

A Solution to Paradoxes of Physics, Cosmology, and Consciousness Problems

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Great achievements of science have enriched the material life on this planet. These successes have led some scientists to proclaim that the ‘End of Science’ is near or the final victory – ‘Theory of Everything’ is within reach in the near future. However, the apparent overconfidence and optimism based on the material successes alone have been afflicted with some very serious and as yet unexplained singularities and paradoxes [1] in the flagship theories of science that are unable to explain the vast majority (96%) of the universe. Similarly, the hard problem of consciousness remains unresolved since it is generally considered to be a problem only within the domain of neuroscience under the premature materialistic assumption that consciousness is an epiphenomenon of the brain. This brief paper summarizes an integrated scientific approach [2, 3, &4] that shows that there exists a common root-cause that fails the modern scientific theories of physics, cosmology, and consciousness.

The root cause is shown to be the ignorance of the physics of spontaneous mass-energy conversion, as observed in wave-particle complementarity and spontaneous decay/birth of particles in quantum vacuum, in the current theories that are founded on the fundamentality of inanimate matter and forces. This paper presents an integrated model that provides a direct relationship between the physics concepts of space, time, mass, and energy, and the consciousness concepts of spontaneity and free will.

The scientific approach is two-fold. First is to complete the picture of universal reality via integrating spontaneity or consciousness into a physical model and explain the observed empirical universe behavior resolving the current paradoxes, singularities, and inconsistencies of the mainstream scientific theories – general relativity and quantum mechanics. Second is to develop a framework for an integrated model of matter, mind, and consciousness founded on the wholesome reality including consciousness. A successful agreement between the predictions and empirical observations of the universe demonstrates the validity and credibility of the proposed approach. The predictions are further testable and falsifiable via future empirical observations.

SOLUTION TO PHYSICS/COSMOLOGY PARADOXES:

The Universal Relativity Model (URM) model is based on the Einstein’s mass-energy equivalence formula $E = mc^2$. E is described in terms of the gravitational energy and expansive relativistic kinetic energy of the universe mass m . The resulting field equations provide a mechanistic physical description of the Einstein’s Cosmological Constant that Einstein originally proposed as a fudge constant widely known as his “Biggest Blunder”. URM provides field equations for relativistic mass, energy, space, and time in terms of expansion velocity V and size R of the universe. The predicted relativistic expansion vindicates Hubble expansion data in the near-field and far-field supernova as well as recent galactic observations. Below is a brief description of how URM resolves current paradoxes of physics and cosmology:

1. **URM eliminates big bang singularity** via allowing continuous unlimited mass to energy conversion all the way to the infinitesimal sizes of the universe below Planck’s scale.
2. **What came before the big bang?** URM predicts an eternal quasi-static universe without time being a parameter. Hence, nothing came before or after since there was **NO Big Bang**.
3. **Where did time come from?** URM predicts the observed universe without time as a parameter. Relativistic time appears as a property of gravity dominated matter-energy states in the near-field universe varying/dilating as a function of V and R . There is no universal time.
4. **What is the universe made of?** URM describes the universe as a set of infinite number of relativistic states of mass-energy-space-time varying as a function of V and R . The net mass-energy of the universe is conserved and remains constant in all states.

5. **Is there design in the universe?** The unchanging eternal relativistic laws of conservation of mass-energy-space-time and universal constants govern the universe behavior. There is no need for either a designer (person) or design.
6. **Is the Quantum world linked to everyday life?** Yes. URM describes the whole universe as a continuum from infinitesimally small to infinitesimally large scales. There no duality. URM explains the inner workings of QM in terms of relativistic physics as below:
 - a. **The quantum collapse is explained** via alteration of V by the measuring device or the observer, which reverts the original quantum relativistic reality to the classical reality as V decreases to cancel the dilation of space-time reverting to classical space-time.
 - b. **URM predicts non-locality** of quantum phenomena via dilation of space-time between two apparently separated events measured in fixed space-time by a classical observer.
 - c. **The quantum vacuum paradox is resolved** by extending the mass-space-time dilation to zero as V approaches C . This eliminates the current deficiency of QM that predicts Zero-point vacuum energies that are 120 orders of magnitude higher than observed.
 - d. **The quantum gravity paradox is resolved** as URM predicts gravity dominated behavior at infinitesimally small sizes below Planck's scale without a singularity.
 - e. **URM predicts stability limits of all small quantum particles and classical objects.**
 - f. **Heisenberg's uncertainty is shown to be a measurement deficiency** caused by classical measurement of the relativistic quantum event in fixed space-time. **Uncertainty is not an inherent property of the universe.**
7. **Do we live in a conscious universe?** Yes as explained below.
8. **How did life first begin?** Because the universe is eternal and conscious, life is eternal. The question only arises because of the misguided human (mainstream science) assumption that the universe is dead and biological life is the only life. The definition of life must be extended to the universal consciousness to resolve this misguided and unneeded paradox.
9. **Does the brain create mind?** No, just like the radio does not create music. URM describes a universal model of matter, mind, and consciousness as a wholesome continuum without any dualities as described below.
10. **URM solves the Dark Energy puzzle** via predicting the observed accelerated cosmic expansion. Dark energy is described as the relativistic kinetic energy of the dilated mass.
11. **URM eliminates the need for superfluous inflation, parallel universes, Anthropic principle, and fine tuning.**

SOLUTION TO CONSCIOUSNESS PROBLEMS:

The problem of consciousness is generally considered to be a problem only within the domain of neuroscience. That is because of the inherent and premature materialistic assumption that consciousness is an epiphenomenon of the brain. The sequential firing of neurons in the brain is assumed to create what are called the correlates of consciousness. The overall problem of consciousness is historically divided in two parts. The easy problem is to experimentally correlate the measured mental states in terms of electromagnetic signals to various well-defined brain and bodily activities. The hard problem, on the other hand, is how the mental states or firing patterns of neurons in the brain create subjective experiences such as anger, love, fear, or hate etc. How it creates the feeling of "I" or the personhood that relates to others the way it does still remains a big mystery in neuroscience.

However, the still unrecognized and hardest of all the known problems of consciousness is whether consciousness is a non-local universal rather than a local neurobiological phenomenon. If we make the hypotheses that spontaneous (without external cause) motion or change is a necessary and sufficient evidence of consciousness, then the universe is conscious since it exhibits spontaneous motion evidenced in its expansion velocity V . The eternal universal laws of motion are evidence of a living universe. A dead universe will have no spontaneous motion or laws of motion. The very fact that human mind is able to

perceive and experience the reality of the eternal and non-local universal laws points to the non-locality of the human mind. The neuro-biological mind has no bearing on the laws of nature and their universal, eternal, and non-local existence. Laws have been known to exist long before the appearance of mind.

Parallelism between physics and consciousness problems have been noted by many scientists as physics describes measurable aspects of human experience using the mathematical laws. The well-known physicist Freeman Dyson pointed to the evidence of three levels of mind - the human mind, the mind residing at the micro level the atomic subatomic level, and then at the very macro levels the mind of the universe. The manifestations of the way the subatomic or quantum world acts lead one to think that mind is a reasonable way to describe what's going on. Dyson states - "So the atom seems to have a freedom to choose, that's something, which characterizes quantum processes that they seem to just occur spontaneously. We call that spontaneous decay. So it is spontaneous; that to my mind implies that the thing makes a choice.So that this freedom that the individual atom has to have... seems to be an indication of some rudimentary form of mind."

Thoughts in a contemplative or meditative human mind can decay or be born at the spontaneous intention or free will of the person. Since the empty space in the universe is shown by quantum mechanics to be filled with particles that are born and decayed spontaneously (without an external causation), the argument of similarity between the human mind and the micro-mind can be extended to the macro- or the universal mind. Famous physicist Brian Greene enumerates this fact elegantly by describing how our conscious moment-by-moment activities are governed by the relativistic physics of mass-energy equivalence - "... When you drive your car, $E = mc^2$ is at work....When you use your MP3 player, $E = mc^2$ is at work..... As you read this text, $E = mc^2$ is at work. The processes in the eye and brain, underlying perception and thought, rely on chemical reactions that interchange mass and energy, once again in accord with Einstein's formula."

The brain-mind problem is thus parallel to the mass-energy problem in physics governed by the relativistic laws that URM is founded on. Hence, URM addresses consciousness related issues within the context of modern neuroscience and related problems in contemporary physics. URM shows that the neurobiological or brain-mind processes and qualia (emotions, thoughts, intentions etc.) are a subset of the relativistic states of consciousness or the universal mind represented as one wholesome continuum of space-time-mass-energy - an orderly physical phenomenon governed by the universal relativistic laws and not a brain generated imperative. The synchronicity between the universal mind and human mind is also experienced and described by many meditative spiritual masters as well.

In summary, URM eliminates the paradoxes and deficiencies paralyzing the modern mainstream theories and provides an integrated wholesome solution to the physics, cosmology, and consciousness problems. Further, URM not only successfully predicts the observed universe but also provides testable/falsifiable predictions for future scientific observations.

REFERENCES:

- [1] Deepak Chopra & Menas Kafatos, *You Are the Universe*, Harmony Books, 201.
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- [4] A. Singh, *Quantum Non-Locality Explained by Theory of Relativity*, *Phy. Essays* Vol. 19 No. 1, 2007.