Living Cosmos: An Alternative to the Big Bang Theory

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ABSTRACT

The Living Cosmos is an alternative explanation to the Big Bang theories of cosmic creation and evolution. It differs from the Big Bang on two major points. First, the Big Bang began suddenly with a singularity containing an undetermined amount of "pure energy" that was not conserved as it spread out into the universe and eventually transformed into atoms and photons. The evolution of the Living Cosmos begins with a single, matter/antimatter duality containing equal and inseparable quantities of Energy and Mass $E/M = CC$ that remain independently conserved throughout the entire evolutionary process. Second, Big Bang theories all begin with the often unstated metaphysical assumption that the electron/proton mass ratio of $e/p = 1/1836$ is a universal and eternal constant that has not changed since the beginning of time. The Living Cosmos creation process begins with an electron/proton mass ratio of $e/p = 1.0/1.0$ that has slowly evolved throughout cosmological time to its present value of $e/p = 1/1836$. This new cosmic model uses Big Bang's astronomical observations and measurements to illustrate a cosmic reproduction process producing equal quantities of atomic matter and antimatter. Instead of a nearly instant inflation followed by slow gravitational collapse, the Living Cosmos was formed through evolutionary reproduction and separation processes lasting billions of years. The galaxies, stars and atoms reached their present structures and locations through first weak nuclear, then strong nuclear, and finally electromagnetic interactions. Gravity played only a minor role in this organizational process. Contrary to Big Bang models, this new cosmic model strictly adheres to the principles of the scientific method of experimental measurement as they apply to quantum mechanics, electrodynamics, and the laws of gravitational force and motion,. The Living Cosmos examines the basic values and events in cosmological history from perspectives that are sometimes upside down, backwards, and inside out from standard Big Bang ideas. In this non-linear synchronous creation, antineutrons reproduced first, then atoms formed as they emitted photons. Galaxies formed before stars and then stars were created before protons, electrons, and photons. The conclusions reached from the slowly evolving electron/proton mass ratio provide new explanations for matter/antimatter equality, Hubble red shifts, Dark Energy, the homogeneous 2.7 K temperature of the cosmic blackbody radiation, the enormous energy of cosmic rays, the constant energy output of the sun, plate tectonics, and even the very large size of dinosaur bones.

Introduction

The **Standard Model Big Bang Theory** is based on relativity theory and the unmeasured but unquestioned metaphysical assumption that the electron/proton mass ratio e/p = 1/1836 is an unchanging, universal constant. To support this idea, theorists are forced to imagine that the universe began with the sudden appearance of a singularity of "pure" energy. This unknown type of energy was then imagined to be transported instantly to the far reaches of the known universe, where it was transformed into electrons and protons at e/p = 1/1836. This matter was produced without any apparent creation of antimatter. These particles of matter then somehow managed to find one another in the vastness of space, couple together into atoms, and emit a universe-wide blast of photons with a constant 3000 K blackbody temperature corresponding to e/p = 1/1836. These photons are imagined to have "cooled" to the present temperature of 2.7 K through an imaginary process that violates the first and second laws of thermodynamics significantly. The universal homogeneous cloud of radiating atoms then slowly cooled, divided, and collapsed into stars, then galaxies, and finally great walls of galaxies. General Relativity has no explanation for this fractal accumulation of the original cosmic matter. The transition from a single point of energy to the present universe according to the Big Bang Theory requires cosmologists to make a whole series of metaphysical assumptions that have no counterparts in the conservation laws and principles for the scientific method of experimental measurement.

The Living Cosmos Principle is based on the principles and conservation laws of the scientific method for the experimental measurement of mass, space, time, and gravity. The initial physical assumption of cosmic evolution is the eternal, separate, and opposite existence of protons and electrons. These particles have always had a total mass equivalent to that of about 10^{80} protons and a total energy of about 10^{67} J. The total energy/mass $E/M = c^2$ of the atoms and photons in the cosmos has always been about 10^{67} J$/10^{50}$ kg, where c is the speed of light in a vacuum.

The positive reality of the Living Cosmos begins as a single anti-hydrogen atom sitting at rest at the "center" of the negative reality of the universal void. What makes this anti-atom "alive" is that it first had eternal existence and then, in contrast to the constant size and mass of positrons, the antiprotons slowly increased in size with a proportional decrease in mass. To conserve energy and angular momentum, this transformation eventually caused the anti-atoms to collapse into antineutrons and then bifurcate into pairs of high-energy stable antineutrons. This process began a series of 256 non-sequential antineutron bifurcations that lasted many billions of years. The process began very slowly, sped up, and then stopped when the mass and size of an antiproton equaled those of a positron. The cosmos then contained 2^{256} eternal electrons and protons, as it still does, that were bound together into stable neutrons. Because the bifurcation process began slowly and then became very rapid towards the end, it stopped with the last of the bifurcated antineutrons being mostly concentrated

into large neutron clouds at the locations of the present galaxies, stars, and planets. The neutrons all eventually decayed into electrons and protons and coupled into atoms, and their kinetic and ionization energies filled the universe with 2.7 K spectral blackbody photons.

Keywords

Cosmology, Big Bang, Matter/Antimatter, Antineutrons, Dark Energy, Cosmic Rays, Solar Energy, Plate Tectonics

Initial Conditions of a Living Cosmos

The Living Cosmos is not a universal "theory" of either everything or anything. It is a physical model of the experimental measurements made on Earth and in the cosmos. The physical principles of the cosmos must be constructed from these calculations, and metaphysical theories must be used to propose ideas that cannot yet be confirmed with experimental values. The Living Cosmos is not a theory, but rather a physical model based on the scientific measurement method. It requires none of the unmeasured metaphysical assumptions used in the Big Bang Theory. The initial physical assumption of the Living Cosmos model of creation is based on two experimental principles of cosmic measurement.

Electrons and protons are eternal and have always existed in equal numbers with a total energy/mass ratio $E/M = c^2$. Electrons evolve with decreasing E/M, while E/M remains constant for protons. The rotational $E/M = CC$ lost by electrons provides the linear $E/M = c^2$ for the motion of atoms and the emission of photons throughout the cosmos.

Photons are eternal antimatter/matter dualities with $E/M = cC$ created from the combination of equal units of rotational and linear E/M from an emitting atom. Photons were first formed during the evolution of the electron/proton mass ratio between $e/p = 1/146.5$ and the present value of $e/p = 1/1836$. Prior to $e/p = 1/146.5$, the neutrons remained stable with the electrons confined inside protons. After $e/p = 1/146.5$, the electrons were too large to fit inside the protons but could then attach to the outside of protons, form atoms, and emit photons.

These dual cosmic principles of experimental measurement are not metaphysical assumptions. The Living Cosmos model contains no metaphysical assumptions and only assumes the validity of the conservation laws established by the physical measurement process.

Big Bang theorists believe that the universe began as pure energy and that it now mostly contains mass. In the Living Cosmos model, energy and mass are

always equal and complementary aspects of the units of E/M that we call electrons, protons, and photons. Individual units of energy or mass can only be conceptually separated from a unit of E/M. Energy and mass are equal, opposite, and inseparable parameters of E/M = CC for atoms, E/M = cC for photons, and momentum E/M = cc. In the Living Cosmos, there is absolute conservation of atomic and photon momentum, angular momentum, and E/M.

The Living Cosmos contains absolute motion but no "space," "ether," or "continuum" other than the negative reality of an imaginary universal void. This void is the position of zero momentum for all moving atoms and photons. Time is a measure of the relationship between the rotational and linear motion of E/M.

When E/M = cC from a photon is absorbed by an atom, it maintains its rotational E/M = C and transfers its linear E/M = c (momentum) to the absorbing atom. When a photon is emitted, its remaining rotational E/M = C is divided between two photons and combined with the linear E/M = c of the atom to provide the photon with equal portions of linear E/M = c and rotational E/M = C.

Evolution of the Living Cosmos

There was never a hot initial explosion of pure energy from a singularity. Rather, we live in a very cold, eternal Living Cosmos containing only the pure rotational E/M = CC of spinning circlon-shaped particle dualities and the linear E/M of atoms, c^2, and of photons, cC.

A position with zero momentum defines the primordial initial temperature of the anti-atoms, absolute zero, i.e., 0 K. Rotational energy was generated due to their spinning with an equivalent linear speed equal to the speed of light C in different planes, but none of the linear energy needed to decay or create the momentum of photons existed.

The only constants in the Living Cosmos are the structural relationships among mass, space, time, and gravity and the values of force, momentum, angular momentum, and E/M.

Arbitrary Beginning for a Living Cosmos

Antiproton/positron mass ratio a/p = 1836/1 to 146.5/1

Bohr Radius $a_o = \alpha\lambda_\infty/4\pi = 1 = 5.292\times10^{-11}$

Fine structure constant $\alpha = 4\pi a_o/\lambda_\infty = .0073$

Hydrogen ionization photon $= \lambda_\infty = 4\pi a_o/\alpha = 9.11\times10^{-8}$

Neutron stability number $= M_P/M_E\sqrt{\alpha} = -157$

The universe does not contain any absolute three-dimensional space. All we can ever measure is an infinite number of one-dimensional values. With the second dimension of time, we can measure the two additional dimensions of motion, but these still occur within the one-dimensional space of the void.

Absolute three-dimensional space cannot be measured and is purely imaginary. The four-dimensional space-time of gravitational force and motion is measured with an interval of time and along single vector in space. The four-dimensional phenomenon of gravity is best understood in terms of our three-dimensional senses and imaginations. The third gravitational dimension of the universe is not absolute like the first two, but rather is constantly changing with the gravitational transformation of mass, space, and time.

The Living Cosmos Principle is based on the single initial physical assumption of the eternal and separate existences of protons and electrons. These particles have always had a total mass equivalent to that of about 10^{80} protons and a total energy of about 10^{67} J. At this arbitrary initial point, the Living Cosmos was a single anti-hydrogen atom sitting at rest in the "center" of the universal imaginary void of zero momentum.

These two equal and opposite eternal particles were coupled together into an anti-hydrogen atom at 0 K. All of the rotational E/M = CC of the universe was contained completely within the spinning coils of the Circlon shapes of these two particles.

The single eternal anti-atom had an evolving a/p of 1836/1. What makes the cosmos "alive" is that the antiproton is slowly growing in size with a proportional decrease in mass, while the mass and size of the positron remain absolute. In this process, the rotational E/M = CC of the antiproton is slowly converted into the linear $E/M = c^2$ (vibration) between the two particles comprising the atom. The internal linear energy of the anti-atom continued to build up until a/p reached 146.5/1 and the positron was captured by the antiproton to form an antineutron.

Era of Antineutron Bifurcation

Antiproton/positron mass ratio a/p = 146.5/1 to 1/1

Bohr radius $a_o = \alpha\lambda_\infty/4\pi = 12.5 = 6.615\times10^{-10}$

Fine structure constant $a = 4\pi\alpha_o/\lambda_\infty = .0000465$

Hydrogen ionization photon $= \lambda_\infty = 4\pi a_o/\alpha = .000179$

Neutron Stability Number $= M_P/M_E\sqrt{\alpha} = -137$

The Living Cosmos process through which the universe became filled with electrons and protons that then accumulated into galaxies and stars is analogous to the manner in which a single diatom can continually divide until it eventually fills the oceans with different species of algae, each concentrated into many individual fractal plumes.

Over eons, a/p evolved from 1836/1 to 146.5/1. This increase in relative size of the circlon shape of the antiproton changes the way that the primary and secondary coils of the two particles physically align with one another.

The size ratio between the primary and secondary coils of the antiproton at their connection point is given by $P/S = \sqrt{\alpha}$. Today $P/S = \sqrt{\alpha} = 1/11.7$ for the

electron and proton coils, and the ratio between the primary and tertiary coils P/T is $\alpha = 1/137$.

At $a/p = 146.5$, P/S reached $\sqrt{\alpha} = 1/1$. Thus, the primary coil of the positron was identical in size to the secondary coil of the antiproton. At $\sqrt{\alpha} = 1/1+$, the primary coil of the positron, which had been around the outside of the secondary coil of the antiproton, could fit inside the antiproton coil. The effect of this change in P/T = a caused the positron to be captured inside the secondary coil of the antineutron and the anti-hydrogen atom became an antineutron. Essentially, the anti-hydrogen atoms was turned inside out to become an antineutron.

This primordial antineutron now contained the tremendous amount of linear $E/M = c^2$ that had been building up in the structure of the anti-atom over eons, which caused the antineutron to bifurcate into a pair of identical antineutrons in the instant after it formed. The two new antineutrons contained no linear $E/M = c^2 = 0$. All of the $E/M = c^2$ contained in the parent particle had been divided between the equal momenta Mv of the particles moving apart at virtually the speed of light. This period in cosmic evolution is analogous to Guth inflation in the Big Bang Theory, where in one instant, matter and energy suddenly appeared and in the next instant the matter with no momentum was transported billions of light years out into the universe. The only difference is that, in the Living Cosmos, it is momentum rather than magic that transports the matter billions of light years into the universal void.

With none of the $E/M = c^2$ needed for decay, these new antineutrons were completely stable as they traveled into the far reaches of the universe. Then, after billions of years of the rotational $E/M = CC$ of the antiproton being converted to linear $E/M = c^2$, the antineutrons eventually had enough $E/M = c^2$ to simultaneously bifurcate and convert it into the equal momenta Mv of the four antineutrons moving apart at less than the speed of light with vectors at opposite right angles to their original motion.

This bifurcation was caused when $E/M = c^2$ within the structure of the antineutrons became equal to the difference in rotational $E/M = CC$ between the two particles.

This process gave the total particle the exact amount of E/M needed for matter/antimatter annihilation, but because $E/M = CC$ was not equal among the particles, the antimatter/matter pair bifurcated into a pair of antineutrons instead of photons. For photons, $E/M = cC$ can only be created from equal quantities of rotational $E/M = C$ and linear $E/M = c$.

These four particles remained stable for billions of years and then bifurcated simultaneously when the decreasing $E/M = CC$ of the antiproton became equal to the $E/M = CC$ of the positron plus the $E/M = c^2$ of the antineutron. The eight new particles were all moving with equal momentum along opposite vectors located in one of three imaginary and cosmic perpendicular two-dimensional planes.

These eight antineutrons had reproduced in less time than their parents, and the shared momentum of their decays was also proportionally less, because the percentage decrease of E/M = CC of the antiproton relative to the constant E/M = CC of the positron was constantly decreasing as the masses and sizes of their connected Circlon shapes approached one another.

These eight particles were the beginning of 256 non-sequential bifurcations of the cosmic antineutrons. This binary reproduction process increased the exact number of antineutrons in the cosmos by the powers of two 2^4, 2^5, 2^6, 2^7, … 2^{256}.

Each decay cycle occurred simultaneously with steadily decreasing particle lifetimes and was accompanied by proportional decreases in decay energy. This rapidly increasing reproduction process stopped abruptly when a/p reached 1/1 and e/p became 1/1+. For the antiproton, E/M = CC was reduced to E/M = CC of the positron and there was no more E/M = c^2 for decay. After 250 bifurcations, the antineutrons ran out of decay energy and reproduction stopped.

At this point in the evolution, the cosmos contained its present eternal total of 2^{256} electrons and protons with an eternal mass equivalent to that of about 1.158×10^{77} protons or 1.67×10^{27} kg. These particles were all fused together into stable neutrons and spread out to the far reaches of the universe. Most were concentrated in large clouds around the areas in which stars are located today. These clouds were separated by a few light years but were clustered together within the area of the present galaxies. The galaxies were hundreds of light years apart but clustered together within great galactic walls.

The reason for the fractal accumulation of the antineutrons in the cosmos was the non-sequential bifurcation/decay process. The periodic rate of antineutron bifurcation increased from very slow to very fast. The increase in this periodic rate was accompanied by a proportional decrease in the equal momentum of ejected antineutron pairs.

$$mv = mv \quad * \quad mv = mv \quad * \quad mv = mv \quad * \quad mv = mv$$

The non-sequential bifurcation process gave the first few antineutrons billions of years to spread out into the universal void while traveling at nearly the speed of light. After this first generation of *great wall antineutrons* had spread to the far reaches of the present cosmos, a second generation of *galactic antineutrons* began bifurcating, but these antineutrons were unable to move far away from the locations of the last great wall antineutrons. These galactic antineutrons eventually spread out within the cosmic locations of the present galaxies. A third generation of *stellar antineutrons* then continued bifurcating more rapidly but with even less momentum between them. When the stellar antineutrons had spread out into the galaxies until they were a few light years apart, they became *Atomic Antineutrons* as they began bifurcating. With less and less momentum to separate them, the last of the 2^{256} bifurcated atomic antineutrons became concentrated in large stellar clouds at the locations of the last stellar antineutrons.

Matter = Antimatter Equality
Antimatter/Matter mass ratio 1/1
Bohr radius $a_o = \alpha\lambda_\infty/4\pi = \infty$
Fine structure constant $\alpha = 4\pi a_o/\lambda_\infty = 1/\infty$
Hydrogen ionization photon $= \lambda_\infty = 4\pi a_o/\alpha = 4\pi$
Neutron stability number at $1/1 = M_P/M_E\sqrt{\alpha} = 0$

At e/p = 1/1, the decreasing E/M = CC of the negative antiproton became equal to the constant E/M = CC of the positive positron. This instant was the only one in cosmic history at which matter and antimatter existed in exactly equal quantities. At e/p = 1/1+, the antiprotons and positrons were conceptually transformed into electrons and protons when the negative particles became less massive that the positive particles.

The essential difference between antineutrons and neutrons is that the negative particle producing the increasing internal $E/M = c^2$ of a neutron is less massive than a constant and stationary positive proton. The result is that, unlike an antineutron, an electron can never build up enough $E/M = c^2$ within a neutron to match the $E/M = CC$ of a proton and initiate bifurcation or cause annihilation.

2^{256} Tiny Nuclear Bombs
Electron/proton mass ratio e/p = 1/146.5
Bohr radius $a_o = \alpha\lambda_\infty/4\pi = 12.5 = 6.615\times10^{-10}$ m
Fine structure constant $a = 4\pi a_o/\lambda_\infty = .0000465$
Hydrogen ionization photon $= \lambda_\infty = 4\pi a_o/\alpha = .000179$ m
Neutron stability number $= M_P/M_E\sqrt{\alpha} = 1$

These 2^{256} neutrons remained stable for millions of years while the linear E/M within their structures continually increased but never by enough to cause them to decay. What caused the particles to decay finally was not their increasing internal E/M = c², but rather a change in the geometry of their circlon shapes.

As $P/S = \sqrt{a}$ reached 1/1, the primary coil of the electron could no longer fit inside the secondary coil of the proton. The two Circlon shapes of the neutron became smaller with increasing e/p. As soon as the primary coil of the electron had grown too large to fit inside the secondary coil of the proton, the electron popped out from within the physical structure of the proton. In this decay, the electron and proton were ejected from one another with the tremendous amount momentum contained in the linear $E/M = c^2$ that had been building up within the neutrons from the time they were formed.

After this cosmic dimensional transformation of α, the larger electrons were able to couple to the outside of the proton as a charged particle with a circlon shaped a_o. This process formed a hydrogen atom that was able to emit photons into the cosmos for the first time. These photons were produced with equal units of $E/M = CC$ and $E/M = c^2$ of the atom.

Nuclear Synthesis
In this high energy electron–proton plasma environment, it was easy for them to couple together into hydrogen atoms and fuse into neutrons. With a neutron stability number of slightly more than 1.0+, the neutrons were virtually stable with extremely long lifetimes.

The neutrons fused with protons to produce H-1, H-2, H-3, and H-4 isotopes. These transformed into He-4 alpha particles, and before long the cosmos was composed of mostly hydrogen and helium atoms, with the remainder consisting of nuclear isotopes of all the other elements.

In the high energy, neutron rich environment within the stellar clouds, nuclear fusion proceeded rapidly, and soon there were a couple thousand different nuclear isotopes of the various elements. Because the neutrons were stable, most of these newly created isotopes were also virtually stable. As the nuclear stability number continued to increase, the neutrons became less stable and the heavier of the newly formed nuclear isotopes began to decay. As this process continued, the cosmos lost more and more of its previously stable nuclear isotopes as they decayed into lighter and lighter stable atoms. Today, after billions of years of cosmic evolution and nuclear decay, the nuclear stability number has evolved to 157 and the cosmos now has only 282 stable isotopes with few very long-lived unstable ones, such as thorium and uranium.

The 2.7 Kelvin Cosmic Frozen Fire
Electron/Proton Mass Ratio $e/p = 1/147$
Bohr radius $a_o = \alpha\lambda_\infty/4\pi = 12.49 = 6.61\times10^{-10}$ m
Fine structure constant $\alpha = 4\pi a_o/\lambda_\infty = .0000468$
Hydrogen ionization photon $= \lambda_\infty = 4\pi a_o/\alpha = .000177$ m
Neutron stability number $= M_P/M_E\sqrt{\alpha} = 1+$

Instead of the giant explosion of pure energy from a singularity in the Big Bang Theory, the Living Cosmos began its active life with the detonation of 2^{256} tiny neutron bombs.

After the cosmic nuclear synthesis, the electrons coupled to atoms and began emitting photons. This process caused a sudden and enormous blast of blackbody photons from one end of the cosmos to the other. Before this dramatic event there were no photons in the cosmos.

At e/p = 1/147, atoms produce a blackbody distribution curve with a temperature of about 2.7 K. As e/p increases, a_o decreases, which decreases the wavelengths of photons and increases their E/M = cC and momentum p = Mc. This cosmic process of increasing photon energy has proceeded until today, where e/p = 1/1836 and the blackbody distribution curve for atoms is at about 3000 K.

When the atoms emitted their last thermal photons and dropped down into their ground states, the cosmos consisted of a large variety of mostly ground state atoms whose ionization energies had been converted into photons. Among and between these great stellar clouds of atoms, the cosmos was filled with an intense blackbody radiation of 2.7 K spectral photons with wavelengths between 1 m and .0003 m. These same eternal photons still travel through the universe today with conserved momentum p = Mc, angular momentum $I\omega = M\lambda c/2\pi$, energy e = McC, and wavelength $\lambda = h/Mc$.

Hubble Red-Shifted Galaxies
__Electron/proton mass ratio__ e/p ≈ 1/900
__Bohr radius__ $a_o = \alpha\lambda_\infty/4\pi = 2.04 = 1.0796\times10^{-10}$ m
__Fine structure constant__ $\alpha = 4\pi a_o/\lambda_\infty = .00175$
__Hydrogen ionization photon__ = $\lambda_\infty = 4\pi a_o/\alpha = 7.75\times10^{-7}$ m
__Neutron stability number__ = $M_P/M_E\sqrt{\alpha} = 37.6$

After many billions of years, the stars and galaxies had become configured by the force and motion of gravity into the forms that we see with the Hubble telescope. The most distant galaxies that we can measure have red-shifted wavelengths in their spectral photons that are 7–10 times longer than the same spectral photons here on Earth. As e/p increases with decreasing E/M = CC of an electron, a_o decreases and $P/S = \sqrt{\alpha}$ decreases proportionally. This process gradually increases the energy and temperature at which atoms emit spectral photons. In this Hubble era of electron evolution, the spectral photons emitted by atoms with heavier electrons had wavelengths that were several times longer than those of the same spectral photons we measure here on Earth. *The Hubble red shift is caused by the individual expansion of electrons and not by the general expansion of the universal void.*
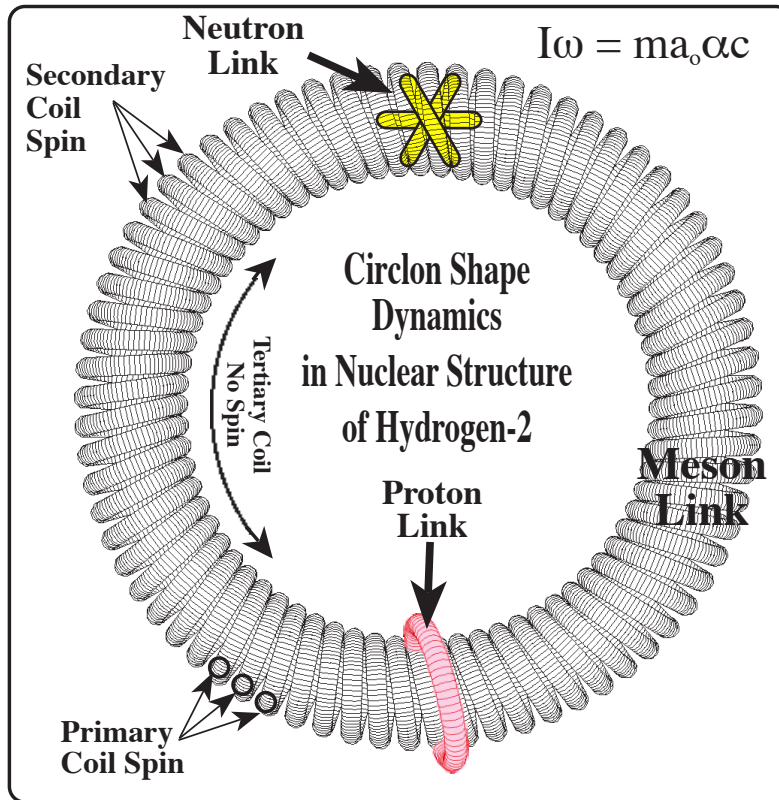
Dark Energy Myth
__Electron/proton mass ratio__ e/p = 1/1600
__Bohr radius a_o__ = $\alpha\lambda_\infty/4\pi = 1.148 = 6.075\times10^{-11}$ m
__Fine structure constant__ a = $4\pi a_o/\lambda_\infty = .0055$
__Hydrogen ionization photon__ $\lambda_\infty = 4\pi a_o/\alpha = 1.39\times10^{-7}$ m
__Neutron stability number__ = $M_P/M_E\sqrt{\alpha} = 11$

Circlon Shape Dynamics in Nuclear Structure of Hydrogen-2

$$I\omega = ma_o\alpha c$$

Neutron Link

Secondary Coil Spin

Tertiary Coil No Spin

Meson Link

Proton Link

Primary Coil Spin

| Tertiary Coil Energy/Mass = 0 |
| Secondary Coil Energy/Mass = e/m = C |
| Primary Coil Enerrgy/Mass = e/m = C |
| Total Circlon Shape Enegry/Mass e/m = C^2 |

| Fine Structure Ratio Today α =1/137 |
| Primary Coil Radius = 1 |
| Secondary Coil Radius = $1/\sqrt{\alpha}$ = 11.7 |
| Tertiary Coil Radius = $1/\alpha$ = 137 |

It is from around this era in cosmic evolution that astronomers have recently observed that the most distant of the measurable supernova explosions have considerably less energy and intensity than supernova explosions in nearby galaxies. Big Bang theorists try to explain this decreased energy and intensity by imagining a whole new dimensional layer for their spacetime continuum. Unlike the Guth layer of dimensional reality that instantly expanded the entire cosmos and then disappeared, this new layer takes the form of an increasing antigravity force field that is somewhat stronger at long range than the gravitational force and causes the galaxies to accelerate gradually away from the bulk of the cosmos. This imagined antigravity repulsive force has been called everything from quintessence to dark energy.

 This whole idea of dark energy is nothing more than an ad hoc assumption by the followers of Einstein to validate the dearly held but unverified belief in an eternally constant e/p of 1/1836. The well-established astronomical measurements of decreased supernova energy and intensity are not at all unsuspected in the Living Cosmos. The so-called dark energy effect is simply the expected result of decreasing rotational E/M and increasing linear E/M. At

this interval on the e/p time clock, supernovas emitted spectral photons with less energy and longer wavelengths than they do today. These less energetic photons decreased the overall energy and intensity of supernovas from that time period.

Dinosaurs Running Along on the Continents
Electron/proton mass ratio e/p $\approx$ 1/1700
Bohr radius $a_o = \alpha\lambda_\infty/4\pi = 1.02 = 5.506\times10^{-11}$ m
Fine structure constant $a = 4\pi a_o/\lambda_\infty = .00702$
Hydrogen ionization photon $= \lambda_\infty = 4\pi a_o/\alpha = 9.9\times10^{-8}$ m
Neutron stability number $= M_P/M_E\sqrt{\alpha} = 151$

At this stage of the Living Universe, the evolution of e/p can supply answers to some long contemplated paradoxes and mysteries in geological history of Earth. The constant transformation of electron rotational E/M into photon and atomic linear E/M not only explains the complete structural dynamics of observed cosmic evolution, but also is a basic cause of continental plate tectonics, the large size of dinosaur bones, the enormous energies of individual cosmic rays, and other phenomena.

Enormous Dinosaur Bones
This evolutionary decrease in a_o combined with gravity can account for the extremely large size of dinosaurs. Millions of years ago, when a_o was larger, atoms were larger and less dense. Dinosaurs, living in the reduced gravity on a larger and less dense Earth, were able to grow very large and while also not being too heavy to walk around. Today, their much heavier weight on a denser Earth would render them incapable of walking or running. If the radius of Earth were twice what it is today, its density would be 1/8 the present value and the gravitational acceleration at its surface would be 1/4 the actual value (2.4 m/s^2). This value is almost identical to the gravitational acceleration on the moon. Certainly, dinosaurs that were too heavy to be able to walk around on Earth would have been able to get up and run on the moon.

Shrinking Atoms and Cracking Continents
Electrons are attached to atoms at a_o. The a_o link that holds the electron and proton together in hydrogen and other light elements is considerably larger than the 79 a_o links that hold a gold atom together, which is basically why a gold atom is much denser than 79 hydrogen atoms.
The greater the mass and number of electrons of an atom, the less its size is decreased in proportion to that of a hydrogen atom. Heavy atoms shrink considerably less due to the a_o evolution than light atoms. When Earth was in a molten state, the heavy elements tended to sink toward its center, while the light elements floated to the surface. Once the surface of Earth had cooled to a semi-solid state, cracks began to develop in its outer crust, which is composed of

mostly elements lighter than iron, such as silicon and oxygen. The continental plates of Earth appeared to spread apart in the observed processes of sea floor "spreading" and plate tectonics, which is actually an optical illusion. The surface layers of Earth are actually shrinking and cracking like mud on a drying lake bed. The uneven shrinking of the atoms on Earth is also a basic cause of earthquakes.

Solar Energy and Cosmic Rays
Electron/Proton Mass Ratio 1836/1
Bohr radius a_o = $\alpha\lambda_\infty/4\pi$ = 5.292×10^{-11} m
Fine structure constant a = $4\pi a_o/\lambda_\infty$ = .0073
Hydrogen ionization photon = λ_∞ = $4\pi a_o/\alpha$ = 9.11×10^{-8} m
Neutron stability number = $M_P/M_E\sqrt{\alpha}$ = 157

The eternal steady transformation of electron rotational E/M = CC into atomic and photon linear E/M = cc supplies energy to the sun and stars and gives them their extremely constant output over billions of years that has made the slow evolution of life on Earth possible. The uncontrolled nuclear fusion of supernova explosions is far too sporadic to supply the constant and eternal energy output that stars need to support the evolution of life.

Today, free neutrons are unstable and split into electrons and protons after about 19 min because the buildup of linear E/M in their structures causes them to decay. When neutrons are contained within the structures of atomic nuclei, they continue to increase in linear E/M output, but before it can build up enough to make them decay, they are able to transfer the extra energy to the whole structure of the nucleus. The nucleus then uses its electrons to emit this excess linear E/M into space in the form of photons.

All atoms containing neutrons are constantly increasing in linear E/M but are able to use their electrons to release this excess energy in the form of photons. Ionized nuclei in deep space that are far away from any electrons cannot undergo this process. Without electrons to create photons, atomic nuclei have no way to release the linear E/M constantly building up within their structures. Ionized atomic nuclei moving through deep space devoid of electrons can build up tremendous amounts of linear E/M within their circlon-shaped structures. After billions of years, this increasing linear E/M = cc within a nucleus can approach its constant rotational E/M = CC.

Thus, a stable ionized gold-197 nucleus that has been traveling through empty space since its creation would have built up the energy equivalent of a tiny nuclear bomb by the time it arrives at cosmic ray detectors on Earth. Think what would happen if a tiny gold nugget or a diamond crystal with millions of nuclei were to hit a detector. These nuclear "cosmic rays" do not have to travel at high velocity to deliver their tremendous amounts of internal linear E/M. C*osmic rays travel at far less than the speed of light and probably all come from the*

vicinity of the Milky Way because atoms traveling between galaxies are highly unlikely.

Conclusions

Everything measured in the cosmos, from the 2.7 K cosmic background radiation (CBR) and the Hubble constant to the size of dinosaur bones and the energy of cosmic rays, proves conclusively that e/p has been evolving since the beginning of time and that the variation of this ratio is the only true measure of absolute time in the cosmos.

Measurements of e/p began just after the beginning of the last century and are now beginning to show that the e/p has increased from 1/1836.0 to approximately 1/1836.0+. With modern technology, we will someday be able to monitor the temporal variation of e/p on a yearly basis or maybe even monthly.

As $E/M = CC$ continues to decrease for electrons, the increasing momentum and ionization energy of atoms is continually being converted into photons with more energy and shorter wavelengths, causing both campfires and stars to become hotter and warm the cosmos. However, the total increase in the temperature of the universe due to radiating stars is still only a tiny fraction of the original temperature of the CBR, 2.7 K.

Dynamic interactions within atoms are constantly combining units of rotational E/M with equal units of linear E/M to emit photons. As the cosmos cools, atoms emit photons with decreasing momentum, energy, and longer and longer wavelengths, which is the second law of thermodynamics. Cosmic entropy is due to the transfer of energy to the void through the emission of photons with longer and longer wavelengths. The cooling effect of the entropy of the universe is balanced by the warming effect of the decrease in a_o causing decreasing photon wavelengths and increasing momentum and energy. If these warming and cooling forces are nearly equal, it is quite possible that the total entropy of the cosmos may actually be zero.

This whole process of cosmic evolution was accomplished with the absolute conservation of E/M, momentum, and angular momentum. At the present stage of the Living Cosmos, it contains the same total E/M, momentum, and angular momentum that it had at its beginning. The only difference is that during the process of electron evolution, almost half of the $E/M = CC$ of the original anti-atom has been converted into the linear $E/M = c^2$ of atoms, photons $E/M = cC$, and the momentum of moving atoms $E/M = c^2/2$.

This description of the cosmic evolution of the observed universe was accomplished without any departure from the rules of quantum mechanics or electrodynamics, as they apply the principles and conservation laws of the scientific method of experimental measurement.

Seven Unmeasured Imaginary Paradoxes of the Big Bang Theory

1. *The universe was largely formed at two consecutive instants in time.* At the first instant, a singularity appeared from nowhere, and at the next instant, matter and energy created by the singularity spread out uniformly into space for billions of light years in all directions. These two imaginary events violate every principle and conservation law in the standard model of physics. In the Living Cosmos, these two events are standard quantum mechanical interactions.

2. *Imaginary pure singularity energy $E = Mc^2$ that is not a photon.* This pure energy has no relationship between momentum and angular momentum, unlike that of a photon. This idea of unstructured massless energy in the Big Bang Theory is in direct conflict with its assumption of massless photon angular momentum $I\omega = M\lambda c/2\pi$ and massless photon energy $E = Mc^2$. In the Living Cosmos, there is no "pure" energy that is separate from mass. A photon has two separate and equal energies $E/M = cC$: its rotational and linear energies.

3. *All matter in the universe was created without any detectable antimatter.* The conservation of charge is a fundamental law of quantum mechanics. In the Living Cosmos, the numbers of matter and antimatter particles have always been equal.

4. *Cooling of the cosmic blackbody photons from 3000 K to 2.7 K.* This cooling is imagined to have occurred simply by 99.9% of the photon momentum $p = Mc$ and energy $E = McC$ ever produced in the universe disappearing without a trace. Big Bang theorists are desperate to solve this paradox because without the cooling effect of their imaginary expanding space, the whole universe would be too hot for any type of life to exist. There are no measured parameters in electrodynamics that would allow a photon to cool as it spins and travels through the void at $E/M = cC$. In the Living Cosmos, the temperature of the CBR has always been 2.7 K.

5. *The widely dispersed gold atoms accumulated into nuggets under the force of gravity, and the rest of the atoms accumulated into stars, galaxies, and great walls of galaxies.* Neither the gravitational theory of Newton nor that of Einstein has any possible solution for the fractal separation in scale of the cosmic structure. In the Living Cosmos, the gravitational interaction plays no part in the fractal accumulation of matter into stars and galaxies. It was the weak nuclear interaction that ruled the division and fractal accumulation of the cosmic matter.

6. *The Hubble red shift is caused by galaxies expanding into space at speeds approaching the speed of light.* The source and nature of the tremendous

amounts of momentum and energy $E = Mv^2/2$ required to accelerate the whole universe to these velocities is far beyond imagination. It can only be said that it is left over massless singularity energy. In the Living Cosmos, the Hubble shift requires no additional energy and is a simple electrodynamics effect of the e/p evolution.

7. *The 1/1836 electron/proton mass ratio is an absolute and eternal constant.* This is the fatal metaphysical assumption of the Big Bang Theory, which has been left completely unquestioned by the hundreds if not thousands of so-called theoretical physicists that have been working on this theory. If this assumption is rejected, then all of the other Big Bang paradoxes simply disappear. In the Living Cosmos, the mass of an electron is constantly decreasing. This effect provides the mechanism for most of the unexpected phenomena that are observed in the cosmos.

References

The only references for all subjects and data in this paper are:

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