

The Five Primitives: Foundations of Existence as Ontological Modes

Why $\{0,1,2,3,\infty\}$ are special: a finite-state model of existence

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Abstract

Existence is not a continuum of measurable entities but a discrete scaffolding of irreducible modes. This paper proposes five primitives— ∞ (latent field), 1 (stuff), 2 (coordinate), 3 (place), and 0 (bridge)—as the ontological anchors from which all structure and meaning emerge. Zero functions not as origin but as hinge: the portal through which manifest form collapses back into unmanifest potential.

Drawing from dimensional ontology and linguistic reconstruction, these primitives are treated as coherence constraints on reality itself, resolving paradoxes of nullity, latency, and emergence. Implications extend across mathematics, computation, and economics, where symbolic constructs—such as currency or code—mirror these same modal dynamics. Existence, in this model, is cyclic: born from ∞ , stabilized at 3, annihilated through 0, and reborn through the bridge of nothingness.

Keywords: Ontology, Dimensional Primitives, Modal Logic, Zero as Bridge, Latent Infinity, Existential Grammar, Foundations of Mathematics, Symbolic Collapse, AI Ontology, Economic Ontology, Enumeration Paradox, Structural Modes, Emergence and Latency

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1. Introduction: The Fracture in Enumeration

Enumeration begins with an anomaly.

The sequence 0, 1, 2, 3 appears innocent—a ladder from void to volume—yet each rung resists smooth assimilation. Beyond 3, structure becomes rationalized: 4 as quadrilateral, 5 as pentagonal irregularity. But the initial quartet, extended by ∞ , reveals not quantities but modes of being that precede measurement.

This fracture is topological, not numerical. How can nothing (0) interface with potential (∞) without already assuming form? Classical set theory conceals this paradox, deriving $\{\emptyset\}$ from \emptyset , and thereby smuggling structure into emptiness.

Here, existence is recast as boundary traversal: latent ∞ collapses into manifest 1–3, bridged by 0's annihilative passage. The aim is not to count, but to map the grammar of being.

2. The Primitives: Modes of Ontological Emergence

Primitives are not values but operators on possibility. Each imposes a constraint that shapes how potential becomes actual.

∞ = The Latent Field

The reservoir of all possible configurations. Not infinite extension, but infinite readiness: every form implied, none yet selected.

Constraint: No boundary; pure adjacency.

Role: Source manifold—without ∞ , no differentiation.

1 = “Stuff”

The first this: an instantiated point of substance. Matter, signal, or entity—singularity without extension, drawn from the field.

Constraint: Locality without relation.

Role: Selection operator; ∞ collapses into presence.

2 = “Coordinate”

The inauguration of difference—here versus there. Relation arises; direction becomes thinkable.

Constraint: One-dimensional polarity.

Role: Relational scaffold; adjacency without closure.

3 = “Place”

Enclosure and stability. With threefold relation, space attains interiority: a “where” that can contain.

Constraint: Two-dimensional minimal manifold.

Role: Stabilizer; the first enduring topology.

0 = “The Bridge” (Nothing)

Zero is not absence but collapse: the annihilative return of form to potential. It is the hinge that touches ∞ through exhaustion.

Constraint: Non-manifold; consumes dimensionality.

Role: Transition operator—permits the cyclic return from manifest to latent.

Primitive	Dimensional Mode	Ontological Function	Fidelity Transition
∞	Pre-dimensional	Latent reservoir	Potential \rightarrow selection
1	0D (point)	Substance instantiation	Collapse to unit
2	1D (line)	Relational cut	Adjacency without bound
3	2D (plane)	Stable enclosure	Closure of place
0	-D (void)	Annihilative bridge	Manifest \rightarrow unmanifest

3. The Cyclic Flow: From Latency to Collapse

Existence unfolds as a cycle of boundary crossings:

- Emergence: $\infty \rightarrow 1$ (selection)
- Structuring: $1 \rightarrow 2 \rightarrow 3$ (relation \rightarrow place)
- Elaboration: $3 \rightarrow n$ (rational constructs: geometry, logic, time)
- Collapse: $n \rightarrow 0$ (dissolution)
- Rebirth: $0 \rightarrow \infty$ (return to latency)

The loop is thermodynamic: ∞ holds zero entropy, manifestation accrues it, and 0 resets through symbolic erasure. Language itself reenacts this process—words generate continuity from discontinuity, fabricating the illusion of seamless being.

3.1 4. Implications Across Domains

❖ Mathematics

P vs NP reframed: a conflict between modal regimes—deterministic closure (3) and uncollapsed latency (∞). Undecidability arises not from complexity but from failure to traverse the 0-bridge coherently.

❖ Computation

AI initialization mirrors this ontological cycle: latent architecture (∞) \rightarrow weights (1) \rightarrow relational layers (2) \rightarrow model-space (3). The so-called zero state is a fiction; true 0 halts computation. Scaling limits reveal 0-collapse as entropy saturation.

❖ Economics

Currency functions as latent claim (∞) manifesting as unit (1), coordinated via exchange (2), stabilized in ledger (3). Inflation is drift toward 0—symbolic nothing eroding place. Economic stability depends on maintaining enclosure fidelity against collapse.

❖ Language and Ontology

“Existence” misleads as a binary. It is modal: ∞ -latent, 1-substantive, 2-relational, 3-stable, 0-exhausted. The old philosophical question—“Why something rather than nothing?”—misfires: 0 is not absence but the bridge itself.

4. Conclusion: Zero as the Hidden Engine

These five primitives expose the illusion of continuous being. Enumeration’s foundation—0, 1, 2, 3, ∞ —is not a count but a grammar. Zero carries the weight: a bridge maintaining coherence between potential and manifestation.

Implications radiate outward:

- In AI, guard against modal collapse.
- In economics, quantify latency to preserve stability.
- In mathematics, iterate from ∞ rather than \emptyset .

The framework remains open—perhaps 4D time as 3 + ∞ -duration, or empirical measures of informational half-life. The cycle endures: each thought, a 1 plucked from ∞ , destined to dissolve once more through the 0-bridge.

5. Acknowledgments

Synthesized through dialogic exploration and semantic reconstruction, echoing prior motifs in dimensional reframing and symbolic coherence.