

A Hypothetical Pre-Fermion Particle Theory of Everything Based on 95 Theses

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This is a hypothetical pre-fermion particle theory of everything, explaining the symmetric foundations of physics and why relativistic and quantum systems are different and irreconcilable. It is based on a single particle/anti-particle foundation and the background from which they emerge, using which the zoo of fermions, bosons, nucleons, photons and the observed universe are explained. The only two underlying types of energy presumed to exist are treated identically and produce standard formulae, except where the missing component in current formulae is shown to be necessary to explain stable orbits and why there is a maximum speed through the background universe. Matter and anti-matter are shown to be present in equal quantities and some dark matter is shown as the same composite loop form as matter, but with immiscible symmetries due to different number of particle/anti-particle pairs in the composites. The emergence of the particle/anti-particles from merged to unmerged state is shown to lead to randomly distributed failed big bang events within the single universe through which our successful big bang is expanding. Viscosity in the background universe, comprising merged particle/anti-particle pairs, saps energy from all composite particles and produces the light speed terminal velocity of photons. The resultant viscosity red-shift needs to be accommodated within current estimates of the size, age and expansion rate of the universe. The viscosity of the background in sapping energy from all motion within it leads to an arrow of time, the second law of thermodynamics and the relativistic framework. Where the background is absent, in tunnels between entangled loops, there is no viscosity present and velocities above light speed are possible and the quantum framework exists. Composite loops formed from the unit meon building blocks during different inflation events produce different sizes of fermions, nucleons and atoms, but produce a type of universe with symmetries similar to ours as the inevitable outcome of a successful inflation event. The rate of expansion after a big bang is a function of the size of the equivalent of the electron formed during inflation and that size defines whether the expansion will eventually succeed or fail. Key paradoxes are shown not to be paradoxes. This framework explains what energy and inertia are, how positive-only mass arises, spin units of $\frac{1}{2} h$, electrons with $g = 2$ and 720 degrees of rotation, charge unit sizes, why particles have internal magnetic moments, the second law of thermodynamics and the arrow of time, where there is a maximum speed for particles, why stable states exist, why tired light may reduce the need for dark energy or the size of the universe, why there is no matter/anti-matter imbalance, what different types of dark matter are likely to be, the physical reality underlying zero point energy, why physics fails nowhere, why there is only one universe and threefold symmetry within our nucleons.

Keywords: Universe, Quantum mechanics; Inflation; Expansion; Black hole; Symmetry; Loops; Stacks; Chain star; Meon; Lepton; Anomalous magnetic moment; Quark; Electron; Viscosity; Dark Matter; Theory of Everything; Dark energy; Arrow of time; Second law of thermodynamics; Viscosity redshift; Prefermion; Pre-fermion; Prequark; Steady state.