

Unbroken E8 Symmetry Is a Requirement For the Validity of Negative Intrinsic Energy

George R. Briggs

Abstract: My theory of the universe following the 8-fold SU(3) symmetry of life (see viXra 1310.0261) requires that before the big bang when time was not active the concept of negative intrinsic ($-mc^2$) energy had to be viable. This was an epoch of unbroken E8 symmetry. It was during this early epoch that huge entities of fermibosonic type formed and these were composed of equal amounts by weight of fermions (ordinary matter) of positive intrinsic energy and massive gauge bosons of negative intrinsic energy. The two polarities of intrinsic energy were necessary to obtain cancellation of energy making possible transfer of mass from the previous universe without violation of flatness requirements. When the big bang took place the E8 symmetry was broken and the negative and positive distinction of intrinsic energy was lost and the arrow of time and concept of entropy established.

A theory of the universe based on the 8-fold SU(3) Symmetry of life leads to a single universe of cycling time character¹ in which an epoch without an arrow of time is followed by an epoch with an arrow, etc, ad infinitum. The epochs without an arrow were epochs in which E8 symmetry² (a single-member group of the highest possible symmetry) is unbroken, while the epochs with arrows are epochs in which E8 Symmetry is broken by U(1). In the epochs with arrows (our present epoch for example) all intrinsic energies are positive while in the epochs without arrows of time (perfect E8 symmetry) intrinsic energies can be either negative or positive. This makes possible zero-mass entities (not quantum particles) containing equal masses of positive and negative intrinsic matter. In nature it appears that hadrons and leptons (spin odd $1/2$) are all of positive intrinsic mass, while bosons (integer spin) are all of negative intrinsic mass³.

The positive-negative intrinsic mass feature of unbroken E8 symmetry makes possible transfer of the 8 fundamental matter stable fermionic particles (neutrinos, up and down quarks, electrons and their antiparticles) from one universe to the next following universe as well as the weak-matter bosonic W^+ , W^- and W_0 particles without violating flatness requirements. This means that all matter can be carried intact to the new universe without

change (in fact, the matter being transferred may be immortal). For matter of negative intrinsic mass being transferred, when it is established in the new (our) universe after the big bang (and its E8 symmetry has been broken and the arrow of time re-established) its intrinsic mass becomes positive again and it can be detected experimentally.

As I have pointed out in a previous letter (viXra 1310.0261) the realization that three new forces of nature exist (for a total of 8 forces in all) allows E8 symmetry to also explain the big bang itself as a universe-wide annihilation of massive particle-antiparticle weak particle pairs.

1. Roger Penrose, "Cycles of Time", Alfred A. Knopf (2011)
2. A. Garrett Lisi and James Owen Weatherall, "A Geometric Theory of Everything", pp. 54-61, Scientific American, Dec. (2010)
3. Dan Hooper, "Dark Cosmos", p. 91, Collins, (2006)