50 Years Measuring the Hubble Shift in the Laboratory and Not in the Cosmos

The failure of cosmologists to realize that measurements of the Hubble Red Shift and Dark Energy are the results of a slow decrease in the mass of the Electron, has led them down a false path to the many paradoxical and contradictory metaphysical assumptions of the Big Bang theories.
Measurements of the electron's parameters over the last 50 years show conclusively that its mass has indeed been gradually decreasing.

When J. J. Thomson discovered the electron in 1897 by experimenting with cathode ray tubes, he determined its mass was somewhat more than a thousand times less than the hydrogen atom. During the next 125 years, the mass of the electron has been repeatedly measured to greater and greater accuracies until today it's value has been determined to eight or nine decimal places.

In 1988, while I was developing the principles of Circlon Synchronicity for a Living Cosmos, I determined the key to understanding the formation and evolution of matter in the universe was the realization that the electron's mass has been slowly decreasing throughout the history of the Cosmos as it has been slowly transforming its Angular Momentum into Linear Momentum.

Convinced that this cosmic evolution of electron mass and size was real, I examined the historical record of the past 50 years of electron mass measurements to see if I could verify my conclusions. My 1972 edition of the CRC Handbook of Chemistry and Physics listed the electron's mass as (9.109558(54) x 10^{-31} kg). I went to the Physics Library at the University of Washington and examined many earlier editions of this handbook. My search to verify decreasing electron mass and proportional increase in size was basically inconclusive but also somewhat encouraging.

The many electron measurements over 50 years showed a general decrease in its mass but the earlier measurements varied so much they appeared to be somewhat inaccurate and their values had too few decimal places to yield a meaningful comparisons for such a slow transformation process. Anyone examining the data could easily conclude that any observed effect was simply the result of inaccurate measurements. Never the less, I published the meager results in the 1994 edition of my book *The Other Theory of Physics* because I was convinced the effect was real but that it could just not yet be verified in the laboratory.

At this point, I mistakenly determined the very slow cosmological process of electron evolution could not be readily measured by experimental physicists except over very long periods of time. Instead, I concentrated on examining astronomical observations to look for evidence of electron mass transformation within the Cosmos at large. I soon found the data to be overwhelmingly dramatic in its validation of my conclusions about cosmic electron evolution. One after another, I was able to explain mysterious and paradoxical cosmic phenomena to be the result of electron mass decrease. The Hubble red shift, Dark Energy, Dark Matter, and my prediction of the exact 2.7 K temperature of the Cosmic Blackbody Radiation can all be directly attributed to the slowly increasing electron/proton mass ratio from less than **e/p = 1/1** near the beginning of cosmic evolution to today's value of **e/p = 1/1836.15267343**.

The electron's gradual Energy/Mass transformation explains everything from the mechanism for the formation and repeated bifurcation of antineutrons in the early universe to the fractal accumulation of galaxies and stars. I was also able to show how this process is responsible for the enormous energies of individual cosmic rays particles as well as the sun's extremely stable temperature and even the large size of dinosaur bones. Finally, I was able to solve the greatest of cosmic paradoxes and show that the distribution and quantities of the universe's particles of matter and antimatter are both homogeneously distributed in exactly equal numbers in today's Living Cosmos. In fact, it is the slow growth of the electron's size that actually gives "life" to a Living Cosmos.

Now many years later, in 2025, as I was finishing up my latest edition of *The Great Einstein Energy Hoax*, I decided to get a copy of the 2022 edition of the *CRC Handbook of Chemistry and Physics* so I could examine the results of the electron's measurements over the past 50 years. To my great surprise and satisfaction, I found my predictions for the gradually changing values of electron mass, size, and other related parameters were all verified at least in a general way if not a high degree of accuracy.

1972 Electron Mass $9.1095585400 \times 10^{-31}$ kg
2022 Electron Mass $-9.1093837015 \times 10^{-31}$ kg
50 Year decrease $.0001748385 \times 10^{-31}$ kg

2022 Classical electron radius $2.8179403262 \times 10^{-15}$ m
1972 Classical electron radius $-2.8179391300 \times 10^{-15}$ m
50 year Increase $.0000011962 \times 10^{-15}$ m

2022 Electron Compton Wavelength $2.42631023867 \times 10^{-12}$ m
1972 Electron Compton Wavelength $-2.42630967400 \times 10^{-12}$ m
50 Year Increase $.00000156467 \times 10^{-12}$ m

2022 Electron/Proton Mass Ratio. 1/1836.15267343
1972 Electron/Proton Mass Ratio -1/1836.10911000
50 Year Increase .04356343

2022 Fine Structure Constant α .0072973525693
1972 Fine Structure Constant α -.0072973511100
50 Year Increase .0000000014593

1972 Fine Structure Constant $1/\alpha$ 1/137.0360265
2022 Fine Structure Constant $1/\alpha$. -1/137.0359991
50 Year Decrease .0000274

The above six measurements show quite conclusively that during the last 50 years, the mass of the electron has decreased and its size has increased proportionately. I believe that repeated and more accurate measurements of these parameters will soon be able establish close approximations of their true rates of change.

Measuring the Electron's Rate of Evolutionary Mass Decrease and Size Increase

While measuring electron mass relative to proton mass is the primary way to determine increases in the electron/proton mass ratio, measurements of the accompanying decreases in the Bohr radius, increases in the fine structure constant, or decreases in the wavelengths of spectral photons may provide more accurate results. The Bohr radius decreases at the same rate as the decrease in electron mass, the Circlon fine structure "constant" increases with the square of increases in electron/proton mass ratio and spectral photons decrease their wavelengths with the cube of the electron's mass decrease. This means that repeated measurements of these parameters should be able to monitor the decrease in electron mass.

Probably the easiest and less technical way to monitor the growth of the electron's size in a Living Cosmos would be to make repeated precise measurements of the alpha photons in the various series of Hydrogen spectra. (Lyman, Balmer, Paschen, Brackett, Pfund, etc). These measurements are not complicated and do not require expensive machines like particle accelerators. This data could be inexpensively gathered by any number of small research laboratories around the world. The first researchers to establish and accurately measure this effect would be making one of the most important discoveries in the history of a science. The effect of these experiments would be to measure the Hubble Constant in the laboratory.

My reference books and even a search of free information on the internet did not show any accurate measurements of Hydrogen spectra or the dates when the values were obtained. The best I was able to find was that sometime before 1972, the Lyman alpha photon was measured at ***121.56737*** Angstroms.

I am convinced this effect is real but I do not now possess the necessary equipment for these tests. I made the discovery of Cosmic Electron Evolution but I will leave it up to some other experimental physicists to measure this universal constant that is the rate for the ultimate measure of Cosmological Time.

For experimental physicists to validate Circlon Synchronicity's principle of electron's evolution of mass and size, they will need to show that gradual increases in the energy of Hydrogen's spectral photons are proportional to the cube of the electron/proton mass ratio increase.

144 Photon Fractions

In this chart of ***144 Hydrogen Photon Fractions***, the first 16 fractions of the first 9 of hydrogen's radiation orbits are shown. I obtained the values for these wavelengths and calculated fractions for their values sometime around 1988. These values are a good place to start for the experimental physicist who wants to validate the Living Cosmos Momentum principle and falsify the Big Bang Energy theory once and for all.

144 Photon Fractions

Lyman	Balmer	Paschen	Brackett	Pfund	#6 Orbit	#7 Orbit	#8 Orbit	#9 Orbit
$_1\lambda_\infty = \frac{4\pi a_o}{\alpha}$	$_2\lambda_\infty = \frac{16\pi a_o}{\alpha}$	$_3\lambda_\infty = \frac{27\pi a_o}{\alpha}$	$_4\lambda_\infty = \frac{64\pi a_o}{\alpha}$	$_5\lambda_\infty = \frac{100\pi a_o}{\alpha}$	$_6\lambda_\infty = \frac{144\pi a_o}{\alpha}$	$_7\lambda_\infty = \frac{196\pi a_o}{\alpha}$	$_8\lambda_\infty = \frac{256\pi a_o}{\alpha}$	$_9\lambda_\infty = \frac{324\pi a_o}{\alpha}$
911.267052Å	3,645.06821Å	8,201.40347Å	14,580.2728Å	22,781.6763Å	32,805.6139Å	44,652.0856Å	58,321.0914Å	73,812.6312Å
$_{Ly}\lambda_\infty = {}_1\lambda_\infty\left(\frac{Me}{Mp}+1\right)$	$_{Ba}\lambda_\infty = {}_2\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{Pa}\lambda_\infty = {}_3\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{Br}\lambda_\infty = {}_4\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{Pf}\lambda_\infty = {}_5\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{\#6}\lambda_\infty = {}_6\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{\#7}\lambda_\infty = {}_7\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{\#8}\lambda_\infty = {}_8\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$	$_{\#9}\lambda_\infty = {}_9\lambda_\infty\left(\frac{Me}{2Mp}+1\right)$
$_{Ly}\lambda_\infty$= 911.76334Å	$_{Ba}\lambda_\infty$= 3,646.061Å	$_{Pa}\lambda_\infty$= 8,203.637Å	$_{Br}\lambda_\infty$=14,584.243Å	$_{Pf}\lambda_\infty$=22,787.880Å	$_{\#6}\lambda_\infty$= 32,814.547Å	$_{\#7}\lambda_\infty$= 44,664.245Å	$_{\#8}\lambda_\infty$= 58,336.972Å	$_{\#9}\lambda_\infty$= 73,832.731Å
obs (911.75348Å)	obs (3,645.982Å)	obs (8,203.569Å)	obs (14,584.173Å)	obs (22,787.803Å)	obs (32,814.463Å)	obs (44,664.153Å)	obs (58,336.874Å)	obs (73,832.627Å)
1.0000108143	1.0000216677	1.0000082891	1.0000047997	1.000003379	1.00000255985	1.0000020598	1.0000016799	1.0000014086
1/1=13.5983175 eV	1/4=3.3995794 eV	1/9=1.5109242 eV	1/16=.84989484 eV	1/25=.5439327 eV	1/36=.37773141 eV	1/49=.277516683 eV	1/64=.212473711 eV	1/81=.16788046 eV
$_{Ly}\lambda_1 = \frac{2^2}{2^2-1} = \frac{4}{3}$	$_{Ba}\lambda_1 = \frac{3^2}{3^2-4} = \frac{9}{5}$	$_{Pa}\lambda_1 = \frac{4^2}{4^2-9} = \frac{16}{7}$	$_{Br}\lambda_1 = \frac{5^2}{5^2-16} = \frac{25}{9}$	$_{Pf}\lambda_1 = \frac{6^2}{6^2-25} = \frac{36}{11}$	$_{\#6}\lambda_1 = \frac{7^2}{7^2-36} = \frac{49}{13}$	$_{\#7}\lambda_1 = \frac{8^2}{8^2-49} = \frac{64}{15}$	$_{\#8}\lambda_1 = \frac{9^2}{9^2-64} = \frac{81}{17}$	$_{\#9}\lambda_1 = \frac{10^2}{10^2-81} = \frac{100}{19}$
$_{Ly}\lambda_2 = \frac{3^2}{3^2-1} = \frac{9}{8}$	$_{Ba}\lambda_2 = \frac{4^2}{4^2-4} = \frac{4}{3}$	$_{Pa}\lambda_2 = \frac{5^2}{5^2-9} = \frac{25}{16}$	$_{Br}\lambda_2 = \frac{6^2}{6^2-16} = \frac{9}{5}$	$_{Pf}\lambda_2 = \frac{7^2}{7^2-25} = \frac{49}{24}$	$_{\#6}\lambda_2 = \frac{8^2}{8^2-36} = \frac{16}{7}$	$_{\#7}\lambda_2 = \frac{9^2}{9^2-49} = \frac{81}{32}$	$_{\#8}\lambda_2 = \frac{10^2}{10^2-64} = \frac{25}{9}$	$_{\#9}\lambda_2 = \frac{11^2}{11^2-81} = \frac{121}{40}$
$_{Ly}\lambda_3 = \frac{4^2}{4^2-1} = \frac{16}{15}$	$_{Ba}\lambda_3 = \frac{5^2}{5^2-4} = \frac{25}{21}$	$_{Pa}\lambda_3 = \frac{6^2}{6^2-9} = \frac{4}{3}$	$_{Br}\lambda_3 = \frac{7^2}{7^2-16} = \frac{49}{33}$	$_{Pf}\lambda_3 = \frac{8^2}{8^2-25} = \frac{64}{39}$	$_{\#6}\lambda_3 = \frac{9^2}{9^2-36} = \frac{9}{5}$	$_{\#7}\lambda_3 = \frac{10^2}{10^2-49} = \frac{100}{51}$	$_{\#8}\lambda_3 = \frac{11^2}{11^2-64} = \frac{121}{57}$	$_{\#9}\lambda_3 = \frac{12^2}{12^2-81} = \frac{16}{7}$
$_{Ly}\lambda_4 = \frac{5^2}{5^2-1} = \frac{25}{24}$	$_{Ba}\lambda_4 = \frac{6^2}{6^2-4} = \frac{9}{8}$	$_{Pa}\lambda_4 = \frac{7^2}{7^2-9} = \frac{49}{40}$	$_{Br}\lambda_4 = \frac{8^2}{8^2-16} = \frac{4}{3}$	$_{Pf}\lambda_4 = \frac{9^2}{9^2-25} = \frac{81}{56}$	$_{\#6}\lambda_4 = \frac{10^2}{10^2-36} = \frac{25}{16}$	$_{\#7}\lambda_4 = \frac{11^2}{11^2-49} = \frac{121}{72}$	$_{\#8}\lambda_4 = \frac{12^2}{12^2-64} = \frac{9}{5}$	$_{\#9}\lambda_4 = \frac{13^2}{13^2-81} = \frac{169}{88}$
$_{Ly}\lambda_5 = \frac{6^2}{6^2-1} = \frac{36}{35}$	$_{Ba}\lambda_5 = \frac{7^2}{7^2-4} = \frac{49}{45}$	$_{Pa}\lambda_5 = \frac{8^2}{8^2-9} = \frac{64}{55}$	$_{Br}\lambda_5 = \frac{9^2}{9^2-16} = \frac{81}{65}$	$_{Pf}\lambda_5 = \frac{10^2}{10^2-25} = \frac{4}{3}$	$_{\#6}\lambda_5 = \frac{11^2}{11^2-36} = \frac{121}{85}$	$_{\#7}\lambda_5 = \frac{12^2}{12^2-49} = \frac{144}{95}$	$_{\#8}\lambda_5 = \frac{13^2}{13^2-64} = \frac{169}{105}$	$_{\#9}\lambda_5 = \frac{14^2}{14^2-81} = \frac{96}{115}$
$_{Ly}\lambda_6 = \frac{7^2}{7^2-1} = \frac{49}{48}$	$_{Ba}\lambda_6 = \frac{8^2}{8^2-4} = \frac{16}{15}$	$_{Pa}\lambda_6 = \frac{9^2}{9^2-9} = \frac{9}{8}$	$_{Br}\lambda_6 = \frac{10^2}{10^2-16} = \frac{25}{21}$	$_{Pf}\lambda_6 = \frac{11^2}{11^2-25} = \frac{121}{96}$	$_{\#6}\lambda_6 = \frac{12^2}{12^2-36} = \frac{4}{3}$	$_{\#7}\lambda_6 = \frac{13^2}{13^2-49} = \frac{169}{120}$	$_{\#8}\lambda_6 = \frac{14^2}{14^2-64} = \frac{49}{33}$	$_{\#9}\lambda_6 = \frac{15^2}{15^2-81} = \frac{25}{16}$
$_{Ly}\lambda_7 = \frac{8^2}{8^2-1} = \frac{64}{63}$	$_{Ba}\lambda_7 = \frac{9^2}{9^2-4} = \frac{81}{77}$	$_{Pa}\lambda_7 = \frac{10^2}{10^2-9} = \frac{100}{91}$	$_{Br}\lambda_7 = \frac{11^2}{11^2-16} = \frac{121}{105}$	$_{Pf}\lambda_7 = \frac{12^2}{12^2-25} = \frac{144}{119}$	$_{\#6}\lambda_7 = \frac{13^2}{13^2-36} = \frac{169}{133}$	$_{\#7}\lambda_7 = \frac{14^2}{14^2-49} = \frac{4}{3}$	$_{\#8}\lambda_7 = \frac{15^2}{15^2-64} = \frac{225}{161}$	$_{\#9}\lambda_7 = \frac{16^2}{16^2-81} = \frac{256}{175}$
$_{Ly}\lambda_8 = \frac{9^2}{9^2-1} = \frac{81}{80}$	$_{Ba}\lambda_8 = \frac{10^2}{10^2-4} = \frac{25}{24}$	$_{Pa}\lambda_8 = \frac{11^2}{11^2-9} = \frac{121}{112}$	$_{Br}\lambda_8 = \frac{12^2}{12^2-16} = \frac{9}{8}$	$_{Pf}\lambda_8 = \frac{13^2}{13^2-25} = \frac{169}{144}$	$_{\#6}\lambda_8 = \frac{14^2}{14^2-36} = \frac{49}{40}$	$_{\#7}\lambda_8 = \frac{15^2}{15^2-49} = \frac{225}{176}$	$_{\#8}\lambda_8 = \frac{16^2}{16^2-64} = \frac{4}{3}$	$_{\#9}\lambda_8 = \frac{17^2}{17^2-81} = \frac{289}{208}$
$_{Ly}\lambda_9 = \frac{10^2}{10^2-1} = \frac{100}{99}$	$_{Ba}\lambda_9 = \frac{11^2}{11^2-4} = \frac{121}{117}$	$_{Pa}\lambda_9 = \frac{12^2}{12^2-9} = \frac{16}{15}$	$_{Br}\lambda_9 = \frac{13^2}{13^2-16} = \frac{169}{153}$	$_{Pf}\lambda_9 = \frac{14^2}{14^2-25} = \frac{196}{171}$	$_{\#6}\lambda_9 = \frac{15^2}{15^2-36} = \frac{25}{21}$	$_{\#7}\lambda_9 = \frac{16^2}{16^2-49} = \frac{256}{207}$	$_{\#8}\lambda_9 = \frac{17^2}{17^2-64} = \frac{289}{225}$	$_{\#9}\lambda_9 = \frac{18^2}{18^2-81} = \frac{4}{3}$
$_{Ly}\lambda_{10} = \frac{11^2}{11^2-1} = \frac{121}{120}$	$_{Ba}\lambda_{10} = \frac{12^2}{12^2-4} = \frac{36}{35}$	$_{Pa}\lambda_{10} = \frac{13^2}{13^2-9} = \frac{169}{160}$	$_{Br}\lambda_{10} = \frac{14^2}{14^2-16} = \frac{49}{45}$	$_{Pf}\lambda_{10} = \frac{15^2}{15^2-25} = \frac{9}{8}$	$_{\#6}\lambda_{10} = \frac{16^2}{16^2-36} = \frac{64}{55}$	$_{\#7}\lambda_{10} = \frac{17^2}{17^2-49} = \frac{289}{240}$	$_{\#8}\lambda_{10} = \frac{18^2}{18^2-64} = \frac{81}{65}$	$_{\#9}\lambda_{10} = \frac{19^2}{19^2-81} = \frac{361}{280}$
$_{Ly}\lambda_{11} = \frac{12^2}{12^2-1} = \frac{144}{143}$	$_{Ba}\lambda_{11} = \frac{13^2}{13^2-4} = \frac{169}{165}$	$_{Pa}\lambda_{11} = \frac{14^2}{14^2-9} = \frac{196}{187}$	$_{Br}\lambda_{11} = \frac{15^2}{15^2-16} = \frac{225}{209}$	$_{Pf}\lambda_{11} = \frac{16^2}{16^2-25} = \frac{256}{231}$	$_{\#6}\lambda_{11} = \frac{17^2}{17^2-36} = \frac{289}{253}$	$_{\#7}\lambda_{11} = \frac{18^2}{18^2-49} = \frac{324}{275}$	$_{\#8}\lambda_{11} = \frac{19^2}{19^2-64} = \frac{361}{297}$	$_{\#9}\lambda_{11} = \frac{20^2}{20^2-81} = \frac{400}{319}$
$_{Ly}\lambda_{12} = \frac{13^2}{13^2-1} = \frac{169}{168}$	$_{Ba}\lambda_{12} = \frac{14^2}{14^2-4} = \frac{49}{48}$	$_{Pa}\lambda_{12} = \frac{15^2}{15^2-9} = \frac{25}{24}$	$_{Br}\lambda_{12} = \frac{16^2}{16^2-16} = \frac{16}{15}$	$_{Pf}\lambda_{12} = \frac{17^2}{17^2-25} = \frac{289}{264}$	$_{\#6}\lambda_{12} = \frac{18^2}{18^2-36} = \frac{9}{8}$	$_{\#7}\lambda_{12} = \frac{19^2}{19^2-49} = \frac{361}{312}$	$_{\#8}\lambda_{12} = \frac{20^2}{20^2-64} = \frac{25}{21}$	$_{\#9}\lambda_{12} = \frac{21^2}{21^2-81} = \frac{49}{40}$
$_{Ly}\lambda_{13} = \frac{14^2}{14^2-1} = \frac{196}{195}$	$_{Ba}\lambda_{13} = \frac{15^2}{15^2-4} = \frac{225}{221}$	$_{Pa}\lambda_{13} = \frac{16^2}{16^2-9} = \frac{256}{247}$	$_{Br}\lambda_{13} = \frac{17^2}{17^2-16} = \frac{289}{273}$	$_{Pf}\lambda_{13} = \frac{18^2}{18^2-25} = \frac{324}{299}$	$_{\#6}\lambda_{13} = \frac{19^2}{19^2-36} = \frac{361}{325}$	$_{\#7}\lambda_{13} = \frac{20^2}{20^2-49} = \frac{400}{351}$	$_{\#8}\lambda_{13} = \frac{21^2}{21^2-64} = \frac{441}{377}$	$_{\#9}\lambda_{13} = \frac{22^2}{22^2-81} = \frac{484}{403}$
$_{Ly}\lambda_{14} = \frac{15^2}{15^2-1} = \frac{225}{224}$	$_{Ba}\lambda_{14} = \frac{16^2}{16^2-4} = \frac{64}{63}$	$_{Pa}\lambda_{14} = \frac{17^2}{17^2-9} = \frac{289}{280}$	$_{Br}\lambda_{14} = \frac{18^2}{18^2-16} = \frac{81}{77}$	$_{Pf}\lambda_{14} = \frac{19^2}{19^2-25} = \frac{361}{336}$	$_{\#6}\lambda_{14} = \frac{20^2}{20^2-36} = \frac{100}{91}$	$_{\#7}\lambda_{14} = \frac{21^2}{21^2-49} = \frac{9}{8}$	$_{\#8}\lambda_{14} = \frac{22^2}{22^2-64} = \frac{121}{105}$	$_{\#9}\lambda_{14} = \frac{23^2}{23^2-81} = \frac{529}{448}$
$_{Ly}\lambda_{15} = \frac{16^2}{16^2-1} = \frac{256}{255}$	$_{Ba}\lambda_{15} = \frac{17^2}{17^2-4} = \frac{289}{285}$	$_{Pa}\lambda_{15} = \frac{18^2}{18^2-9} = \frac{36}{35}$	$_{Br}\lambda_{15} = \frac{19^2}{19^2-16} = \frac{361}{345}$	$_{Pf}\lambda_{15} = \frac{20^2}{20^2-25} = \frac{16}{15}$	$_{\#6}\lambda_{15} = \frac{21^2}{21^2-36} = \frac{49}{45}$	$_{\#7}\lambda_{15} = \frac{22^2}{22^2-49} = \frac{484}{435}$	$_{\#8}\lambda_{15} = \frac{23^2}{23^2-64} = \frac{529}{465}$	$_{\#9}\lambda_{15} = \frac{24^2}{24^2-81} = \frac{64}{55}$
$_{Ly}\lambda_{16} = \frac{17^2}{17^2-1} = \frac{289}{288}$	$_{Ba}\lambda_{16} = \frac{18^2}{18^2-4} = \frac{81}{80}$	$_{Pa}\lambda_{16} = \frac{19^2}{19^2-9} = \frac{361}{352}$	$_{Br}\lambda_{16} = \frac{20^2}{20^2-16} = \frac{25}{24}$	$_{Pf}\lambda_{16} = \frac{21^2}{21^2-25} = \frac{441}{416}$	$_{\#6}\lambda_{16} = \frac{22^2}{22^2-36} = \frac{121}{112}$	$_{\#7}\lambda_{16} = \frac{23^2}{23^2-49} = \frac{529}{480}$	$_{\#8}\lambda_{16} = \frac{24^2}{24^2-64} = \frac{9}{8}$	$_{\#9}\lambda_{16} = \frac{25^2}{25^2-81} = \frac{625}{544}$

$\lambda_\infty = \frac{4\pi a_o}{\alpha} = 9.11267052 \times 10^{-8}$m $\frac{Me}{Mp} = .000544617$ $\left(\frac{Me}{2Mp}+1\right) = 1.0002723085$ $\frac{\lambda_\infty}{Me} = .00002661124$ $\frac{\lambda_\infty}{Mp} = .000000014492933$

λ_∞ = photon mass = 13.5983175 eV
Me = electron mass = 510,999.06 eV
Mp = proton mass = 938,272,310 eV

In the Lyman orbit, the photons have wavelengths of 4/3, 9/8, 16/15, 25/24, 36/35, etc. times ${}_{Ly}\lambda_{\infty}$. In each fraction, the numerator is the square of consecutive whole numbers and the denominator is the square of the same number minus the orbit number. In the Balmer orbit, the photons have wavelengths of 9/5, 16/12, 25/21, 36/32, etc. times ${}_{Ba}\lambda_{\infty}$ (${}_{Ba}\lambda_{\infty} = 4\ {}_{Ly}\lambda_{\infty} = 3{,}645.982$Å). The same pattern of fraction building continues through all successive orbits so that each photon that a hydrogen atom can produce has a wavelength that is a whole fraction of ${}_{Ly}\lambda_{\infty}$ with the numerator of all fractions being the square of a whole number.

Each orbit above the Lyman orbit has the same fractions as the Lyman photons in addition to new fractions for each orbit. For example, every other Balmer photon has a Lyman fraction while the rest begin in the Balmer orbit and then repeat in every other orbit above it. Every third Paschen photon has a Lyman fraction with the rest appearing first in the Paschen orbit and then repeating in every third orbit above. This same pattern continues through all orbits.

$$2^{256} = 2 \times 2^{2^{2 \times 2^2}}$$

Throughout this book, I have used the number 2^{256} to represent the exact numbers of eternally conserved electrons and protons in a Living Cosmos. I chose this exact number for two reasons. First of all, it is quite close to Arthur Eddington's durable estimate of 10^{80} protons for the universe made a hundred years ago and second, it is a very symmetrical number. It was amazing to me that such a simple equation containing just six 2's could accurately represent the exact number of protons and electrons in the entire universe. I know with the deployment of the James Webb Telescope, estimates for the size of the universe will continue to grow. The true number could be 2^{260} (16 times greater) or more but whatever the final number turns out to be, it will be an exact power of two.

Map of Time for the Evolution of the Living Cosmos

This chart shows the value of the electron/proton mass ratios and the related atomic parameters for different points in cosmic history from an arbitrary point of beginning to today. As the mass of the electron decreases to one/half, the Bohr radius decreases to one half, the Circlon fine structure ratio decreases by one/fourth, and the wavelengths of spectral photons decrease to one/eighth.

Map of Cosmic Time and the Evolution of Matter

Atomic and Photon Values Today

Number of Particles in Cosmos	*-Antimatter/+Matter Mass Ratio*	*Bohr Radius*	*Fine Structure Constant*	*Hydrogen's Ionization Wavelength*	*Hubble z Number*
2^{256}	$M_e = 1.14 \times 10^{-29}$ kg $M_p = 1.67 \times 10^{-27}$ kg	a_o 5.29×10^{-11} m	α .007299 1/137	${}_{\infty}\lambda_{Ly} = \frac{4\pi a_o}{\alpha}$ λ = .0000000912m	Galaxy λ_G / Earth λ_E -1 = z
	M_e/M_p = 1/1836.152 673 43				
2^{1}	Primordial anti-hydrogen atom at arbitrary beginning of time.(-antiproton/+positron)				
	1836/1	-----	1/137	-----	-----
2^{2}	Anti-hydrogen atom collapses into antineutron and then bifurcates into a pair of antineutron God Particles.				
	147/1	-----	1/21369	-----	-----
2^{22}	Antineutrons continue to slowly bifurcate and spread out into the universal void.				
	140/1	-----	1/23559	-----	-----
2^{37}	Billions of Galaxy God Particles have become evenly spaced throughout the cosmos.				
	100/1	-----	1/46177	-----	-----
2^{74}	Billions of Stellar God Particles have bifurcated from each Galaxy particle.				
	50/1	-----	1/184707	-----	-----
2^{111}	Large clouds of antineutrons rapidly bifurcate at the location of each Stellar God Particle.				
	20/1	-----	1/1154416	-----	-----
2^{166}	At the 166 th bifurcation cycle, the mass of each God Particle antineutron was appromimately one kilogram.				
	10/1	-----	1/4617665	-----	-----
2^{255}	Antiproton/positron mass ratio becomes 1/1 and bifurcation stops. Antineutrons become stable neutrons.				
	1/1+	-----	0.0	-----	-----
2^{256}	Less massive negative antiprotons become electrons and the more massive positive positrons become protons.				
	1/10	-----	1/4617665	-----	-----
2^{256}	Stable neutrons build up tremendous internal energy from electron E/M = CC transforming to particle energy.				
	1/100	-----	1/46177	-----	-----
2^{256}	All neutrons decay when electrons grow too large to fit inside protons. Protons and electrons couple into atoms.				
	1/146.5	12.53	1/21515	1968	z = 1967
2^{256}	Atomic nuclei of many elements form simultaneously and these atoms begin emitting 2.7 K blackbody photons				
	1/147	12.49	1/21369	1948	z = 1947
2^{256}	Large difuse clouds of ground state atoms slowly accumulate into dense stars and begin emitting photons.				
	1/918	2.00	1/548	8	z = 7
2^{256}	Stars get their constant energy from electron energy transformation.This also builds up energy in cosmic rays.				
	1/1200	1.53	1/321	3.58	z = 2.58
2^{256}	Supernovae from this era were less intense than they are today. This caused theorists to propose Dark Energy.				
	1/1300	1.41	1/273	2.82	z = 1.82
2^{256}	A longer Bohr radius than today caused Earth and its atoms to be larger and less dense. Dinosaurs felt lower gravity.				
	1/1500	1.22	1/205	1.83	z = .83
2^{256}	A shorter Bohr radius today causes Earth to slowly shrink. Light elements shrink faster than heavy elements.				
	1/1700	1.08	1/160	1.26	z = .26
2^{256}	Today, Earth's light surface layers are shrinking fast than its heavier interior. This causes seafloor spreading.				
	1/1836	1.00	1/137	1.0	z = 0.0

For more information see page 105 of ***THE GREAT EINSTEIN ENERGY HOAX***