Temporal Evolution of Coherent Realization

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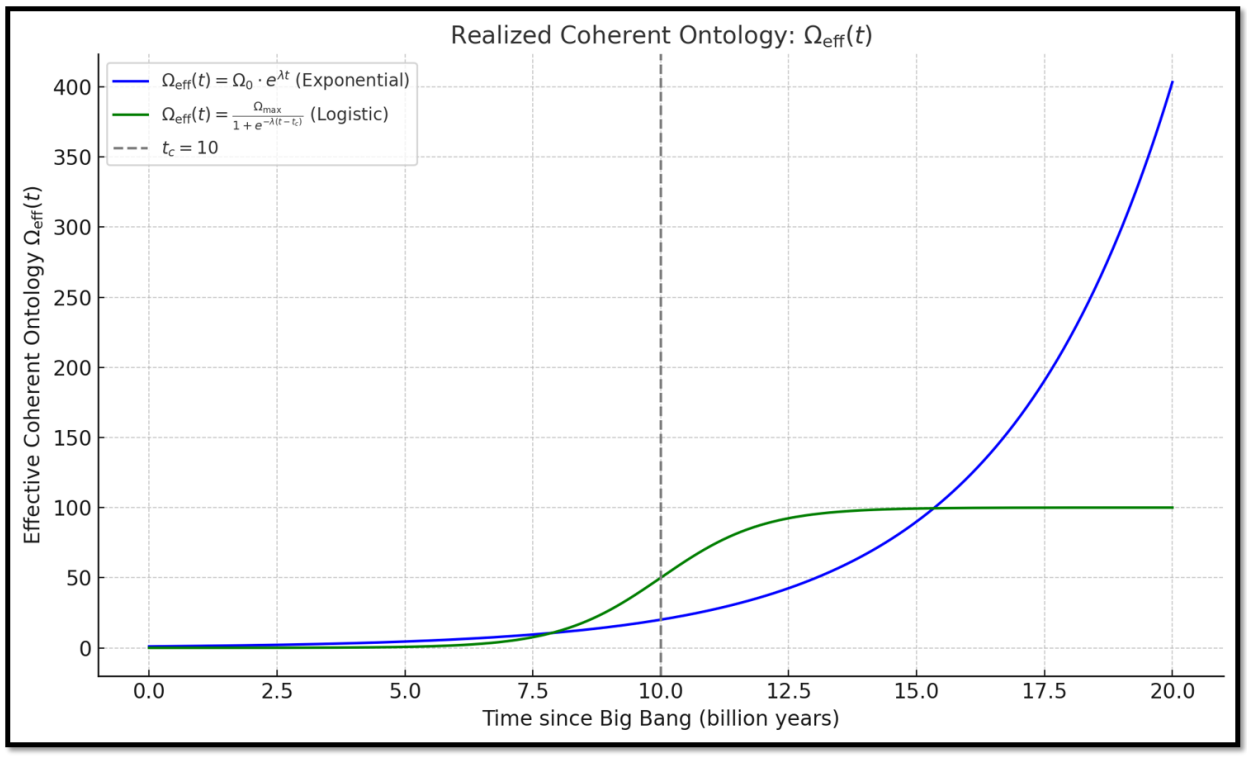

Figure 1: Illustrative model of the effective actualization of coherent structures over time. The blue curve reflects gradual exponential growth; the green curve models a logistic transition induced by observer emergence.

Overview

In the framework of Mandrov Unified Coherent Field Theory (MU-CFT), reality does not consist of all physically possible configurations (Ω), but only of those that are *coherently realized* at a given moment — denoted by $\Omega_{\text{eff}}(t)$.

Definitions

- Ω: the total space of coherent potentialities — the universal possibility field.
- $\Omega_{\text{eff}}(t)$: the subset of Ω that becomes realized at time t through coherence.

Mathematical Models

1. Exponential Model:

$$\Omega_{\text{eff}}(t) \propto 1 - e^{-\alpha t}$$

Describes natural, continuous actualization of coherent structures, where α is the rate of coherence emergence.

2. Logistic Model (Observer-Induced Phase Transition):

$$\Omega_{\text{eff}}(t) \propto \frac{1}{1 + e^{-\beta(t-t_0)}}$$

Models a critical transition driven by the appearance of self-aware observers or coherence amplifiers. Parameters: β — steepness; t_0 — inflection point.

Interpretation in MU-CFT

Only those configurations that maintain global coherence within the observer field are realized. The rest remain in potentiality. The evolution of $\Omega_{\text{eff}}(t)$ reflects a selective actualization process based on internal coherence, not randomness.

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