TOTALITY as the Extrapolated Invariant of dx^μ Condensed into the Theory of Null Unity

Hrishi Mukherjee

Simulonic Research Division, New Canada

Abstract

This article expresses *Totality* as the extrapolated invariant emerging after all admissible geometric, informational, and bilateral structures are reduced to the differential alphabet dx^μ under the Theory of Null Unity. By imposing (i) Null Unity's metric selection rule, (ii) Infosophy's coherence-induced geometry, and (iii) Bilateral symmetry constraints, the entire representational universe collapses to the quadratic line element ds^2 and ultimately to its generators. Totality is shown to be the terminal diffeomorphism–gauge invariant built from dx^μ and the induced metric $g(\Psi)$. A canonical form and an extrapolated form of Totality are provided, with a minimal TikZ diagram illustrating differential reduction.

Keywords: Null Unity, Infosophy, Bilateral Ratios, Differential Geometry, Totality, Invariant Structures, Metric Induction

1. Introduction

Null Unity, Infosophy, and Bilateral Ratios impose a collapse of all representational forms to a single invariant:

$$ds^2 = g_{\mu\nu}(\Psi)\, dx^\mu dx^\nu.$$

Once this invariant is enforced, the core algebraic substrate is the differential basis dx^μ. We seek to express *Totality* as the extrapolated and condensed invariant derived from this foundation.

2. Axioms of Null Unity

2.1. Metric Selection

Null Unity identifies multiple presentations with the same quadratic interval:

$$\frac{\nabla^{-1}}{\infty} = ds^2, \qquad \frac{\varnothing}{\nabla^1 \infty} = ds^2.$$

2.2. Infosophic Metric Induction

The metric arises from coherence-weighted informational gradients:

$$g_{\mu\nu}(\Psi) = \lambda \left\langle \partial_\mu \Psi, \partial_\nu \Psi \right\rangle_{\mathcal{C}}.$$

2.3. Bilateral Ratio Constraint

Pre- and post-Null Unity forms obey

$$\mathbb{B} = \frac{L}{R} = 1,$$

ensuring representational consistency.

3. Differential Collapse

Collecting all constraints yields:

$$ds^2 = g_{\mu\nu}(\Psi)\, dx^\mu dx^\nu,$$

and locally,

$$ds^2 = \eta_{\mu\nu} dx^\mu dx^\nu.$$

Thus only the differential alphabet dx^μ remains irreducible.

4. Totality: Formal Definition

Let $\mathcal{F}$ denote the set of admissible scalar densities constructed from the differential basis and induced geometrical operators.

[Totality]

$$\boxed{\mathfrak{T} = \underset{\mathrm{Diff}\times\mathrm{Gauge}\times\mathrm{Bilateral}}{\mathrm{Inv}} \Big(\mathcal{F}(dx^\mu; g(\Psi), \nabla, \star)\Big).}$$

Totality is the terminal invariant once all presentational freedom is quotiented.

5. Canonical Form of Totality

The minimalist representative of Totality is the volume form:

$$\star 1 = \sqrt{|g(\Psi)|}\, d^n x,$$

so that

$$\boxed{\mathfrak{T} = \int_M \sqrt{|g(\Psi)|}\, d^n x.}$$

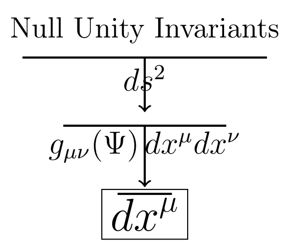
6. Extrapolated Totality

The extrapolated invariant includes higher-order scalar structures:

$$\boxed{\mathfrak{T}_{\text{ex}} = \int_M \Big(\alpha_0 \star 1 + \alpha_1 R \star 1 + \alpha_2 \|d\Psi\|^2_{\mathcal{C}} \star 1 + \cdots\Big),}$$

provided all terms preserve the Null Unity condition $\mathbb{B} = 1$.

7. Mini TikZ Diagram



8. Conclusion

Null Unity selects the invariant (ds^2), Infosophy induces its geometry ($g_{\mu\nu}(\Psi)$), Bilateral Ratios enforce representational collapse ($\mathbb{B} = 1$).

Thus:

$$\boxed{\text{Totality} = \text{the extrapolated invariant expressible purely through } dx^\mu.}$$

References

References

[1] H. Mukherjee, *Foundational Systems of Null Unity*, Simulonic Research Manuscripts, (2025).

[2] G. Greimel, *Infosophy: Coherence, Intent, and the Genesis of Form*, Infosophic Press, (2024).

[3] O. Boeschenstein, *Optimal Balance Theory and Bilateral Structures*, OBT Monographs, (2023).

[4] R. M. Wald, *General Relativity*, University of Chicago Press, (1984).

[5] T. Frankel, *The Geometry of Physics: An Introduction*, Cambridge University Press, (2011).