

# Viewing Reality in Terms of Mass-Less and Mass-Based Energy

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In what follows I explain why I have opted for the simplest dual conceptual approach of mass-less energy and mass-based energy as the components of reality. This statement provides detail to accompany my essay, "Think About It."

- 1) If the Big Bang theory in physics is mostly accurate, everything in reality begins as energy. And the concept is of a unified state of energy – not energy separated into all the different categories and spectra that we have come to differentiate. So, energy in a unified state is primary at the origin of reality.
- 2) This means that all other phenomena of reality have to derive from pure energy. Big Bang theory contends that this is the case with elementary particles arising secondarily from energy. These particles then combining to ultimately form the basis for all mass-based matter, which makes up our material reality.
- 3) But physics has discovered that nearly all of the most elementary particles are mass-less. So, it seems that mass-less "particles" emerge first out of pure energy. And it is not at all clear how these fundamental mass-less elementary "particles" differ from "units" of energy. In fact, these "particles" are often characterized alternatively in terms of being either particles or waves. So, it is accurate to describe these mass-less "particles" as units of energy.
- 4) Discovery of the mass carrying Higgs boson among elementary particles may reveal the first elementary mass-based particle. And this Higgs boson may thereby constitute the bridge between the mass-less "particles" or units of energy and the mass-based particle state that is essential for the existence of all matter.
- 5) If this is the case, the sequence that emerges is: pure energy, to mass-less particles or units of energy, to mass-based particles, to mass-based matter – from simple atoms, to complex atoms, to molecules, and ultimately to galaxies.

Reality is almost exclusively composed of energy. Mass – upon which all matter in the physical universe depends – is an infinitely tiny component of reality. In part, humans mistake the mass dependent nature of themselves and their physical reality for what is significant in their world because they perceive directly through their senses only an infinitesimally small portion of the energy domain. Properly understood, humans and all their surrounding material reality are composed almost exclusively of concentrated and highly integrated "bundles" of energy. While understanding both the mass-less and mass-based dimensions of reality is important, humans must focus more on waves and fields of energy and less on the role of mass and "particles" of matter if they are to better understand themselves and their reality.

A satisfactory Theory of “Everything” must account for 1) how some pure energy differentiates into identifiable mass-less units of energy as mass-less particles or waves, 2) how mass emerges from energy in the context of these mass-less particles or waves, 3) how some mass-less particles or waves acquire mass to become mass-based particles or waves, and 4) how these mass-based particles integrate to form all the different kinds of matter that make up the physical universe.