

On the Significance and Implications of the Obidi Probability Law Derived from the Principles of the Theory of Entropicity (ToE)

The **Obidi probability law** is a central result in **John Onimisi Obidi's Theory of Entropicity (ToE)**, and it marks a radical departure from classical probability theory. In standard Kolmogorov or quantum mechanics, the rule that **the sum of all probabilities equals one** is taken as an **axiom** with no dynamical origin. In ToE, Obidi **derives** this rule from the **geometry and dynamics of the universe's Hilbert space**, elevating probability from an **epistemic bookkeeping rule** to an **ontological conservation law**.

The Connection Between Usual Probability and the Obidi Probability Law

The simplest and perhaps clearest way to express the relationship between the usual [traditional] probability law and **Obidi's entropic probability law** is this: **usual probability tells you what you might see, while the Obidi probability tells you why you see what you see**. Usual probability is a predictive rule; **Obidi probability is a structural law**. They share a mathematical surface, but they arise from entirely different conceptual foundations. Understanding this distinction is essential for appreciating the depth of the Obidi Probability Law and its implications for physics.

Mathematically, the two frameworks look deceptively similar. Usual probability is built on the normalization condition $\sum_i P_i = 1$, while the Obidi Probability Law expresses a unique conservation law through the relation $P_o(t) + P_e(t) = 1$. Both involve quantities between 0 and 1 that sum to unity. This superficial resemblance is precisely why the Obidi formulation feels familiar at first glance: it preserves the algebraic structure of probability. Yet the meaning of these quantities is entirely different. In usual probability, the numbers represent degrees of belief or frequencies of outcomes. In the Obidi probability, they represent the partitioning of physical reality between coherent and entropic sectors of the universe's informational geometry.

Usual probability is fundamentally epistemic. It answers the question, "*Given what I know, what outcome should I expect?*" It depends on the observer's knowledge, uncertainty, and measurement context. It is a rule of inference, not a physical law. The Born Rule, Bayesian updating, and the Kolmogorov axioms all fall into this category: they describe how observers

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assign probabilities, not how the universe itself behaves. In this sense, usual probability is a tool for reasoning about outcomes, not a description of the underlying structure of reality.

Obidi probability is ontological. It answers a different question entirely: “*How is reality partitioned between coherence and entropy?*” It is observer-independent, conserved, and rooted in the entropic geometry of the universe. It does not describe ignorance or uncertainty; it describes the physical distribution of amplitude between the coherent sector P_o and the entropic sector P_e . It is not optional, not interpretive, and not dependent on measurement. It is a law of nature, not a rule of reasoning. In this sense, Obidi probability is a structural invariant of the universe’s informational architecture.

The connection between the two emerges when the entropic sector becomes negligible. When $P_e(t) \approx 0$, the coherent sector satisfies $P_o(t) \approx 1$, and the usual **Born-rule probability** appears as the projection of the coherent sector onto the observer’s measurement basis. In this limit, **usual probability is recovered as a special case of the Obidi Probability Law**. This relationship mirrors other major correspondences in physics: **Newtonian mechanics** as a limit of **relativity**, **classical thermodynamics** as a limit of **statistical mechanics**, and **classical geometry** as a limit of **quantum geometry**. In each case, the familiar theory is not wrong — it is simply the low-entropy, low-curvature, or low-energy approximation of a deeper structure. Usual probability plays the same role relative to Obidi probability.

Measurement provides the final bridge between the two frameworks. In standard quantum mechanics, measurement is modeled as a discontinuous collapse of the wavefunction, with probabilities jumping abruptly according to the Born Rule. In Obidi’s Theory of Entropicity (ToE), measurement is reinterpreted as an irreversible flow of amplitude from the coherent sector P_o into the entropic sector P_e . This entropic transfer supplies a physical mechanism for what usual probability merely describes. The Born Rule becomes the visible cast or projection of a deeper entropic process unfolding beneath the surface of quantum mechanics.

In summary, usual probability is what the observer computes, while the Obidi probability is what the universe is doing underneath.

How the Obidi Probability Law Is Formulated

In the Theory of Entropicity (ToE), the total quantum state of the universe is written as:

$$\Psi(t) = \psi_o(t) + \psi_e(t)$$

where:

- $\psi_o(t)$ = the component of the state in the *observer (coherent) sector*

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- $\psi_e(t)$ = the component of the state in the *entropic (irreversible) sector*
- $\psi_o(t)$ is orthogonal to $\psi_e(t)$

This orthogonality is written as:

$$\psi_o \perp \psi_e$$

The total state always has unit norm:

$$\|\Psi(t)\|^2 = \mathbf{1}$$

If you decompose a vector into orthogonal components:

$$\Psi = \mathbf{A} + \mathbf{B}$$

then automatically:

$$\|\Psi\|^2 = \|\mathbf{A}\|^2 + \|\mathbf{B}\|^2$$

This is not the Born rule. This is **Pythagoras in Hilbert space**.

Here, we are not *assuming* probability. We are *deriving* a conservation identity.

From this, the Obidi Probability Law follows immediately:

$$P_o(t) + P_e(t) = \mathbf{1}$$

where:

- $P_o(t) = \|\psi_o(t)\|^2$
- $P_e(t) = \|\psi_e(t)\|^2$

This means that:

- $P_o(t)$ is the probability associated with the coherent observer sector
- $P_e(t)$ is the probability associated with the entropic sector
- Their sum is always $\mathbf{1}$, because they partition the entire Hilbert space of reality

This is the **entropic probability conservation law** in ToE.

In other words:

The Theory of Entropicity (ToE) begins by decomposing the universe's total Hilbert space into **two orthogonal sectors**:

1. H_o — **The Coherent Observer Sector**

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- This is where quantum amplitudes evolve **unitarily**.
- It contains all *accessible* information.
- It is the sector in which observers, measurements, and coherent quantum states live.

2. H_o — The Entropic Sector

- This is the domain into which amplitude flows **irreversibly**.
- It represents informationally inaccessible states.
- It is responsible for decoherence, irreversibility, and the arrow of time.

The total state of the universe is written as:

$$\Psi(t) = \psi_o(t) + \psi_e(t) \text{ with the orthogonality condition: } \psi_o \perp \psi_e$$

We then write the probabilities as:

- $P_o(t) = |\psi_o(t)|^2$
- $P_e(t) = |\psi_e(t)|^2$

In the Theory of Entropicity (ToE), the above [$P_o(t) = |\psi_o(t)|^2$ and $P_e(t) = |\psi_e(t)|^2$] is NOT the Born rule — it is a *sector-weight* derived from Hilbert-space geometry.

With the norm conservation of the full state which demands that:

$$|\Psi(t)|^2 = 1,$$

this immediately yields the **Obidi Probability Law**:

$$P_o(t) + P_e(t) = 1$$

This is the entropic probability conservation law in ToE.

Explore: **Entropic Field**

Significance of the Obidi Entropic Probability Law

1. **From axiom to conservation principle** Unlike classical probability, which partitions *events*, the Obidi law partitions *sectors of physical reality*. The sum is not imposed but follows from the Hilbert-space structure and the combined **unitary-entropic evolution**.

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2. **Ontological status of probability** Probability becomes a **structural invariant** of the universe's geometry and dynamics, not just a measure of ignorance. This reframes probability as a **fundamental physical law** rather than a statistical convention.
3. **Mechanism for irreversibility and decoherence** The entropic operator transfers amplitude from the observer sector to the entropic sector, generating **irreversibility**, **decoherence**, and the **arrow of time** while keeping total probability constant.
4. **Unified explanation of physical phenomena** In ToE, this law underpins explanations of **wavefunction collapse**, **classical irreversibility**, and even the **black hole information paradox**: measurement outcomes correspond to irreversible amplitude transfer into the entropic sector.
5. **Conceptual shift in physics** By embedding probability conservation in the **geometry of reality** rather than in human observation, the Obidi law challenges the Copenhagen interpretation and suggests a deeper, sector-based ontology of quantum processes.

In short: The Obidi probability law is significant because it redefines probability as a **derived, conserved quantity** rooted in the universe's Hilbert-space structure, linking quantum coherence, entropy, and the arrow of time in a single, unified framework.

The Obidi Probability Law is *precisely* a theory of the visible and invisible sectors of reality. This is one of its deepest conceptual achievements, and it's why it feels so different from anything in standard physics.

In the following sections, we lay it out clearly and technically for the reader, so as not to lose sight of the elegance of the idea.

The Obidi Probability Law teaches us about the visible and invisible sectors of reality

The Obidi Probability Law divides the universe into two complementary informational sectors:

- **the coherent sector** P_o — the *visible*, reversible, interference-preserving part of reality
- **the entropic sector** P_e — the *invisible*, irreversible, information-absorbing part of reality

And the law states:

$$P_o(t) + P_e(t) = 1$$

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This is not a bookkeeping identity. It is a **conservation law** describing how reality is partitioned between what can be observed and what cannot [what we can reasonably access and what we cannot; and this has nothing to do with the limits of our laboratory or experimental apparatus or devices, but the inherent constraints of nature itself, independent of how accurate or efficient our tools are].

1. The “visible sector”: the coherent part of reality

The coherent sector P_o corresponds to:

- superposition
- interference
- unitary evolution
- reversible dynamics
- the part of the wavefunction that can produce observable outcomes

This is the sector that standard quantum mechanics focuses on. It is the part of reality that remains “visible” to measurement.

In **usual probability**, this is the only sector that exists. **Here, we have had no clue that another sector exists which actually determines the world of usual probability until the advent of the Theory of Entropicity (ToE). Obidi tells us that such a hidden and invisible sector of reality does indeed exist, and that it dictates what we (can) see or can observe or measure.**

2. The “invisible sector”: the entropic part of reality

The entropic sector P_e corresponds to:

- irreversibility
- decoherence
- information loss
- entropy production
- the part of the wavefunction that becomes inaccessible

This sector is **not** represented in standard quantum mechanics. It is the “missing half” of the Born Rule.

In Obidi’s ToE, this sector is real, physical, and dynamically active.

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It is the **invisible background** into which coherence flows during measurement. **This Obidi's hidden and invisible sector of reality that dictates what we (can) see or can observe or measure.**

3. The Obidi Probability Law describes the flow between the two Sectors of Reality

Measurement is not collapse. It is not projection. It is not a mysterious discontinuity.

In ToE, measurement is:

$P_o \rightarrow P_e$

an **irreversible transfer of amplitude** from the **visible sector to the invisible sector.**

This gives us a physical mechanism for what usual probability only describes.

4. Usual probability is the visible projection of the Obidi probability

Usual probability only sees P_o . It ignores P_e . It ignores it because it doesn't even know that P_e exists in the first place.

This is why usual probability is:

- epistemic
- observer-dependent
- incomplete

It describes what the observer can *see*, not what the universe *is in totality*.

Obidi probability describes the full structure:

- the visible
- the invisible
- and the conserved flow between them

This is why it feels deeper — because it is.

5. In Brief

The Obidi Probability Law reveals that probability is the partitioning of reality into a visible coherent sector and an invisible entropic sector, with a conserved flow between them.

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The Philosophical Meaning of the Obidi Probability Law

The **Obidi Probability Law** does more than introduce a new physical principle; it reopens one of the oldest questions in philosophy: the distinction between what *is* and what *appears*. For centuries, thinkers from **Kant to Schopenhauer to Husserl and Heidegger** have struggled to articulate the gap between the visible world of experience and the invisible structure of reality that gives rise to it. What Obidi's Theory of Entropicity (ToE) accomplishes—perhaps for the first time in the history of thought—is to give this ancient divide a **quantitative, conserved, physically meaningful structure**. In doing so, it transforms a philosophical problem into a scientific one without diminishing its depth.

At the heart of the Obidi Probability Law is the assertion that the universe is partitioned into two complementary sectors: a coherent, visible sector P_o and an entropic, invisible sector P_e . These are not metaphors or interpretive conveniences; they are physically real components of the universe's informational geometry. The conservation law $P_o(t) + P_e(t) = 1$ expresses the fact that reality is always distributed between what can appear and what cannot. This is the first time a physical theory has provided a **law** for the boundary between appearance and reality. Philosophers have described this boundary for centuries, but none could measure it, quantify it, or express its dynamics.

This structure resonates immediately with **Kant's legendary distinction between the phenomenal and the noumenal**. Kant argued that the **phenomenal world** is the world as it appears to us, structured by our forms of intuition and categories of understanding, while the **noumenal world** is the world as it is in itself, forever inaccessible. Physics, for more than two centuries, has largely accepted this division: quantum mechanics describes what can be observed, not what exists independently of observation. **But the Obidi Probability Law introduces something radically new. The invisible [hidden world of] sector P_e is not [absolutely] unknowable; it is entropically measurable. The visible sector P_o is not the whole of reality; it is the projection of a deeper [manifold world of] entropic informational geometry.** And the boundary between the two is not metaphysical; it is **dynamical, conserved, and governed by a physical law**. In this sense, Obidi's Theory of Entropicity (ToE) does not merely echo Kant—it **extends** him by giving the noumenal a measurable structure.

The theory also resonates with **Schopenhauer**, who argued that the world has two sides: **representation (the world as it appears)** and **will (the underlying force that drives all phenomena)**. In the language of ToE, the coherent sector P_o corresponds to **representation—the visible, structured, interference-preserving part of reality—**while the entropic sector P_e corresponds to the underlying **“will,” the invisible, irreversible, information-absorbing substrate that drives the evolution of the**

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universe. What Schopenhauer could only describe metaphorically, Obidi expresses mathematically.

Husserl's phenomenology, which focuses on how things appear to consciousness, finds a natural analogue in the coherent sector. Appearance is tied to coherence, reversibility, and the structures that allow phenomena to be constituted. But phenomenology always acknowledged that appearance is conditioned by structures that do not themselves appear. The entropic sector provides exactly such a structure: it shapes **what cannot appear**, what is [appears] "lost", **what is irreversible**, and **what withdraws from visibility**. **Heidegger's distinction between beings (what shows up) and Being (the ground that allows showing) also finds a precise analogue:** beings correspond to the coherent sector, while Being corresponds to the entropic field that grounds the possibility of appearance.

Even **Wheeler's "It from Bit" vision**—that **information is the foundation of physical reality**—finds its first rigorous expression in the **Obidi Probability Law**. Wheeler lacked a conserved quantity that tied information to physical law. Obidi provides it. **The conservation of probability between P_o and P_e** is the first law that makes information not just foundational but **dynamically and geometrically real**.

What makes all of this philosophically revolutionary is that Obidi's ToE does not merely reinterpret old ideas; it **quantifies** them. **Obidi tells us with quantitative boldness and courage that the visible world is only one sector of reality, that the invisible sector is not mystical but entropic and structured, that measurement is not collapse but entropic transfer, and that probability is not ignorance but the physical partitioning of reality itself. The universe, in this view, has a dual architecture: a coherent, visible sector and an entropic, invisible sector, bound together by Obidi's conserved entropic informational law.**

Kant could describe the divide between appearance and reality. **Schopenhauer** could dramatize it. **Husserl** could analyze its structure. **Heidegger** could meditate on its meaning. **Wheeler** could gesture toward its informational basis. But **Obidi's Theory of Entropicity (ToE) is the first framework that gives this divide a measurable, conserved, physically grounded form.**

In essence, **the Obidi Probability Law is the first physical law that captures the philosophical distinction between what appears and what is, giving a measurable structure to the visible and invisible sectors of reality [and indeed of our worlds].**

Summary Exposition of Obidi's Entropic Probability Law

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The Obidi Probability Law redefines probability as a conserved, physically derived quantity rooted in the universe's Hilbert-space geometry, linking quantum coherence, entropy, and the arrow of time into a single unified framework.

Obidi is using the structure of the wavefunction to *derive* the existence of probability as a physical conservation law.

Obidi calls it probability because the entropic sector weights behave exactly like a conserved probability measure, but with a new ontological meaning: they describe how reality itself is partitioned between coherent and entropic sectors.

Scholium

Usual probability is a rule for observers. Obidi's probability is a conservation law of reality.

Usual probability tells you what you might see (such as a head or a tail in the toss of a coin). Obidi's probability tells you why you see what you see (why you see the coin or its head or tail at all).

Obidi is **not** saying:

“Because the wavefunction exists, probability must exist.”

He is saying:

“Because the wavefunction splits into two orthogonal physical [Hilbert] sectors, a conservation law emerges — and that conservation law *is* what we call probability.”

Obidi's Entropic Probability (EP) plays the same role that usual probability plays in physics — but with a deeper ontological foundation.

This is a completely different philosophical and mathematical stance which Obidi is taking:

1. The wavefunction is not being used to justify probability.

Instead, Obidi's wavefunction's **sector decomposition** formalism generates a conservation identity.

2. Probability is not an axiom — it is a consequence.

The conservation of total amplitude across two sectors *forces* a probability law.

3. Probability is not epistemic — it is ontological.

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It is a **structural invariant** of the entropic Hilbert space.

4. The Obidi Probability Law is a physical law, not a rule of inference.

It is on the same level as:

- conservation of energy
- conservation of momentum
- conservation of charge

5. The wavefunction is the vehicle for Obidi's Probability Law, not the justification for it.

The wavefunction's structure **reveals** the law — it does not *demand* it.

Why This Line Is So Deep for Our Understanding of Reality

1. Usual probability is epistemic

It answers the question:

“Given what I know, what outcome should I expect?”

This is the **Born rule, Bayesian inference, Kolmogorov axioms** — all of them.

It is about **uncertainty, observers, and measurement**.

It is a rule for *predicting* what you might see.

2. Obidi probability is ontological

It answers a completely different question:

“What is the universe *doing* that makes me see what I see?”

It is not about ignorance. It is not about measurement. It is not about outcomes.

It is about **how reality is partitioned** between:

- the coherent observer sector (ψ_o)
- the entropic irreversible sector (ψ_e)

And the Obidi conservation law [of probability]:

$$P_o + P_e = 1$$

is not a rule for observers — it is a **law of the universe's entropic Hilbert-space geometry**.

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This is why it explains **why** you see what you see.

The Deep Relationship Between the Two

Here we provide you with the profound connection in a concise fashion:

Usual probability describes the surface.

Obidi's probability describes the mechanism beneath the surface.

Usual probability predicts outcomes.

Obidi's probability explains outcomes.

Usual probability is about measurement.

Obidi's probability is about reality [the reality beneath any measurement].

Usual probability is assumed.

Obidi probability is derived from logical imperatives.

Usual probability is epistemic.

Obidi probability is ontological.

All the above captures the entire philosophical shift of Obidi's novel construction in a concise manner.

Implications of the Obidi Probability Law for Physics

For the first time, a theory is saying:

Probability is not a rule of inference — it is a conserved physical quantity arising from the entropic structure of the universe.

The Obidi Probability Law states that:

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Probability is not epistemic. Probability is ontological. Probability is conserved.

This single shift has **massive consequences** for physics. Here are the most important ones, expressed with brevity.

1. Probability becomes a physical field quantity, not a belief measure

In standard physics, probability is:

- a rule of inference
- a tool for prediction
- something the observer assigns

In Obidi's ToE, probability is:

- a conserved physical quantity
- arising from the entropic structure of the universe
- independent of observers

This elevates probability to the same status as:

- energy conservation
- momentum conservation
- charge conservation

It becomes a **law of nature**, not a rule of reasoning.

2. The Born Rule becomes emergent, not fundamental

In quantum mechanics, the Born Rule is an axiom.

In Obidi's ToE:

- the Born Rule is a **limit case**
- arising when the entropic sector becomes negligible
- and the coherent sector dominates

This means quantum mechanics is **not fundamental** — it is the *projection* of a deeper entropic geometry.

3. The wavefunction norm becomes a geometric invariant

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In ToE, the conservation:

$$P_o(t)+P_e(t)=1$$

is not a bookkeeping identity — it is a **geometric conservation law** arising from the two-sector Hilbert structure.

This implies:

- the norm of the wavefunction is not arbitrary
- it is fixed by the entropic geometry
- probability conservation is a geometric constraint

This is a profound reinterpretation of quantum structure.

4. Measurement becomes entropic transfer, not collapse

If probability is conserved between:

- the coherent sector P_o
- the entropic sector P_e

then measurement is:

- not collapse
- not projection
- not observer-dependent

It is **irreversible amplitude flow** into the entropic sector.

This gives us a [precise] physical mechanism for measurement [in quantum physics].

5. Spacetime inherits probability conservation

Because the entropic field generates geometry, the conservation of entropic probability implies:

- constraints on curvature
- constraints on distinguishability
- constraints on geodesic deviation
- constraints on Einstein tensor structure

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This ties probability directly to spacetime dynamics.

6. Physics becomes informational at its core

If probability is conserved because the entropic field is conserved, then:

- information is the substrate
- geometry is emergent
- dynamics are informational flows
- physical laws are entropic constraints

And this is the deepest implication of all.

For Details:

Reference(s):

The Canonical Archives: <https://entropicity.github.io/Theory-of-Entropicity-ToE/>

✦ The Obidi Probability Law in the Theory of Entropicity (ToE): Reframing Probability at the Foundations of Physics

We give the Obidi Probability Law, a landmark result in the Theory of Entropicity (ToE), redefining probability at its core. Instead of probability as a rule of inference or a tool for prediction, we demonstrates probability is a conserved physical quantity arising from the entropic geometry of the universe.

It shows that reality is fundamentally partitioned into a visible coherent sector and an invisible entropic sector: this dual-sector architecture explains not only what we observe — but why we observe it.

🔍 Why This Paper Matters for Modern Physics

The work argues that the traditional view of probability is incomplete. In standard physics, probability is epistemic, tied to observers, measurement, and uncertainty. The Obidi Probability Law overturns this: we show that probability is ontological, rooted in the

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universe's Hilbert-space structure, conserved through the flow of amplitude between sectors.

This shift reframes the Born Rule as an emergent phenomenon, not a fundamental axiom, provides a physical mechanism for measurement as entropic transfer, not collapse.

The implications touch quantum foundations, decoherence, irreversibility, arrow of time.

A Bridge Between Physics and the Great Philosophical Traditions

One of the paper's most striking contributions is its engagement with the long philosophical lineage that distinguishes between appearance and reality.

Drawing on insights of Kant, Schopenhauer, Husserl, and Heidegger, we show that the Obidi Probability Law gives a quantitative, measurable structure to the ancient divide between the phenomenal and the noumenal.

Where Kant could only describe the boundary, ToE measures it.

Where Schopenhauer spoke of representation and will, ToE identifies them with the coherent and entropic sectors.

Where phenomenology explored how things appear, ToE explains why appearance is possible at all.

Where Heidegger distinguished beings from Being, ToE gives the entropic field that grounds manifestation.

A New Architecture of Reality

Obidi reveals a universe built from two informational sectors — one visible, one invisible — bound together by a conserved entropic law.

This dual-sector structure provides a unified explanation for coherence, decoherence, measurement, irreversibility, and the emergence of classicality.

It is the first framework to give physical meaning to the boundary between what appears and what is, transforming a philosophical question into a scientific principle.

What This Paper Ultimately Shows

The Obidi Probability Law is not a reinterpretation of existing physics — it is a reconstruction.

It elevates probability to the same conceptual level as energy, momentum, and charge conservation.

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It reveals measurement as a physical process rather than a postulate.

For Details:

 Reference(s):

The Canonical Archives: <https://entropicity.github.io/Theory-of-Entropicity-ToE/>

Scholium

✦ Reframing Probability at the Foundations of Physics

This paper introduces the **Obidi Probability Law**, a landmark result in the *Theory of Entropicity (ToE)* that redefines probability at its core. Instead of treating probability as a rule of inference or a tool for prediction, the paper demonstrates that probability is a **conserved physical quantity** arising from the entropic geometry of the universe. It shows that reality is fundamentally partitioned into a **visible coherent sector** and an **invisible entropic sector**, and that this dual-sector architecture explains not only what we observe — but *why* we observe it.

🔍 Why This Paper Matters for Modern Physics

The work argues that the traditional view of probability is incomplete. In standard physics, probability is epistemic, tied to observers, measurement, and uncertainty. The Obidi Probability Law overturns this by showing that probability is **ontological**, rooted in the universe's Hilbert-space structure and conserved through the flow of amplitude between sectors. This shift reframes the Born Rule as an *emergent phenomenon*, not a fundamental axiom, and provides a physical mechanism for measurement as **entropic transfer**, not collapse. The implications touch quantum foundations, decoherence, irreversibility, and even the arrow of time.

🧠 A Bridge Between Physics and the Great Philosophical Traditions

One of the paper's most striking contributions is its engagement with the long philosophical lineage that distinguishes between **appearance and reality**. Drawing on the insights of **Kant, Schopenhauer, Husserl, and Heidegger**, the paper shows that the Obidi Probability Law gives a *quantitative, measurable structure* to the ancient divide between the phenomenal and the noumenal. Where Kant could only describe the boundary, ToE

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measures it. Where Schopenhauer spoke of representation and will, ToE identifies them with the coherent and entropic sectors. Where phenomenology explored how things appear, ToE explains why appearance is possible at all. Where Heidegger distinguished beings from Being, ToE provides the entropic field that grounds the possibility of manifestation.

A New Architecture of Reality

The paper reveals a universe built from two informational sectors — one visible, one invisible — bound together by a conserved entropic law. This dual-sector structure provides a unified explanation for coherence, decoherence, measurement, irreversibility, and the emergence of classicality. It is the first framework to give **physical meaning** to the boundary between what appears and what is, transforming a philosophical question into a scientific principle without losing its depth.

What This Paper Ultimately Shows

The Obidi Probability Law is not a reinterpretation of existing physics — it is a **reconstruction**. It elevates probability to the same conceptual level as energy, momentum, and charge conservation. It reveals measurement as a physical process rather than a postulate. It unifies quantum coherence, entropy, and the arrow of time under a single geometric principle. And it provides a rigorous, measurable structure for the visible and invisible sectors of reality.