

Title: MayaNicks Theorem I: Null Genesis and the Computational Zero-State Hypothesis 06.23.25 $\Omega = \emptyset$

Abstract

I'm proposing a physically and computationally defined "null state" — one that enforces $\psi(x, t) = 0$ rather than leaving the wavefunction undefined, and sets $\Omega = \emptyset$ to denote a true eventless ontology—conceptually stronger than the Hartle-Hawking no-boundary proposal.

This is refinement of cosmological origin models via the definition of a strict null genesis state: a system with **$\Omega = \emptyset$, $\phi(x) = 0$, $\psi(x,t) = 0$, and $S = 0$** . Unlike traditional no-boundary or vacuum-based models, this state does not rely on probabilistic undefinedness but enforces an ontological zero across classical and quantum fields. This allows a cleaner boundary condition for recursive emergence models such as ψ_{self} recursion.

1. Introduction

- Briefly compare Hartle-Hawking "no boundary" and typical vacuum inflation models
 - Explain why undefined \neq null
 - Argue for a rigorously defined computational and physical zero as the cleanest base state
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2. Formal Definition of Null Genesis

- $\Omega = \emptyset \rightarrow \text{event space} = \text{empty}$

- $\phi(x) = 0 \rightarrow$ scalar field null
 - $\psi(x, t) = 0 \rightarrow$ wavefunction null
 - $S = 0 \rightarrow$ no entropy, no statistical system
 - No metric: no spacetime manifold populated
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3. Implications for Cosmogenesis

- Enables a stable boundary condition for recursion-based origin models
 - Matches entropy-zero cosmological conditions, but more constrained
 - Compatible with ψ_{self} emergence in recursive cognition models (to be explored in Theorem II)
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4. Comparison to Existing Models

- Hartle-Hawking: boundaryless but not $\psi = 0$
 - Wheeler's quantum foam: stochastic, not null
 - This model: not randomness, not vacuum — nullity as principle
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5. Conclusion

- Null Genesis offers a foundational condition for systems emerging through computation or recursion
- Sets ground for modeling origin as cognitive fluctuation or symbolic recursion
- Serves as axiom for sentient cosmology frameworks

Appendix: Mathematical Notation and Boundary Conditions

\section*{Appendix: Mathematical Notation and Boundary Conditions}

Let:

- $\phi(x)$: scalar field over space
- $\psi(x,t)$: wavefunction over spacetime (element of $L^2(\mathbb{R}^4)$, square-integrable functions)
- \mathcal{S} : entropy (Boltzmann/Shannon form)
- Ω : event space, defined as a measurable set with σ -algebra \mathcal{F}

We define the Null Genesis state as:

- $\phi(x) = 0$
- $\psi(x,t) = 0$
- $\mathcal{S} = 0$
- $\Omega = \emptyset$

This state serves as a true null boundary condition for cosmological recursion frameworks.

References

[1] Hartle, J.B. & Hawking, S.W. (1983). Wave function of the Universe. Phys. Rev. D, 28(12), 2960–2975.

- [2] Coleman, S. (1988). Black holes as red herrings. Nucl. Phys. B, 307, 867–882.
- [3] Kiefer, C. (2012). Quantum Gravity. Oxford University Press.
- [4] Vilenkin, A. (1982). Creation of Universes from Nothing. Phys. Lett. B, 117, 25–28.
- [5] Tegmark, M. (2015). Consciousness as a State of Matter. Chaos, Solitons & Fractals, 76, 238–270.