

Up_{proton} Quarks of 4.8 MeV and Electron Neutrinos of 2.2×10^{-6} MeV Both Arose In a Holographic 2nd Cyclic Universe

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Abstract: The presence of up_{proton} quarks of 4.8 MeV indicate that unbroken E8 symmetry was active by the 2nd cyclic universe: also the presence of electron neutrinos of 2.2×10^{-6} MeV indicate that holography was active by this time.

The 0.011 MeV mc^2 mass difference of the modern vs. archaic electron = 11×10^{-3} MeV = $33/3 \times 10^{-3}$ **MEV** indicates¹ that a non-holographic 1st cyclic universe of only 0.5 MeV archaic electrons existed; during the 2nd (now holographic) cyclic universe these evolved to become 3rd universe 0.511 MeV modern electrons with the aid of already existing 33 GeV energy "quanta of the universe" : Since these quanta were energy not matter, the 2-digit rule does not apply and the quanta could have arisen as late as the end of the 1st cyclic universe, i.e. past archaic time which is assumed to have ended at the start of the 1st cyclic universe.

The archaic 0.5 MeV single digit electron was the only particle until the end of the 1st cyclic universe: the 2nd universe introduced the 2-digit down_{proton} quark of 2.3 MeV and up_{proton} quark of 4.8 MeV and electron neutrino of 2.2×10^{-6} MeV and muon neutrino of 0.17 MeV. The 2.2 and 4.8 numbers (no 3 or 7) indicate E8 unbroken symmetry. Assuming holography was active, taking the square root of 4.8 MeV = 2.1908902×10^3 eV. Holography brings in a 10^{-3} energy factor: this results in 2.1908902 eV. Now the measured electron neutrino = 2.2×10^{-3} eV. The 4-digit ratio (**nature's signaling method**) = 1.004×10^{-3} . We note the factor 1.004 results which *signals the 100X TR-TF energy factor and 4 which indicates E8 symmetry at work. Also we have the 10^{-3} energy factor which signals holography in action.*

1. George R. Briggs, "The modern electron is slightly heavier than its archaic version: Why is This So ?", ViXra 1907.0559, (2019)