

Coherence Nodes and Retrostructural Fields a Falsifiable Model of Entropic Emergence¹

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¹ This paper develops a specific structural consequence of the theoretical framework introduced in the work *The Future as Origin: Toward the Structural Core of Being* (Startari, 2025), particularly the relationship between entropy, retroprojected attractors, and emergent coherence.

Abstract

This work introduces a compact theoretical model proposing that coherence does not arise from internal computation or subjective awareness, but from a structural resonance between entropic tension and a future-projected attractor inherent in the system. We define the coherence node as a localized structural event that emerges when informational disorder intersects with a formal attractor, not causally imposed from the future, but structurally inscribed in the system's projected evolution. The model is mathematically formalizable, structurally falsifiable, and empirically testable through indirect measurements in language models, quantum systems, and informational fields.

Postulate A coherence node is a localized structural event emerging at the point of resonance between a system's entropic gradient and its inherent retroprojected attractor (Startari, 2025). The attractor is not external or metaphysical: it is a formal condition embedded in the system's projected structure.

Field Equation

$$\nabla \cdot S(x, t) + \frac{\partial N(x, t)}{\partial t} = \kappa \cdot \frac{\partial A(x, t_f)}{\partial t_f}$$

Where:

- : entropic divergence,
- : emergence of coherence node,
- : inherent projected attractor,
- : retrostructural coupling coefficient.

Activation Condition The coherence node emerges when the local entropic gradient exceeds a critical structural threshold and aligns with its inherent attractor.

Falsifiability Criteria

- The node does not emerge if the output is statistically predictable.
- The node does not emerge if the system does not integrate global structural tension.
- The node does not emerge if output is invariant across high- and low-entropy input conditions.

Artificial Simulation Large language models may simulate the structural emergence of coherence nodes. When presented with high-entropy semantic inputs and generating unexpectedly coherent outputs, these models reveal behavior analogous to coherence node activation. Entropic compression and emergent structure within linguistic outputs are measurable through information-theoretic analysis.

Conclusion If coherence emerges where entropy and retroprojection converge, we are not witnessing thought—we are witnessing structure becoming visible.

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