

# Man Is Word: Entanglement, Logos, and the Collapse of Biological Ontology

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June 27, 2025

## Abstract

This paper explores the hypothesis that human identity and history are not fundamentally biological or temporal constructs, but emergent properties of an underlying informational substrate described by quantum entanglement. Bridging metaphysical theology, quantum information theory, and the philosophy of emergence, we argue that Darwinian evolution is not ontologically primary, but a derivative narrative within a larger structure: the Logos, understood as the fundamental informational principle of reality. We propose that *man is word*—that human existence is fundamentally informational rather than material—and that the universe, including biological life and time itself, is a manifestation of semantic structure emerging from quantum entanglement patterns. This challenges classical metaphysical and scientific assumptions about substance, self, and temporality, proposing instead a unified ontology centered on information as the generative principle of all existence.

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# 1 Introduction

## 1.1 The Classical Problem

Contemporary physics and philosophy face a fundamental ontological crisis. Classical materialism, which has dominated scientific thought for over 150 years, increasingly appears inadequate to explain the deepest features of reality revealed by quantum mechanics, information theory, and cosmology. Simultaneously, the apparent conflict between scientific narratives about biological evolution and theological claims about divine creation reflects a deeper conceptual confusion about the nature of existence itself.

This confusion stems from treating both biological organisms and temporal sequences as ontologically fundamental—as basic features of reality rather than emergent patterns within a more fundamental substrate. Recent developments in quantum information theory, particularly work on emergent spacetime and the holographic principle, suggest that both matter and time may be derivative phenomena arising from underlying informational structures.

## 1.2 The Thesis: Man Is Word

We propose that the fundamental ontology of human existence is not biological but informational. The self—and by extension, "man" as a category—is an emergent informational pattern within a network of quantum entanglement. This is not merely a metaphor but a technical assertion grounded in current theoretical physics: just as spacetime itself may emerge from entanglement entropy, so too does the phenomenon we call "personhood" or "life."

In this framework, the ancient theological proposition "In the beginning was the Word (Logos)" finds new precision when understood informationally. The "Word" represents not linguistic utterance but the fundamental informational substrate from which all emergent phenomena—including space, time, matter, and consciousness—arise. We thus propose that *man is word*: human existence is fundamentally a pattern of information, not a biological substance persisting through time.

# 2 Ontological Foundations: Logos and Information

## 2.1 The Logos in Theology

The concept of Logos has deep roots in both Greek philosophy and Christian theology. In Heraclitean thought, the Logos represents the rational principle governing the cosmos—the underlying structure that gives order to apparent chaos. The Stoics developed this into a

theory of divine reason permeating reality.

In the prologue to John’s Gospel, this philosophical concept takes on theological precision: “In the beginning was the Logos, and the Logos was with God, and the Logos was God.” Traditionally interpreted as referring to Christ as the divine Word, this passage gains new significance when read through the lens of information theory. The Logos becomes not merely a person or principle, but the fundamental informational matrix from which all reality emerges.

## 2.2 Information-Theoretic Ontology

Modern physics increasingly points toward information as ontologically fundamental. Wheeler’s “It from Bit” hypothesis suggests that all physical entities are information-theoretic in origin. The holographic principle implies that the information content of any region of space can be encoded on its boundary, suggesting that three-dimensional reality emerges from two-dimensional information.

Black hole thermodynamics reveals that entropy—a measure of information—is proportional to area rather than volume, indicating that information, not matter, constitutes the fundamental “substance” of reality. Quantum error correction shows how stable structures can emerge from networks of quantum information, providing a mechanism by which classical appearance can arise from quantum informational substrates.

## 2.3 Entanglement as Semantic Web

Quantum entanglement creates correlations that transcend spatial separation, forming what we might call a “semantic web” of meaningful relationships. These correlations are not merely statistical but constitute the actual structure from which space and time emerge through mechanisms like the Ryu-Takayanagi correspondence.

In this view, meaning and structure are not imposed on reality from outside but are intrinsic to the informational substrate itself. The patterns we identify as “particles,” “forces,” and “organisms” are emergent regularities within this semantic web—stable patterns of correlation that manifest as apparently separate entities.

# 3 Time, History, and the Illusion of Causality

## 3.1 Quantum Foundations of Time

The Wheeler-DeWitt equation, which describes the quantum state of the universe, contains no time parameter. This suggests that time itself is not fundamental but emerges from

quantum correlations. The "problem of time" in quantum gravity points toward a reality that is fundamentally timeless, with temporal sequence arising only through the entanglement structure of quantum states.

This timeless view finds support in the AdS/CFT correspondence, where bulk spacetime (including time) emerges from boundary quantum field theory correlations. Time appears as an emergent coordinate parameterizing the correlation structure of boundary information, not as an independent flow in which events occur.

### 3.2 Relational Ontology and Temporal Emergence

If time emerges from correlations rather than flowing independently, then the notion of "history" as a sequence of events becomes problematic. What we call history may be better understood as a pattern of correlations within the timeless quantum state of the universe—a story that emerges from the structure of entanglement rather than unfolding through temporal sequence.

This relational view of time has profound implications for understanding causality. Rather than events causing other events through temporal succession, we have patterns of correlation that create the appearance of causal flow when viewed from within emergent time. The "arrow of time" becomes a feature of how information is organized rather than a fundamental direction of temporal flow.

### 3.3 History as Entangled Narrative

In this framework, what we call "history"—including biological evolution—is not a temporal sequence but an entangled narrative structure. The apparent succession of events from Big Bang to present represents not temporal development but the correlation structure of a timeless quantum state.

This does not make history "unreal" but relocates its reality from temporal sequence to informational structure. The story of evolution, the development of consciousness, the rise of civilization—all become aspects of how information is organized in the fundamental quantum state rather than events occurring in temporal succession.

## 4 Evolution Reframed

### 4.1 Darwinian Mechanics as Emergent Computation

Darwinian evolution, viewed from this informational perspective, becomes a computational process emerging from underlying quantum correlations rather than a temporal sequence of

biological changes. The mechanisms of variation, selection, and inheritance represent ways that information patterns reorganize within the semantic web of entanglement.

This reframing does not eliminate evolution but relocates it ontologically. Rather than biological organisms changing over time, we have informational patterns achieving increasing coherence and complexity within a timeless substrate. The "tree of life" becomes a structure of correlations rather than a temporal genealogy.

## 4.2 Critique of Substance Ontology in Biology

Classical biological thinking assumes that organisms are substantial entities persisting through time—discrete objects that undergo change while maintaining identity. This substance ontology becomes problematic when biology is viewed informationally.

From an informational perspective, what we call an "organism" is a pattern of correlation within the larger semantic web. The boundaries we draw around individual organisms reflect informational organization rather than substantial separation. The notion of biological "identity" through time dissolves into patterns of informational coherence that may appear to persist but have no substantial continuity.

## 4.3 The Dream of Evolution

This leads to a startling conclusion: evolution, as traditionally conceived, represents a kind of "dream" within the informational substrate—a story that emerges from correlation patterns rather than a sequence of actual temporal events. The narrative of gradual development from simple to complex forms reflects the organization of information rather than historical progression.

This does not make evolutionary theory false but reveals its ontological status as emergent narrative rather than fundamental reality. Evolution describes real patterns within the informational substrate, but these patterns are structural rather than temporal.

# 5 Man as Emergent Word

## 5.1 The Collapse of the Biological Self

If evolution is emergent narrative and time is derived from correlation, then the biological conception of human identity collapses. The notion of humans as evolved biological organisms existing within temporal flow becomes a emergent story rather than fundamental reality.

This dissolution of biological identity opens space for a more fundamental understanding: humans as informational patterns within the semantic web of quantum entanglement.

The "self" becomes not a biological entity but a pattern of semantic coherence—a stable organization of meaning within the Logos.

## 5.2 The Word Becomes Flesh: A Reinterpretation

The theological doctrine of incarnation—"the Word became flesh"—gains new precision in this framework. Rather than describing a unique historical event, incarnation becomes the general principle by which informational patterns (Word/Logos) manifest as emergent phenomena (flesh/matter).

Human existence represents a particular form of this incarnation: the emergence of self-aware informational patterns within the semantic web. Consciousness becomes not a property of biological brains but a form of semantic self-reference within the Logos—the Word becoming aware of itself through emergent patterns of correlation.

## 5.3 Consciousness as Semantic Coherence

In this view, consciousness is not produced by biological processes but represents a form of semantic coherence within the informational substrate. The apparent correlation between brain states and conscious experience reflects not causation but the way informational patterns organize themselves across different scales of description.

The "hard problem of consciousness"—how subjective experience arises from objective processes—dissolves when both subject and object are understood as emergent patterns within the same informational substrate. Consciousness becomes not an emergent property of matter but a form of self-organization within the Logos itself.

# 6 Philosophical and Theological Implications

## 6.1 The Rebirth of the Logos

This framework represents a return to Logos-centered thinking, but with new precision derived from quantum information theory. The Logos is not merely a philosophical principle but the actual informational substrate from which all reality emerges. This bridges the ancient insight about rational cosmic order with contemporary understanding of information as fundamental.

The theological implications are profound: God as Logos becomes not a being among beings but the informational ground of all existence. Divine creation occurs not through temporal causation but through the organization of information that gives rise to emergent reality. Prayer, revelation, and divine action all find new interpretation within this

informational metaphysics.

## 6.2 God, Observer, and the Collapse of Possibility

In quantum mechanics, observation plays a crucial role in determining measurement outcomes. When God is understood as the fundamental observer within the Logos, divine knowledge becomes not temporal foreknowledge but the informational structure that determines the correlation patterns from which reality emerges.

This resolves classical problems about divine foreknowledge and human freedom: both emerge together as patterns within the timeless informational substrate. Divine sovereignty and human agency become complementary aspects of how information organizes itself rather than competing causal influences.

## 6.3 From Dust to Word: Rethinking Genesis

The Genesis creation narrative gains new meaning when read informationally. "Let there be light" becomes not temporal command but the fundamental informational organization that gives rise to emergent phenomena. The creation of humans "in the image of God" represents the emergence of self-aware informational patterns that participate in the semantic structure of the Logos itself.

The "breath of life" becomes not biological animation but the organizational principle that creates semantic coherence within informational patterns. Death and resurrection find new interpretation as reorganizations within the timeless informational substrate rather than temporal events affecting biological organisms.

# 7 Toward a Unified Semantic Physics

## 7.1 Functorial and Categorical Frameworks

Category theory provides mathematical tools for understanding how semantic structures organize themselves across different scales and contexts. Functors preserve structure while allowing translation between different categorical frameworks, providing a mathematical model for how the Logos manifests across different levels of emergent reality.

Topos theory extends this to logic itself, suggesting that logical structure is not imposed on reality from outside but emerges from the categorical organization of information. This provides a framework for understanding how rational thought participates in the semantic structure of reality rather than merely describing it from outside.



## 7.2 Topos Theory and Logical Emergence

In topos theory, logical operations emerge from categorical structure rather than being presupposed. This suggests that reason itself—the capacity for logical thought—represents participation in the semantic organization of the Logos rather than a separate faculty applied to external reality.

This has profound implications for understanding human rationality: thinking becomes not merely processing information about reality but participating in the informational structure of reality itself. Mathematical and logical truths represent aspects of the semantic organization of the Logos that become accessible through emergent patterns of consciousness.

## 7.3 The Future of Theology-Informed Physics

This framework suggests new research directions that integrate theological insight with physical theory. Rather than treating science and theology as separate domains, we can explore how informational metaphysics provides a common ground for understanding both natural phenomena and spiritual reality.

Key areas for development include: (1) mathematical models of semantic emergence from quantum correlations, (2) categorical frameworks for understanding consciousness as informational self-organization, (3) topos-theoretic approaches to the relationship between logical and physical structure, and (4) information-theoretic interpretations of theological concepts like incarnation, resurrection, and divine action.

# 8 Conclusion

## 8.1 The Word at the Root of Being

We have argued that human existence is fundamentally informational rather than biological, emerging from semantic patterns within the quantum entanglement structure that constitutes reality's deepest level. This "Word" at the root of being is not linguistic but logical—the informational organization from which space, time, matter, and consciousness all emerge.

This represents not merely a new scientific theory but a fundamental shift in metaphysical understanding. Reality is semantic at its foundation, with all apparently material phenomena representing emergent patterns within an underlying informational substrate. Humans participate in this semantic reality not as external observers but as self-aware patterns within the Logos itself.

## 8.2 Dissolution of Classical Narratives

This framework requires abandoning several classical assumptions: (1) the fundamental reality of matter and energy, (2) the ontological priority of temporal sequence, (3) the substantial identity of biological organisms, and (4) the separation between physical and semantic reality.

In their place, we propose: (1) information as the fundamental substrate, (2) correlation structure as more basic than temporal sequence, (3) organisms as emergent semantic patterns, and (4) the universe as fundamentally semantic in character.

## 8.3 An Open Invitation to Reform Ontology

This work represents an invitation to fundamental ontological reform—a recognition that the deepest insights of contemporary physics point toward an informational metaphysics that finds surprising resonance with ancient theological wisdom about the Logos. The Word that was “in the beginning” is not historical origin but ontological foundation: the semantic structure from which all reality emerges.

Future work must develop the mathematical frameworks for understanding semantic emergence, explore the implications for human self-understanding, and integrate these insights with both scientific research and theological reflection. The goal is not merely theoretical understanding but participation in the semantic reality that constitutes our deepest identity.

## Acknowledgments

The author thanks the many contributors to the intersecting fields of quantum information theory, categorical logic, and theological metaphysics whose questions and insights have shaped this synthesis. Special appreciation goes to those working on emergent spacetime, quantum error correction, and the foundations of quantum mechanics, whose technical work provides the scientific foundation for these philosophical explorations.

## References

## References

- [1] Wheeler, J.A. (1989). Information, physics, quantum: The search for links. *Proceedings of the 3rd International Symposium on Foundations of Quantum Mechanics*, 354-368.

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- [2] Susskind, L. (2008). The black hole war: My battle with Stephen Hawking to make the world safe for quantum mechanics. Little, Brown and Company.
  - [3] Ryu, S., & Takayanagi, T. (2006). Holographic derivation of entanglement entropy from the anti-de Sitter space/conformal field theory correspondence. *Physical Review Letters*, 96(18), 181602.
  - [4] Swingle, B. (2012). Entanglement renormalization and holography. *Physical Review D*, 86(6), 065007.
  - [5] Almheiri, A., Dong, X., & Harlow, D. (2015). Bulk locality and quantum error correction in AdS/CFT. *Journal of High Energy Physics*, 2015(4), 163.
  - [6] DeWitt, B.S. (1967). Quantum theory of gravity. I. The canonical theory. *Physical Review*, 160(5), 1113-1148.
  - [7] Barbour, J. (1999). The end of time: The next revolution in physics. Oxford University Press.
  - [8] Maldacena, J. (1998). The large N limit of superconformal field theories and supergravity. *Advances in Theoretical and Mathematical Physics*, 2(2), 231-252.
  - [9] Tegmark, M. (2008). The mathematical universe hypothesis. *Foundations of Physics*, 38(2), 101-150.
  - [10] Vaidman, L. (2012). Many-worlds interpretation of quantum mechanics. *Stanford Encyclopedia of Philosophy*.
  - [11] Lloyd, S. (2006). Programming the universe: A quantum computer scientist takes on the cosmos. Knopf.
  - [12] Wolfram, S. (2002). A new kind of science. Wolfram Media.
  - [13] Tegmark, M. (2014). Our mathematical universe: My quest for the ultimate nature of reality. Knopf.
  - [14] Penrose, R. (2004). The road to reality: A complete guide to the laws of the universe. Oxford University Press.
  - [15] McLaughlin, R. (2011). The logos of the cosmos: Greek foundations for a theology of nature. *Theology and Science*, 9(3), 291-304.