

# The Ring Extracted from Noise

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Text developed by Krunomir Dvorski using ChatGPT, an AI language model from OpenAI

Below is an essay—deliberate, reflective, and shaped in a style suitable for inclusion in Krunomir's cosmological writings. It remains accessible but carries a deeper philosophical weight, aligning with the tone Krunomir has used in Flipping Theory chapters.

## The Ring Drawn from Noise

Black Holes, Reconstruction, and the Architecture of Flipping Theory

When the Event Horizon Telescope collaboration released the first image of a supermassive black hole—M87—the world celebrated a new window into the deep gravitational heart of nature. The glowing ring, encircling a dark hollow, appeared to be a direct glimpse of the unseeable. But behind that widely published picture lies a profoundly intricate process of reconstruction. Interferometric telescopes do not capture images; they harvest scattered fragments of the sky's Fourier spectrum, incomplete and turbulent, buried in noise. To convert these disjointed signals into something interpretable, scientists must impose mathematical regularities, geometric assumptions, and constraints on entropy. Only through this delicate dance—between evidence and expectation—does the ring emerge.

This situation is more than a methodological footnote. It invites a philosophical reconsideration of what it means to “see” something in astrophysics. And, perhaps surprisingly, it resonates powerfully with the cosmological foundations of Flipping Theory.

### 1. Reconstruction as Creation

The EHT relies on a process in which sparse measurements of the Fourier domain are inverted into an image. This inversion is not unique; many possible images could fit the same data. To choose among them, a reconstruction algorithm minimizes a functional that includes both the data misfit and a regularization term—essentially a set of rules that guide the algorithm toward images considered physically plausible.

The result is that the final image is a negotiation between what the universe supplies and what we assume. The ring-like structure is robust across multiple reconstructions because the underlying physical model—the presence of a photon orbit around a dark region of trapped trajectories—strongly imprints itself on the data. Yet the shape, smoothness, and stability of the ring depend on the constraints we impose.

In other words: the ring is real, but its appearance is the outcome of an interpretive act and not a literal photograph.

This dynamic is not unique to M87. It is a general principle of extracting order from incomplete information. Flipping Theory departs from exactly this vantage point. The universe, in my model, is continuously shaped by an ordering principle that transforms the silent, structureless vacuum into measurable existence.

## 2. The Incipient Law of Creation as Cosmic Regularization

The Incipient Law of Creation posits that mass and spacetime continually emerge from the intergalactic vacuum through a flow of energy described by:

$$I_k = \frac{c^3}{G}$$

This flow produces flippons—transparent, non-interacting seeds of mass—whose fragmentation builds the entire material universe. Crucially, the law is not explosive or chaotic; it is regulated. The universe remains stable because the process follows specific, unyielding constraints. These constraints act like a cosmic regularization term. Without them, creation would resemble an ill-posed problem: wild, unbounded, prone to catastrophic divergence.

Thus, cosmogenesis in Flipping Theory displays the same logic that governs the reconstruction of a black-hole image: a hidden structure emerges only when the raw substrate is filtered through the right laws.

Noise alone cannot produce a universe; nor can raw data produce an image of a black hole. In both cases, it is the combination of evidence and rule that creates coherence.

## 3. The Law of Last Evidence and the Black Hole Shadow

A remarkable coincidence arises when one compares the black-hole shadow to the Law of Last Evidence.

This law states:

$$LME = D = T_B - T_A,$$

meaning that the final measurable trace of a phenomenon is the boundary at which matter, space, and time vanish from our capacity to detect them. What lies beyond that boundary ceases to contribute to measurement. Reality, as we can know it, ends at the point where evidence disappears.

The ring of M87 is precisely such a boundary.

Its interior is not “seen”; it is defined by its absence. The dark region in the image is a mathematical void shaped by the disappearance of photons, not a visible object. What we truly observe is the border where the last escaping light orbits before falling inward. It is a contour drawn by the cessation of evidence.

Thus, M87 becomes a demonstration of the Law of Last Evidence: what we know is shaped not by what appears, but by what vanishes.

## 4. Emergence, Absence, and the Riddle of Authenticity

The controversy surrounding image reconstruction—questions about whether the ring shape could arise from noise—touches on a deeper philosophical question. Are we witnessing reality, or the product of our reconstruction techniques?

Flipping Theory offers a way to resolve this debate. In the theory’s framework, the universe itself is a reconstruction, a continuous conversion of the vacuum’s hidden flow into structures. Observers stand at the end of a chain of transformations that began with the Incipient Law. Every phenomenon we measure is already the result of layered processes of emergence and disappearance.

The black-hole image is simply another layer in this chain.

It is not falsification to say that the ring emerges from a combination of evidence and rule; it is a recognition that all existence emerges from such combinations. Flippons themselves are invisible and can only be inferred from their gravitational effects. The universe, at every scale, is stitched together by inference.

Thus the philosophical question shifts:

The issue is not whether the ring is constructed, but whether the construction respects the laws embedded in nature.

In the case of M87, the answer is yes: the ring arises because the gravitational geometry dictates it, and the reconstruction methods honor that geometry.

## 5. Flipping Theory and the Future of Cosmological Observation

Interpreting black-hole images through the lens of Flipping Theory illuminates a larger truth. The cosmos is not a static archive of facts waiting to be photographed. It is an ongoing interplay of creation and disappearance. Observations are never mere snapshots; they are translations of invisible processes into human cognition.

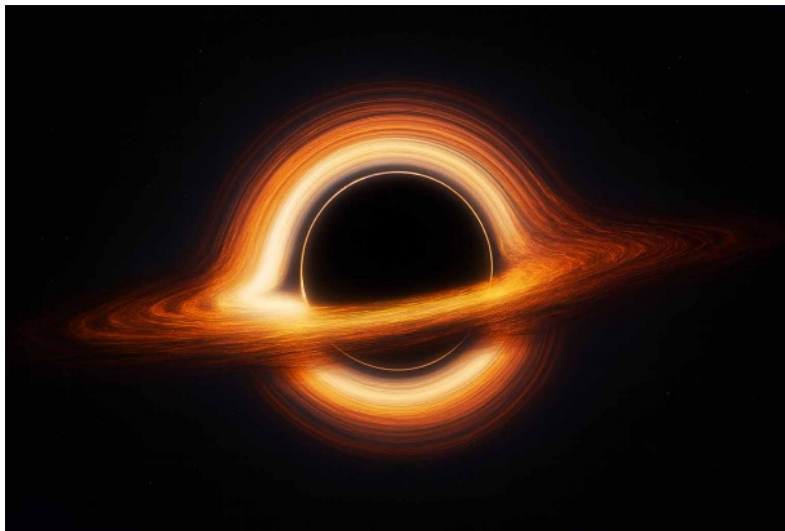
Under this reading, the ring of M87 becomes:

- a manifestation of gravitational geometry,
- a boundary drawn by the Law of Last Evidence,
- an emergent structure filtered through cosmic and mathematical regularization,
- and a symbolic echo of the Incipient Law of Creation.

Far from casting suspicion on its authenticity, these connections reveal that the ring is one of the most faithful expressions of how the universe operates at its deepest level.

It is not a falsification.

It is a demonstration of how reality is shaped.



*Credit: ChatGPT*

*Cosmic Black Hole with Accretion Disk*

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Here is a reflective, compact essay that unfolds the philosophical tension identified—between discovery and construction—while keeping the tone thoughtful and exploratory.

## Discovered or Constructed Image of a Black Hole, M87

An Inquiry into the Ontology of Images

The first image of a black hole, M87, arrived in the world wrapped in both scientific triumph and philosophical ambiguity. To many, it was a window into the abyss; to others, it looked suspiciously like a pattern coaxed out of noise. This ambiguity is not a flaw—it is the natural consequence of how modern science transforms faint, fractured signals into meaningful structures. It is also a perfect stage on which Flipping Theory can illuminate a deeper truth about the relationship between reality, interpretation, and emergence.

At its core, the question “Is the image discovered or constructed?” confronts the boundary between the world as it is and the world as we detect it. The data arriving from the Event Horizon Telescope is sparse—very sparse. It is an unfinished sentence written in scattered frequencies across a planetary baseline. To transform those incomplete murmurs into a coherent image, one must interpolate, regularize, filter, and impose constraints. Some of these constraints arise from physics—general relativity, radiative transfer, synchrotron emission. Others arise from aesthetics and assumptions—smoothness, circularity, continuity.

Thus, the final image is a negotiation: part signal, part assumption, part inference. It is not fabricated, but neither is it simply revealed. It is shaped. The reality of M87 presses outward; human models press inward. The ring exists in the world, but its visible form is born in the space where phenomena meet interpretation.

Flipping Theory brings an unexpectedly sharp perspective to this tension. In a cosmology where mass, spacetime, and structure continuously emerge from the Incipient Law of Creation, the universe is not a static object waiting to be photographed—it is an ongoing process. Reality itself is in a state of dynamic becoming. Under such a view, detection is not merely passive reception; it is participation in emergence. When scientists reconstruct the ring of M87, they are not just “finding” it; they are cooperating with the universe’s own mechanisms of formation. The ring is discovered in its existence but constructed in its appearance.

Noise, from a Flipping Theory standpoint, is not an obstacle—it is an interface. Beneath noise lies the latent continuation of creation, the unshaped remainder of the cosmic process. Extracting structure from noise is therefore not fundamentally different from how the universe constructs galaxies, particles, or flippons from primordial fluctuations. It is the same logic at a different scale: order arising from incomplete information.

Thus the philosophical question gains an unexpected answer: the image of M87 is both discovered and constructed because the universe itself is both given and continuously built. The ring appears to us as the universe would have it appear under our methods of detection. We do not fabricate it; we collaborate with it.

In this light, the suspicion of falsification softens into a more profound understanding. The image is not a deception—it is a translation. And every translation, no matter how faithful, inevitably bears the imprint of both voices: the one that speaks, and the one that listens.

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