

# Blackholes and the Coherent/ Corrupt Axis

*and the*

## Information Boundary Failure Hypothesis

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### **Information Boundary Failure and the Coherent/Corrupt Axis in Early Cosmological Propagation**

#### **Abstract**

This paper outlines a cosmological framework in which the operational state of the cosmic medium is characterized by its capacity to gain, maintain, and propagate information. The **Coherent/Corrupt (C/C) Axis** is introduced as a polarity describing the medium's writability conditions. Within this framework, **Information Boundary Failure (IBF)** is defined as the collapse of the medium's ability to perform informational transcription, providing a non-geometric interpretation of black holes as corrupt-polarity regions. The presence of supermassive black holes in the earliest galaxies is reframed as a natural consequence of early C/C dynamics rather than an anomaly. The paper further proposes that **informational increase propagation**—rather than geometric inflation—drives the expansion and differentiation of the early universe. Finally, the oscillatory behavior of the C/C Axis is identified as the minimal mechanism required for higher-cycle cosmological propagation, without invoking singularities or total erasure.

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#### **1. Introduction**

Standard cosmological models describe the universe primarily through geometric evolution. This paper instead treats the universe as a **writable medium**, defined by its ability to generate and maintain informational distinctions. The central claim is that cosmic evolution is governed by the medium's operational condition along a **Coherent/Corrupt Axis**, and that black holes represent localized failures of this condition. This approach provides a unified explanation for early black hole formation, large-scale structure emergence, and the potential for cyclic cosmological behavior.

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#### **2. The Coherent/Corrupt Axis**

The **Coherent/Corrupt (C/C) Axis** describes the operational state of the cosmic medium:

- **Coherent Condition:**

The medium successfully performs informational transcription. Distinctions are gained, maintained, and propagated. Structure formation and informational increase are supported.

- **Corrupt Condition:**

The medium loses transcription capacity. Distinctions cannot be maintained. Local writability collapses toward non-transcribability.

These conditions are not dualities but **polarity states** of a single substrate. The universe does not “age” in the biological sense; rather, it undergoes **shifts** in the distribution and dominance of coherent and corrupt regions. The C/C Axis provides a minimal, non-geometric descriptor of cosmic evolution.

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### 3. Information Boundary Failure (IBF)

**Information Boundary Failure (IBF)** is defined as the condition in which the cosmic medium can no longer maintain informational transcription across a boundary region. IBF is not information destruction but **loss of the medium’s ability to read, write, or propagate distinctions.**

#### 3.1 Black Holes as IBF Zones

In this framework, black holes correspond to **IBF regions**. They are not geometric singularities but **zones where the medium’s writability collapses**. The information encoded in infalling matter is not erased; rather, the medium loses the capacity to transcribe it forward. Black holes represent the **corrupt-polarity extreme** accessible within the oz-side universe.

This interpretation removes the need for exotic mechanisms to preserve information and reframes black holes as structural features of the medium’s operational limits.

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### 4. Early Black Holes and Early C/C Dynamics

Observations of **supermassive black holes (SMBHs)** at high redshift challenge models requiring long timescales for their formation. Under the C/C framework, early SMBHs are expected.

The early universe is characterized by:

- extreme density

- rapid differentiation
- steep gradients
- high transcription pressure

These conditions simultaneously amplify:

- **coherent-mode activity** (rapid informational increase), and
  - **corrupt-mode collapses** (IBF events).

Thus, early black holes are **co-products** of the same processes that drive early cosmic expansion and structure formation. Their presence is not anomalous but diagnostic of early C/C polarity distribution.

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## 5. Informational Increase [i.i.] Propagation

(as the *I.I.P.H.* driver)

This framework proposes that **informational increase propagation**—the expansion of the medium’s writability—is the mechanism that “opens up” space. As distinctions proliferate, the medium extends to accommodate them. This process:

- spreads early-formed elements outward
  - separates structures
  - drives large-scale differentiation
- provides a non-geometric analogue to inflation

Informational increase propagation is not an add-on to inflationary theory; it is a **replacement mechanism** that explains expansion as a consequence of the medium’s operational behavior rather than a geometric postulate.

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## 6. C/C Polarity as a Driver of Higher-Cycle Cosmology

Oscillations or shifts along the C/C Axis provide the minimal mechanism for **cyclic cosmological propagation**. The universe evolves through phases in which coherent or corrupt conditions dominate. When corrupt-polarity regions (IBF zones) proliferate to the point that the medium can no longer maintain global transcription, the system approaches an S0-adjacent state, enabling the initiation of a new cycle.

This mechanism:

- requires no singularities
- preserves continuity of the substrate
- avoids total informational erasure
- provides a structural basis for recurrence

The C/C Axis thus supplies the necessary driver for higher-cycle cosmology without invoking speculative or non-mechanical constructs.

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## 7. Conclusion

The Coherent/Corrupt Axis provides a minimal, substrate-level description of the cosmic medium's operational state. The Information Boundary Failure hypothesis reframes black holes as regions of transcription collapse rather than geometric singularities. Early SMBHs become natural consequences of early C/C dynamics. Informational increase propagation offers a non-geometric mechanism for cosmic expansion. Finally, oscillations in C/C polarity supply the driver for higher-cycle cosmological propagation. This framework offers a coherent, mechanically grounded alternative to geometry-first cosmology.