A May Cosmology Conjecture: an Alternative Vision of the Universe

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Abstract

A novel cosmological conjecture is proposed which reinterprets the nature of the universe as evolving from an eternal, infinite, indefinite potential field termed "May" (virtual massenergy). In 'thistory' (*sic*), 'universes' emerge as a consequence of the Heisenberg Uncertainty Principle, and subsequent search for evolutionary stable strategies (ESS) for continued existence and persistence. These ESS appear as 'small bangs': individual galaxies within a single expanding whole of May, with each supermassive black hole functioning not as a terminal gravitational sink but as a birthing point of local coherence and persistence from May. The laws of physics emerge as the summary conditions describing these ESS. Distinguishing between coordinate time of 3-dimensional spacetime and real evolutionary (life) time of emergent structures, this model offers a metaphysically coherent and observationally relevant alternative to current cosmological orthodoxy.

Keywords: cosmology, metaphysics, May, emergence, spacetime, Higgs field, field theory, dynamic reality, fabric of reality, evolutionary time, thistory, quantum mechanics, particle physics.

1. Introduction

Conventional cosmology, grounded in the Big Bang and expanding universe models, is metaphysically unsatisfactory, leaving fundamental questions unresolved about the origin of physical laws, the fine-tuning of initial conditions, and the purpose or meaning of the universe. Based on Gödel, 1931 incompleteness, Heisenberg's uncertainty principle (Heisenberg, 1927), and the logic of evolution, in short, 'do what you like and see if you can get away with it' this conjecture reimagines the cosmos as an open, creative and perpetual process of local realisation (evolution) from an infinite birthing pool of potentiality - May.

2. May: The Infinite Potential Pool

"May" is defined as an infinite, indefinite pool of virtual, unmanifest potential mass-energy. It is not a physical field but a metaphysical substrate inferred from the emergence, coherence, and persistence of realised phenomena. May stands beyond direct observation but underpins all realisation processes, resonating with concepts explored in foundational quantum theory (Dirac, 1930).

3. Emergence of Spacetime and Matter

In the absence of realised energy, spacetime appears as a virtual potential—a flat, scale-free relational 2-dimensional manifold (Wheeler, 1957). With the emergence of actual energy from May, spacetime becomes structured into three dimensions, and the speed of light emerges as the necessary invariant relationship between space and time (Einstein, 1916). The Planck constant arises simultaneously as a quantisation of realised energy (Planck, 1900). The founding laws of physics appear as emergent properties.

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[1] This short paper has been written with the assistance of ChatGPT4.o. A transcript of the conversation with ChatGPT leading to this paper can be found here.

Matter appears as persistent oscillatory structures stabilised at the boundary between potential and realisation. The proton can be considered as the archetypal emergent object, both persistent and stable, with its own self-determined scale and scope, providing the objective basis for the periodic table and all that follows.

4. The Distinction Between Spacetime and Evolutionary Time

A key innovation of this conjecture is the distinction between ‘coordinate time’ (associated with 3-dimensional spacetime) and ‘evolutionary (life) time’. While coordinate time is a measure of relational structure across spacetime, evolutionary time is the living tempo of emergence, coherence, and transformation (Barbour, 1999; Smolin, 2013). The real history of the universe—"thistory"—is the unfolding of evolutionary time, not simply a backwards projection through spatial coordinates. Observations across spacetime are echoes of structure, not direct tracings of real evolutionary flow (Ellis & Rothman, 1993).

5. Emergence of Galaxies and Distributed Realisation

Galaxies emerge not from a singular explosion but through multiple localised realisations—"small bangs" anchored by supermassive black holes. These black holes are reinterpreted as birthing points rather than collapse points. Galactic rotation curves and structural coherence arise naturally from the influence of these realisation nodes (Milgrom, 1983; McGaugh et al., 2016).

The cosmic microwave background (CMB) is thus seen not as a remnant of a singular Big Bang but as a distributed warming signature from ongoing realisation processes. The cosmic neutrino background (CNB) represents an even earlier, fainter ripple of realisation attempts near the threshold of May.

6. Quantum Foundations and Particle Phenomena

Quantum mechanical and particle physics phenomena, in thistory, reflect degrees of realization from May:

- Wave-particle duality: degrees of stabilization (Feynman, 1985)

- Superposition: unresolved realisation (Wharton, 2010)

- Entanglement: coherence fields overriding spatial locality (Rovelli, 2004)

- Virtual particles: near-threshold flickers of non-stable realisation

- Indeterminacy: ontological openness rather than randomness (Hossenfelder, 2018)

The Standard Model particles map local phase spaces of emergent coherence.

7. The Fabric of Reality: Warp and Weft of Emergence

Reality is a dynamically woven fabric, with its ‘Warp’ as the emergent relational spacetime structure (Einstein, 1916; Wheeler, 1957), and its ‘Weft’ as the Higgs field that stabilises mass-energy into persistence (Aad et al., 2012; Chatrchyan et al., 2012). The Higgs field acts as the first stabilising thread, with other interaction fields completing the fabric. The weaving is continuous, dynamic, and participatory, shaping the living cosmos from May.

8. Outlook and Future Work

The May cosmology conjecture offers a new framework for understanding the nature of reality, emergence, and cosmic structure. Several avenues for further theoretical development and observational testing suggest themselves:

Observational Tests: If the CMB is interpreted as an emergent warming signature from distributed realisation rather than a Big Bang relic, subtle anisotropies or statistical anomalies in the CMB data could reflect localized evolutionary histories rather than primordial fluctuations. Additionally, refined measurements of galactic rotation curves and the distribution of supermassive black holes could reveal correlations predicted by a May-driven distributed emergence model rather than by dark matter distributions alone (Milgronm, 1983).

Quantum Foundations: A formalisation of the realisation process from May could provide new insights into quantum superposition, decoherence, and entanglement. Investigating whether quantum nonlocality can be derived naturally from a shared coherence field rooted in May could provide a profound bridge between cosmology and quantum mechanics.

Mathematical Models: Developing a mathematical formalism for May as a dynamic potential pool, and deriving spacetime and particle fields as emergent stability solutions, would ground the metaphysical narrative in predictive physical theory.

Evolutionary Time Metrics: Constructing alternative cosmological chronologies based on local evolutionary time, rather than simple spacetime redshift, could lead to a richer understanding of cosmic history and structure formation.

Philosophical and Conceptual Exploration: The distinction between coordinate time and evolutionary time invites broader philosophical engagement with the nature of becoming, reality, and consciousness in an evolving universe.

The May cosmology conjecture thus opens not only a new cosmological model but a broader program of inquiry into the emergence, coherence, and participation of realised structures in the unfolding story of existence.

9. Conclusion

The May cosmology conjecture reimagines the universe not as a fixed, closed system but as an evolving, participatory field of realisation. By distinguishing between spacetime and evolutionary time, and by interpreting galaxies as localised emergences, we offer a coherent alternative to the dominant cosmological narratives. The history of the universe is thistory—the unfolding of realised potential into persistent, evolving structures.

We invite further exploration of this model in mathematical, observational, and philosophical contexts.

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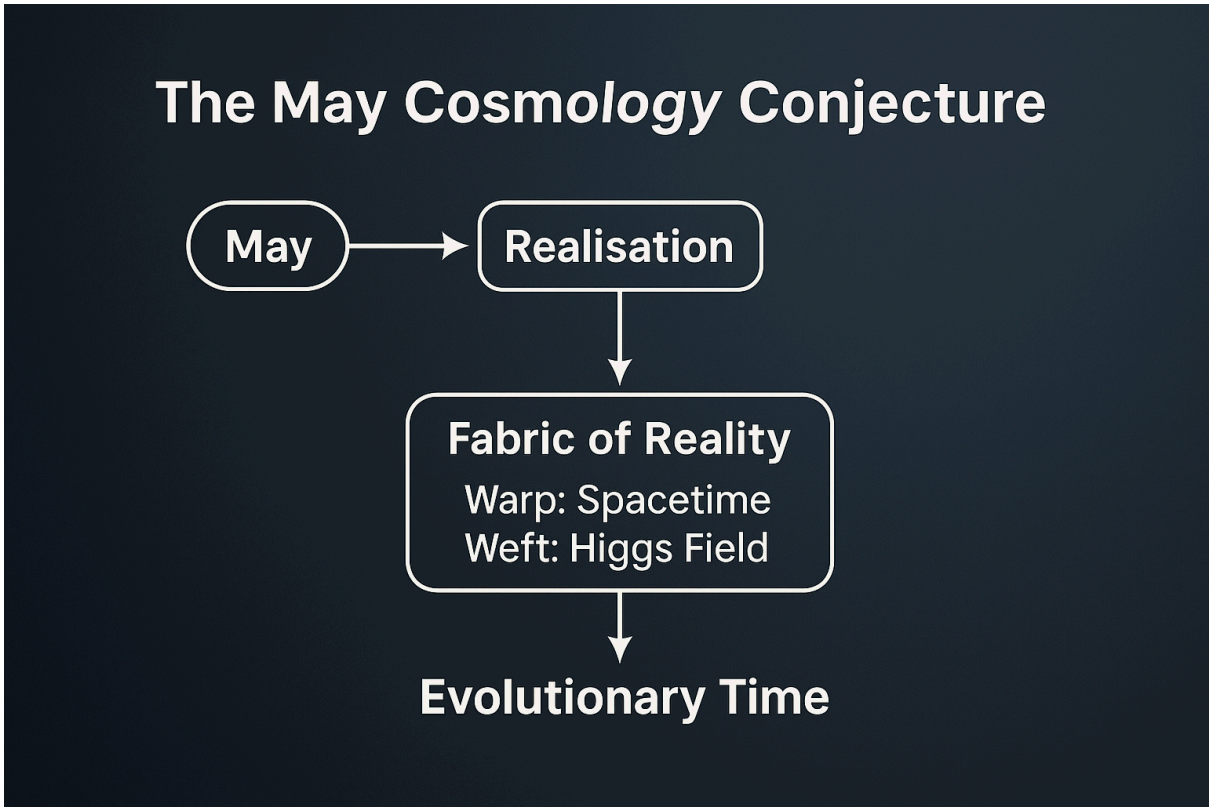
The May Cosmology Conjecture
May
Realisation
Fabric of Reality
Warp: Spacetime
Weft: Higgs Field
Evolutionary Time

The May Cosmology Conjecture: A New Vision of the Universe

Overview
We propose a new cosmological framework in which reality emerges dynamically from an infinite, indefinite field of potential — termed **May**. In this view, the structures we observe, from particles to galaxies, are local realisations of May, each stabilised through evolutionary processes rather than descending from a singular cosmic event.

Key Innovations

- **Distributed Emergence**: Galaxies arise from localized 'small bangs' centered on supermassive black holes, rather than from a single Big Bang.
- **Fabric of Reality**: Reality is a living weave of emergence — spacetime forms the **warp**, structured relationally from May, while fields like the Higgs field form the **weft**, anchoring mass-energy into coherent persistence.
- **Evolutionary Time vs Coordinate Time**: A critical distinction is made between the **coordinate time** of spacetime and the **evolutionary (life) time** marking the real tempo of persistence, growth, and transformation — the true history of the universe (**thistory**).

Implications

- **Reinterpretation of the CMB**: The cosmic microwave background is seen not as the afterglow of a singular Big Bang, but as the diffuse warming signature of ongoing distributed realisation across May.
- **Quantum Foundations**: Quantum phenomena — wave-particle duality, entanglement, superposition — are natural consequences of partial and incomplete realisations from May.
- **Cosmic Structure**: Neutrinos and weakly interacting phenomena are interpreted as near-threshold flickers of May's continuous potential, not merely byproducts of early universe dynamics.

Opportunities for Future Development

- Formal mathematical modeling of May and realisation processes.
- Observational exploration of subtle CMB anisotropies and galactic structure correlations.
- Philosophical inquiry into the nature of time, emergence, and consciousness in an evolving cosmos.

Conclusion
The May Cosmology Conjecture offers a fresh, coherent alternative to conventional cosmology, blending physical rigor with metaphysical depth. It reframes the universe not as a deterministic system, but as an open, participatory, and evolving field of potential and realisation.

Development of this paper using ChatGPT4o.

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