we *do* devise (and I imagine that there will be a number or workable solutions) will probably need to take into account the inherent, but latent, resonant characteristic of the aether. We will need to couple into the aether in some manner, taking into account the wavelength of concern, using a Hi-Q resonant circuit of our making. Will it be necessary to "tickle" our device to get it going, as with the MEG, or, if we get the formula right, will an automatic oscillation develop, requiring no input energy? From the evidence this last possibility should be our goal.

Given the parameters we are faced with, and the instances of positive results, there can be no reasonable doubt but that Free Energy is just around the corner, and from these same parameters one should expect that Aethereal Energy Generators (AEG's) will be built ranging in size from scooter motors to megawatt power stations.

Conclusion, Specific. In the light of scientific skepticism and regulatory obstructionism, and the consequent funding difficulties, and the possibility of attracting active opposition, I urge that those who do develop workable devices not allow themselves to be hung up in limbo awaiting Patent protection, and then awaiting regulation, and then awaiting funding, etc., etc., ad nauseam. Instead, I suggest that they should simply start building working AEG's, selling them as built and at high prices (like the rides on SpaceShipOne) to those who are willing to pay those prices, even willing to pay in advance (and there will be many). These adventurous "first timers" would probably welcome an opportunity to contribute to the development of "Free Energy", provided that they could be "one of the first" with an AEG, and then were assured that when improved models became available they would not be forgotten.

These efforts should be made known only sufficiently to attract those sales necessary to reach the needed goals, and, of course, one goal should be to continually accelerate manufacturing and sales. Once a critical volume, or level of activity, is reached a crash publicity campaign, perhaps via the Internet, would make all known to multiplied millions of folks, and should establish such a demand that there'd be no stopping the juggernaut.

References: Ref: 1. Wright, J.B. "The Cosmic Cycle". (In process, unpublished). In this paper I establish the absolute necessity of an aether, identified as the energy in the E = mc2 conversion. This aethereal mass comprises 90%, or more, of the mass of our Observable Universe (and presumably of the mass of the infinite ocean of galaxies beyond), and, together with the material mass, is 100% recycled into new galaxies, over and over again, eternally, in innumerable places throughout the infinity that is Existence. The Cosmological Redshift, as well as the Intrinsic Redshift, may be explained as the logical result of this model and the characteristics for the aether outlined earlier. jbwright@snowcrest.net.

Ref. 1.b. In another (In process, unpublished) paper "Redshifts and the Universe" I make the argument that on Earth we have an ionosphere that is highly positive and that the source of that charge must be the Solar Wind. This ionized Wind comes from the Sun. Why is the Sun positive? Only if its negative charge left by way of its E = mc2 activity, i.e., as a component of the energy mass, or the aether.

Ref. 2. Rand, Ayn. 1966. "Introduction to Objectivist Epistemology", from Amazon.

Ref. 3. Sweet, Floyd; See Tom Bearden's, 2002, "Energy from the Vacuum", Page 305 ö 321.

Ref 4. This phenomena is one cause for the movements as noted,

and explained away as only "ion winds", despite the fact that there was movement noted in tests made in a vacuum chamber. It also supports the claim that the BBE should be considered as a propulsion means for outer space. Acceleration will not be constant, however, in that as the craft starts to move and accelerate it will immediately encounter a drag from the aether due to its inertia.

Ref. 5. Rubin, Vera. 1983. Scientific American, issue "Galaxies of the Universe", ~1984.

Ref. 6. Luneburg Lens. This type of lens is used to focus a radar beam and consists of a dielectric sphere built up with successive layers of dielectrics, each slightly lower in Er than the previous one. By locating a feed-horn at a proper distance from the lens its beam is focused on a distant target.

Ref. 7. Interconnected disks placed near each pole should force electrons from one plate into the other. My attempts to "see" this have not been successful due, perhaps, to the crude test setup used and to a strong 60 hz interference. (?)

Note: An interesting and pertinent observation, in re the $E = mc2$ formula, that has to do with our discussion of the aether, is the effect of substituting the value of C in that formula, where $C = 1/(\mu\varepsilon)0.5$. The result is $E = 1/(\mu\varepsilon)$! This relates E to an existent, the aether, and to the effects that an aether of various densities will have on the energy attainable from a given mass.

James B. Wright, 10/20/04
S FREE ENERGY DEVICES,htm

More on the Cosmic Cycle.

9/3/04

The solution offered, in an earlier paper, as a mechanism for generating the Cosmological Redshift, a constant increase in the density of the aether, left hanging the question of how we could have an *effective* increase in density throughout eternity without an actual overall increase. (?) Obviously, something must be at work generating such an effect for the hypothesis to be valid.

In my post dated 9/1/04 I recited the discovery by Vera Rubin of the Dark Mass that envelops spiral galaxies (and presumably all galaxies, to some extent), and the fact that this Dark Mass is about ten times greater than the Visible Mass of the galaxy, even for our Milky Way galaxy. I also pointed out that the spiral galaxies selected for study (selected because of the relative ease with which their rotational velocities could be measured) were middle aged, possibly 10 to 20 billion years old.

If, indeed, Quasars represents the birth of galaxies, we can imagine that it emerges from its Seyfert parent relatively free of Dark Mass (Energy/Aether) but that it is born with its' nuclear fires burning, and is emitting energy at a great rate, following the E = mc^2 formula. As this energy is gravitationally responsive it remains in the space surrounding it's galaxy of origin. Shortly after birth, if you were to calculate the amount of material mass being converted into energy mass per second, and divide this mass by the mass of the Dark Mass of the new galaxy you would discover that the *rate* at which the Dark Mass was increasing in mass (and in density) was extraordinarily high.

As the galaxy aged, its rate of conversion of material mass into energy mass would slacken, and the amount of accumulated Dark Mass would have grown, so that a new calculation of the rate at which the Dark Mass was increasing in density would have fallen. Further aging would cause this rate of increase in Dark Mass density to fall even more, with this continuing until the galaxy eventually reached old age at which the rate of increase would approach zero. As this cycle progressed the Cosmological Red Shift generated by that galaxy would go from being very high, initially, to very close to zero at old age.

We could plot three interesting curves, with their X-axis running from t = 0 to t = (say) 50 billion years, to show these changes: 1) displaying the amount of material mass being converted into energy mass, per second; 2) displaying the amount of mass accumulated as Dark Mass; 3) displaying (No. 1 / No. 3) the rate-of- increase in the Dark Mass, per second. While I

cannot put such curves in this paper, I have calculated the rate-of-increase in the Dark Mass surrounding the Milky Way:

1. Mass of the Milky Way ~2 x 10^44 grams

2. Mass of its Dark Mass (No. 1 x 10) ~2 x 10^45 grams

3. Energy output of the Milky Way ~4 x 10^44 ergs/sec.

4. Mass lost in the production of this energy
~4.44 x 10^23 gr/sec.

(m = E/c^2, w/c = 3 x 10^10 cm/sec)

5. Ratio of #4 to #2 (rate-of-increase in mass)
~2.22 x 10^-22 gr/gr/sec.

This rate-of-change must be compared to the rate-of-change taken from the Expanding Universe (EU) studies, derived by triangulation and other reasonable means for the rate-of-expansion, of 2.27 x 10^-18 m/m/sec., which is an average rate-of-change taken from light having traveled through innumerable galactic spaces, each having a rate-of-change in it's density varying from far higher than this to well below the rate-of-change in density calculated for the Milky Way galaxy.

Now, if we consider the rate-of-change curve (#1) described in the paragraph above we see that the contribution of any one galaxy to the average rate-of-change of the Universe is a transient affair, beginning at a very high rate and ending at an essentially zero rate some 10's of billions of years later. What we see, then, is the average rate-of-change in density of a great number of galaxies as they age, with the contribution of each falling to zero at old age and the galaxy itself disappearing, en toto, as it merges with, and/or is swallowed, by a Seyfert galaxy.

Addendum and comment: While this scheme of things seems to me to be correct, I have a concern that I've not been able to resolve. Consider:

The speed of light, in terms of the permeability and the permittivity of space, is 3 x 10^8 meters/sec. If we substitute this value for C in the e = mc^2 formula, we get a rate-of-change of 2.22 x 10^-18 gr/gr/sec., precisely the rate-of-change developed by the EU folk. The agreement in these two numbers would seem to be just too close for them to be coincidental, especially when the two numbers were developed completely independently of each other.

I believe that these rates-of-change should be the same, but I've not been able to determine where my logic is flawed. Any ideas?

Jim Wright
S "More on the Cosmic Cycle"

Redshifts in the Universe.

Some 40 years ago, I became sufficiently irritated by a (once too often) reference to the "Expanding Universe" (EU) that I decided to develop an alternative mechanism for generating the Cosmological Redshift. None of the mechanisms discussed in the Astronomy books were any better, in my opinion. The EU's 70 km/mega-parsec/sec. rate-of- change reduces to 2.27 x 10-18 m/m/s, and I decided that this number was reasonably solid as a rate-of-change, and one that I'd have to match by other methods for my hypothesis to be considered. Rather recently, I succeeded in coming up with an R of 2.22 x 10-18 hz/hz/sec., based a certain on-going activity in space, completely divorced from that used by the EU scientists for their rate-of-change.

For this study: a. I assume, at face value, the existence of a Dark Mass, as originally proposed by Vera Rubin in her 1983 article "Dark Matter in Spiral Galaxies" in "The Universe of Galaxies" in the 1984 issue of Scientific American, a mass some ten times greater than the visible mass of the galaxy. b. I assume that our visible Universe is but a small sample of an infinite and eternal state of Existence (given that Creation, as Something from Nothing, is ruled out as pure magic). And, c. I assume that the aether is an existent and is actually another name for the energy mass, an intrinsically negative medium, spewed into space by the stars of the galaxies, including our Sun.

From (b) I conclude that there is no "sink" for the energy leaving the Stars to disappear into and, therefore, we can envision our "Observable Universe" as not only being filled with that energy (aether) but effectively bounded on all sides by aether to infinity. Additionally, using the generally accepted concept that the Sun is an average star in our galaxy, and, for convenience, I assume that the Dark Mass is apportioned equally among the stars of a galaxy and that the Sun also has ten times its mass as Dark Mass, allowing me to stick strictly to Solar statistics for this study.

First, a comment on the E = mc2 formula. $C = 1/(\mu\varepsilon)..5$, and by substituting this value for C in the energy formula, I get $E = m/(\mu\varepsilon),.$ Using this formula and solving for m using a Solar Luminosity of 4 x 1033 Ergs, a value of 1.257 x 10-6 henrys/meter for μ, and a value of 8.85 x 10-12 farads/meter for ε, I get a mass of 4.44 x 1016 grams for the mass converted into energy by the Sun each second. This is 10,000 times more mass than conventionally reported, using a C of 30 billion cm/sec. instead of 300 million m/sec. I prefer the 3 x 108 figure for C simply because it is a number that depends directly on the underlying permittivity and permeability of the "vacuum" of space.

Next, by multiplying the Solar Mass, of 2 x 1033 grams, by 10 we get a Solar Dark Mass of 2 x 1034 grams. Now, considering that the mass lost by the Sun through radiation is mass added to the Dark Mass of the Sun, and dividing one by the other, we get:

(4.44 x 1016) / (2 x 1034) = 2.22 x 10-18 gr/gr/sec., as a *constant* increase in the density of the Dark Mass.

As this Dark Mass (or energy mass, or aether) is increasing in density by this rate, so is the permeability (μ) and permittivity (ε) of space. In that C is dependent upon these numbers (is equal to the inverse square root of their product) it becomes obvious that C, itself, will be decreasing at the same rate, and that therefore it will take ever more time for e.m. waves to travel though a given increment of space. The result is that while the number of waves per second entering the space is constant, there will be a constant increase in the number of waves required to fill that space, so that the number of waves per second leaving the space will be less than the input by the rate at which the waves in transit is increasing each second. Consequently, there will be a redshift in frequency for so long as there is a positive rate-of-change in the density of the aether. As this redshift is for each second of travel of the wave through space, consecutive seconds of travel will result in a compounding of redshifts. The formula that applies to this is:

Fo = Fs (1-R)t , with R being 2.22 x 10-18 and t being the seconds of travel (t is actually distance increments of 3 x 108 meters), and the F's being the observed and source frequencies. For ease in working with these excessively large and small numbers the Growth/Decay Formula can be used:

Fo = Fs x ε-Rt, the ε, in this instance, being the base of the natural system of Logs.

Observe that if R becomes smaller, the Redshift is lessened, and this is a change to be expected as the Sun ages and it's energy output falls off at the same time that its Dark Mass has grown ever more massive. Looking backwards, one can envision a time when the Sun was young, and its energy output much higher at the same time that its Dark Mass was just beginning to accumulate, a time when R would be far larger than the number we calculated above. In this regard, it should be realized that the contribution of any galaxy to the overall R of the Observable Universe is a transient affair, perhaps 50 billion years in length, and so there is no actual net increase in the overall Dark Mass of Existence. The Redshift effect is the result of compounding a great number of one-second increments of travel of the e.m. wave through a lot of average middle-aged galaxies. A galaxy comes into

being, does its thing, and dies away.

Another observation: If Fo/Fs were to be 0.5, then a given increment of space would be inputting energy at twice the rate that it was outputting it. I.e., the energy of the observed wave would be half that of the source wave, **but,** if the source transmitter died after 5 billion years, the observer would receive the transmitted energy for 10 billion years, such that the total energy received would equal the total energy transmitted. No "tired light" required.

As for Ashmore's (first) Paradox, I am reasonably sure of my proposed cause for the Redshifts, but, even so, I am not convinced (assuming Ashmore's calculations to be valid in all respects) that what he calculated is simply coincidental, because the numbers are just too close to be that easily dismissed. The many writings of Dr. Harold Aspden on the aether, which he has been studying for decades, may be useful. He also has a patent which tells of obtaining useful energy directly from the aether, without (and I can hear the screams) of having to input any energy. UK Patent No. GB 2,390,941 A.

In my Cosmic Cycle, in this Forum, you may have noticed that I claim for the aether (among other things) a negativeness that would seem to be logical given the positive potential that the Sun is driven to, seemingly caused by having lost so much energy mass. Where else for the negative charge to go but with the energy mass, not as a charge, per se, but as the essence of charge (whatever that may be). So, there is the possibility that this negative energy is, in some manner, displaying the characteristics of an electron, and this is where Aspden's theories may be relevant.

In my studies of dielectrics and their effects on the relative dielectric constant (Er), I am convinced that there's no "tired light" effect present. The dielectrics, and the electrons in space, simply drag down the speed of light as it travels through them, and once the e.m. wave is freed from that dielectric, it reverts to the C it had when it entered that space. I do see a mechanism for the development of an Intrinsic Redshift, however, which is the effect on any natural radiations of a material by the presence of the aether. The greater the aethereal density, the slower the orbiting electrons move and the lower the radiated frequency (with it's characteristic spectrum intact), again due to "drag", this time on the very electrons that are responsible for the radiations.

An excellent example of the Intrinsic Redshift is the Quasars that Dr. Arp has observed as being ejected from the massive Seyfert's, and other active galaxies. These objects occur in pairs traveling in opposite directions, seemingly ejected from the center of the galaxy out through its polar regions, beginning with a very high redshift, only to see that redshift fall rather rapidly as these Quasars get ever further from the parent galaxy. In the

central regions of the Seyfert's the aether will be exceedingly dense and can be expected to strongly affect the speed of orbiting atomic electrons and the frequency of their radiation. Therefore, the Quasars should be expected have this same density and redshift, which will become visible when they are initially ejected, at which, the pressure being relieved, will see this density decrease and its redshift fall, and as time passes and they get ever further from the parent galaxy become not too different in redshift than other galaxies in the vicinity.

These two redshifts, the Cosmological Redshift and the Intrinsic Redshift will, of course, be additive, as will the effects of Doppler Redshift/Blueshifts, so it behooves those who study such things to factor out the second two if they are to gain an accurate measure of the distance to the object being studied. The Quasars have been thought to be at the very fringes of the Observable Universe and hence considered to be enormously powerful. If we factor out their Intrinsic and Doppler Redshifts it is probable that these Quasars are about the size of new galaxies and that the size of the Universe will be found to be far smaller than reported.

One, final (?) comment: we have pointed out that the aether fills the space within the atoms of material mass and affects the electrons in orbit around those atoms, and now remind the reader that the atoms in one's body are similarly immersed in the aether and that it presumably affect our bodies in some manner as well. This aether is relatively dense, however, it is not felt any more than a fish at the bottom of the ocean feels the tremendous pressure of the water.

A wire carrying an electrical current is also immersed in and filled with the aether. The electron flow causes the aether to form a magnetic field (an aethereal flow) around the wire and presumably within the wire, but no motion will occur unless an external magnetic field is also present.

Returning to the Growth/Decay formula:

Fo = Fs x ε-Rt, and rearranging it to read

Fo/Fs = ε-Rt, and then using R as found above and 10 billion light-years of travel from some distant galaxy, and solving for Fo/Fs, we have:

Log (Fo/Fs) = -Rt (log ε) = - (2.22 x 10-18)(3.1558 x 107 x 1010)(log 2.71828183)

= - (0.7005876)(0.4343) = -0.3006747.

Fo/Fs = 0.4963, the Cosmological Redshift at 10 billion lightyears.

Fo/Fs = 0.2463, the Cosmological Redshift at 20 billion lightyears.

Fo/Fs = 0.0627, the Cosmological Redshift at 40 billion lightyears.

(Frequency is used in the above calculations in that this is actually what we are measuring, not wavelength, which depends on a changing μ and ε.)

Jim Wright, 10/12/04
S Redshift's.htm

The AETHER, as a Dielectric

For this study, the aether endowed with four basic characteristics (as developed in an earlier cosmological study):

1. It is all-pervasive, occupying the interior of the atom as well as intergalactic space.

2. It has mass, and therefore is responsive to gravitational forces.

3. It is intrinsically negative, reacting appropriately to electrical charges, and also being self-repulsive.

4. It is compressible.

In that we will be substituting the aether for the vacuum of space, we include the characteristics normally associated with space:

5. It has a permeability (μo) of 1.26 x 10-6 henry/meter.

6. It has a permittivity (εo) of 8.85 x 10-12 farad/meter.

The Capacitor.

The capacitor used for this study has two parallel plates, with an area of 100 square inches, and a separation of 2 inches. It's capacity, in farads, is:

$C = 100/2 \times Er \times \mu o$, with Er being the relative dielectric constant of the material between the plates, if other than a vacuum. For a vacuum:

C = 50 x 8.85 x 10-12 farads, or, 442.5 pf.

If we allow the atmosphere, with an Er of 1.00054, to surround the capacitor, its value is increased to: C = 1.00054 x 442.5 = 442.74 pf, an increase of only 0.24 pf, despite the fact that we now have something tangible, and relatively massive, between the plates instead of than the "nothingness" of the vacuum. But we must remember that the atoms/molecules of the air occupy only a tiny fraction of the space between the plates of the capacitor, with the remainder still being vacuum. As this is so, the effect of the vacuum is far, far greater than that of the air and still the major contributor to the capacity of the capacitor.

Instead of air we now use Teflon, with an Er of 2.1, as the dielectric in the

above capacitor. In this instance the total capacity rises by a factor of 2.1, but once again the space occupied by the vacuum has been only slightly diminished. Teflon has far more effect than air, but still is only able to raise the total dielectric constant of the vacuum/Teflon combination to 2.1 x 8.85 x 10-12 = 18.585 x 10-12 farad/meter, an increase of 9.375 x 10-12 farad/meter. The obviously more massive Teflon has little more effect on the final dielectric constant that the vacuum alone!

This same effect is true whether the Er is 2.1, or 4, or100. The effectiveness of the dielectric material chosen may be more or less, but the contribution of the vacuum is always present. No let's shift gears and look at the capacitor in another light.

The Charge Mechanism of a Capacitor.

The charge on a capacitor, in coulombs, is a function of its capacity, in farads, and the applied voltage, in volts:

$$Q = CE$$

If we apply 1,000 volts to the Teflon dielectric capacitor, discussed above, we get:

$$Q = 1000 \times 18.585 \times 10\text{-}12 = 1.8585 \times 10\text{-}8 \text{ coulombs.}$$

For perspective, a coulomb is the amount of charge that passes through a point in a circuit in one second when a current of one ampere is flowing. And, as one electron has a charge of 1.602 x 10-19 coulombs, this capacitor, of Teflon, has a 116 billion electron charge.

To get to the point, the charge in a capacitor resides in its dielectric. In the case of a Teflon dielectric, e.g., the orbits of the electrons around the Teflon nuclei are forced away from their normal concentric locations to one that shuns the negative plate of the capacitor and is drawn towards the positive plate. They are "stressed", or warped, and held in this unnatural position by the electron imbalance on the capacitor plates. A capacitor with a higher Er will accept a greater charge and it does so simply by involving more electrons from a more compliant dielectric.

But what is the charge mechanism for a vacuum where there are no electron orbits to warp? Here we introduce the concept of the aether, as defined in the beginning of this paper, and discover that it appears to have the needed mechanism. Consider the space between the plates of the capacitor. The negative and compressible aether is attracted by the positive plate and is repelled by the negative plate. This results in a density gradient in the aether between the charged plates of the capacitor, wherein it is below the average

aether density (average for Earthly activities) near the negative plate, and is above the average aether density near the positive plate. The aether is stressed, or warped, a condition effectively the same as that found within material dielectrics, and one that is held in place by the electron imbalance, in this instance, just as is the orbital warp.

The conclusion drawn from these considerations is that the aether is real and its effects cannot properly ignored in calculations involving the dielectric of a capacitor, or other in any other electrical device.

JBWright, 10/12/02

The Cosmic Cycle.

When we come to realize, and to accept, that there is no such thing as "Creation" (as in 'Something out of Nothing'), whether by Big Bang, or by God, or Other, then we must accept, as logically necessary, that the Observable Universe has been around for an eternity. For this to be true, even though the galaxies we see are all busily burning themselves into ashes, there must be a reverse activity somewhere wherein 100% of these ashes are reconstituted into new galaxies. Such a reversal would appear to be occurring in the massive Seyfert-type galaxies, as evidenced by Halton Arp's undeniable proof that Quasar pairs are periodic ejections from such galaxies, ejections which go on to eventually become full fledged galaxies in their own right.

For this recycling to do the necessary job, the ashes must include both material mass *and* energy mass, for to lose even a little bit of either would constitute a loss which, in an eternity of activity, would have meant losing it all an eternity ago.

A similar argument can be made for an infinite Universe, in that for the Universe to have an edge would mean juxtaposing Something and Nothing, obviously nonsensical, unless we invoke another magical fix and impose "Curved Space". So, what we are left with is an infinite and eternal state of Existence, of which the Observable Universe is but a tiny sampling. This directly affects the reasonableness of such hypotheses as "An Expanding Universe", Etc., and constitutes a condition that must always be considered.

From an overall perspective it appears that our Milky Way galaxy but one of an infinite number of galaxies floating in an infinite ocean of energy. These galaxies are affected by one another's gravitational fields *and* magnetic fields, merging if both fields are attractive, and rebounding if their magnetic fields are opposing. Eventually, however, they do merge and grow until they reach a critical mass, such as in a Seyfert galaxy, at which they begin to have convulsions at their centers, where a material mass and energy mass mix is under extreme compression, and presumably exceedingly hot.

It further appears that under such conditions a reverse nuclear reaction takes place wherein a portion of the combined masses, at the *precise* center of the Seyfert, is rather suddenly transformed into a proto-Quasar. If this newly created entity were to be endowed with a magnetic field 180 degrees opposite to the field of the parent Seyfert, we would have the makings of a magnetic rail-gun, which would split the proto-Quasar mass into two equal parts, ejecting them in opposite directions, one out of the South Pole of the Seyfert and one out of the North Pole.

As the Seyfert acquired more mass it would eventually reach the critical mass again, at which it would eject another Quasar pair. This would continue indefinitely, as one of an infinite number of such processes taking place to infinity in all directions. These local happenings, or cycling's of material mass and energy mass, would maintain our Observable Universe vibrantly alive and beautiful throughout Eternity.

While the concept of Existence, as an infinite and eternal state of being, is difficult to imagine, actually, it is far less unreasonable than the alternatives being foisted on us. It just takes a bit of getting used to.

Jim Wright, '04
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