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Beyond the Horizon of Assumption: How Two-Phase Cosmology Dissolves the Hubble Tension

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Abstract

The Hubble tension—a stark discrepancy between early- and late-universe measurements of the Hubble constant—has emerged as a crisis for the standard Λ CDM model. Efforts to resolve this tension through modified physics or exotic fields implicitly accept the ontological validity of early-universe inferences. We challenge this assumption. In this paper, we develop the framework of **Two-Phase Cosmology (2PC)**, in which reality undergoes a phase transition from a pre-physical quantum superposition to a post-collapse classical universe, triggered by the emergence of conscious observers. We show that 2PC (1) eliminates the need for inflation, (2) dissolves the ontological status of Λ CDM before observation, and (3) reframes early-universe “measurements” as retrospective model fits rather than physical detections. Consequently, the Hubble tension is not a physical problem requiring resolution, but a philosophical confusion to be dissolved. We end by proposing a new observational program rooted in a 2PC-compatible cosmology, reframing cosmological inference as the reconstruction of a stabilized post-collapse reality.

1. Introduction: The Crisis and Its Hidden Assumptions

The Hubble tension—the persistent discrepancy between measurements of the current expansion rate of the universe—has become a focal point of contemporary cosmology. Local observations, such as those using Cepheid variables and Type Ia supernovae, suggest a value for the Hubble constant $H_0 \approx 73$ km/s/Mpc. In contrast, the value inferred from the cosmic microwave background (CMB) assuming the standard Lambda Cold Dark Matter (Λ CDM) model yields $H_0 \approx 67$ km/s/Mpc. The discrepancy is statistically significant, currently exceeding five standard deviations. This has prompted what some physicists call a “crisis in cosmology.”

Efforts to resolve the tension have largely fallen into two categories. One set of proposals modifies the physics of the early universe, introducing speculative elements such as early dark energy, additional relativistic particles, or phase transitions shortly after the Big Bang. The other set introduces changes to the late-time evolution of the cosmos, such as time-varying dark energy or interactions in the dark sector. While technically rich, both approaches share a deeper, often unexamined assumption: that the standard cosmological model (Λ CDM) accurately describes a continuous, observer-independent history extending unbroken from the Big Bang to the present.

This assumption is rarely questioned. But what if it is false—not in a technical sense, but in an ontological one? What if the very structure of reality is such that the “early universe” is not an actual physical past, but a retrospective reconstruction constrained by the emergence of observation itself?

In this paper, we explore this possibility. We introduce a new framework—Two-Phase Cosmology (2PC)—(see <https://zenodo.org/records/15644758>) in which the universe undergoes a radical

ontological transition from a pre-physical phase governed by quantum superposition to a post-collapse phase in which classical spacetime, observation, and memory emerge. Within this framework, the standard cosmological model is reclassified not as a true account of the universe's origin, but as a post hoc fit to a history selected at the moment of collapse. Consequently, the Hubble tension is not a real physical contradiction, but an epistemological confusion rooted in conflating model with reality.

We argue that when 2PC is taken seriously:

1. The inflationary model loses its foundational necessity;
2. Λ CDM is stripped of its ontological status prior to observation;
3. Early-universe “measurements” such as the Planck-derived H_0 are revealed to be model-based projections, not empirical facts.

This reclassification dissolves the Hubble tension entirely, transforming it from a physical problem into a philosophical misunderstanding. What remains is an open empirical question: How should we model the universe, now that we recognize that history itself emerges with the observer?

2. Two-Phase Cosmology: Overview and Motivation

The standard cosmological model assumes a continuous, causally coherent history stretching from the Big Bang to the present moment. Two-Phase Cosmology (2PC) challenges this assumption at a foundational level. It proposes that the apparent continuity of spacetime and history is the result of a radical ontological transition—a phase change in the nature of reality itself—triggered by the emergence of conscious observation.

2PC divides the unfolding of the universe into two distinct phases, each governed by fundamentally different ontological principles.

2.1 Ontological Bifurcation

At the heart of Two-Phase Cosmology is the recognition that the universe's evolution is not merely a change in state, but a change in the nature of being. Reality undergoes a transition from a non-spatiotemporal quantum-informational regime (Phase 1) to a classical, observational regime (Phase 2). The border between the two is marked by a critical threshold—the Quantum Convergence Threshold (QCT)—beyond which conscious systems generate consistent classical worlds via quantum collapse.

This bifurcation helps explain why the universe appears ordered, observable, and mathematically intelligible, despite originating in a domain that lacks physical structure, directionality, or time.

Phase 1: Pre-collapse, Quantum-Informational Domain

- **No Actual Spacetime or Determinate History**
In Phase 1, there is no physical spacetime, no arrow of time, and no single, determinate history. Instead, all possible states exist in coherent superposition. The ontology of this phase is informational and mathematical, not physical or causal.
- **The Universe as a Superposition of Structures**
Reality at this stage is a vast, undifferentiated potential—an ensemble of all logically coherent mathematical structures. These include all consistent configurations of fields, particles, geometries, and even possible observers. There is no evolution “in time” because

time itself has not yet emerged.

- **Quantum Potentiality and No Preferred Observer**

Since there is no classical framework and no definitive observers, all potential outcomes remain valid. Observation has not yet occurred; the universe is in a suspended state of ontological neutrality. Decoherence may occur locally, but without an observer to resolve alternatives, no collapse occurs.

This phase bears resemblance to certain interpretations of quantum cosmology and mathematical Platonism, but 2PC distinguishes itself by positing that the pre-collapse domain is not merely epistemic or abstract—it is ontologically primary. Reality begins in potential, not actuality.

Phase 2: Post-collapse, Classical Observational Domain

- **Triggered by Conscious Self-Modeling Systems** (e.g. *Ikaria warriootia*, LUCAS – proposed Last Universal Common Ancestor of Sentience).

The transition to Phase 2 is not driven by a physical mechanism alone, but by the emergence of a self-aware, self-modeling system capable of making irreversible decisions. The first such system—denoted LUCAS (Last Universal Common Ancestral Subject)—marks the onset of psychogenesis: the birth of conscious observation in the cosmos.

- **Quantum Convergence Threshold (QCT)** (See <https://zenodo.org/records/15623629>)

The QCT is a critical point where the recursive feedback between quantum uncertainty and conscious modeling becomes unstable. At this point, the system must resolve ambiguity to maintain coherent self-reference. This forces the selection of a single consistent worldline from the superposed ensemble.

- **Retroactive Selection and Collapse**

Once collapse occurs, a consistent history is retroactively projected backward to ensure classical continuity. This history is not ontologically prior to the collapse—it is selected to be consistent with the outcome. The apparent “past” is a constraint-satisfying reconstruction, not an actual series of events that happened prior to consciousness.

- **Emergence of Spacetime and Thermodynamic Time**

With collapse comes the emergence of classical spacetime, the arrow of thermodynamic time, and the continuity required for memory, agency, and evolution. The second law of thermodynamics, causality, and even the notion of cosmic expansion become well-defined only after this transition.

2.2 Motivation for 2PC

2PC is motivated by the need to resolve long-standing paradoxes in quantum mechanics, cosmology, and philosophy:

- **The Measurement Problem**

By locating collapse in the emergence of self-aware systems, 2PC provides a resolution that avoids both the Many-Worlds extravagance and the vagueness of observer-induced collapse models.

- **The Fine-Tuning Problem**

The improbable initial conditions of the universe (low entropy, precise constants) are reinterpreted not as brute facts, but as consequences of a post hoc selection mechanism.

- **The Problem of Time in Quantum Gravity**

Since Phase 1 has no physical time, the clash between general relativity and quantum

mechanics is dissolved rather than patched. Time emerges with observation, not before it.

- **The Hubble Tension (see next section)**

Measurements derived from an assumed physical early universe lose their empirical validity if that “universe” is not ontologically real. The tension is thus reframed as an artifact of assuming Phase 1 behaves like Phase 2.

3. Inflation and Its Philosophical Function

Inflation has long been regarded as one of the most successful theoretical advances in modern cosmology. Introduced in the early 1980s, it purports to explain why the observable universe appears so flat, homogeneous, and isotropic, despite the apparent lack of causal connection between distant regions in the early universe. However, within the framework of Two-Phase Cosmology (2PC), inflation is reclassified not as a necessary physical process, but as a philosophical artifact—an ad hoc mechanism invented to fix conceptual problems that arise only if one falsely assumes a classical, observer-independent past. In this section, we examine what inflation was designed to achieve and explain why, under 2PC, its necessity dissolves.

3.1 The Problem Inflation Was Meant to Solve

Inflation was introduced to address several deep puzzles that arise when the universe is assumed to have evolved according to classical relativistic physics from the very beginning:

- **The Horizon Problem**

The Cosmic Microwave Background (CMB) is almost perfectly isotropic across the sky, with temperature variations at the level of one part in 100,000. Yet, in a classical Big Bang model without inflation, widely separated regions of the CMB could never have been in causal contact due to the finite speed of light. Why, then, do they exhibit the same temperature?

- **The Flatness Problem**

Observations show that the universe is spatially flat to an extraordinary degree. But in standard cosmology, even tiny deviations from flatness should have amplified dramatically over time. Why is the density parameter Ω so close to 1 today, unless it was fine-tuned to be unimaginably close to 1 at the Planck time?

- **The Monopole Problem**

Grand Unified Theories predict the formation of heavy, stable topological relics (such as magnetic monopoles) in the early universe. Yet none have been observed. Why is our universe seemingly free of these expected relics?

To solve these problems, inflation posits that the universe underwent a brief period of exponential expansion immediately after the Big Bang. This expansion would:

- Stretch a tiny, causally connected region to encompass the entire observable universe, solving the horizon problem.
- Drive the geometry of the universe toward flatness, solving the flatness problem.
- Dilute any relic particles, solving the monopole problem.

However, inflation itself requires finely tuned initial conditions. It demands the existence of a hypothetical inflationary field (the “inflaton”) with a specific potential, appropriate dynamics, and a graceful exit mechanism to end inflation without reheating the universe too violently. In short, inflation trades one set of mysteries for another—and does so on the assumption that the early

universe actually existed as a classical, evolving physical state.

3.2 Why Inflation Is Ontologically Dubious Under 2PC

Under Two-Phase Cosmology, the foundational assumptions behind inflation no longer hold. The pre-collapse universe is not a classical spacetime evolving in accordance with general relativity; it is a non-classical, quantum-informational domain without determinate geometry, time, or causality. In this domain, the "problems" inflation was designed to solve are revealed to be ill-posed. They are not genuine physical paradoxes, but artifacts of an ontological misclassification.

Here's why inflation dissolves under 2PC:

- **The CMB Is Not a Window into a Classical Past**

In 2PC, the CMB is not a record of an actual past physical state. Instead, it is part of the post-collapse reconstruction—a boundary condition that was retroactively selected to be consistent with the current, observer-inclusive classical reality. Its isotropy does not require causal contact in an early universe; it only needs to be consistent with the constraints of a coherent collapsed history.

- **There Is No Need for Pre-Collapse Causality**

The entire motivation for inflation rests on the assumption that causality must hold from the beginning. But in Phase 1, causality does not exist as a physical process—there is no time, no light cones, and no “horizon.” Attempting to apply causal constraints to a pre-spacetime quantum domain is a category error. The horizon problem simply doesn't arise when no horizons exist.

- **Apparent Large-Scale Order Is a Selection Effect**

The observed isotropy and flatness of the universe are not primordial features that needed to be imposed via inflation. Rather, they are features of the specific world-history that survived the Quantum Convergence Threshold. Out of the vast ensemble of possible configurations, only a tiny subset supports coherent, evolving, self-reflective observers. Our universe appears flat and smooth because only such configurations permit the emergence of stable consciousness.

- **The Inflationary Field Is a Mathematical Patch**

From the 2PC perspective, the inflaton field is not a necessary element of fundamental physics. It is a mathematical artifact introduced to repair a model built on a mistaken ontology. It serves a narrative function: to retroactively enforce the kind of coherence that 2PC naturally explains via post-collapse reconstruction. In this sense, inflation is not unlike Ptolemaic epicycles—an elegant but unnecessary patch on a mistaken picture.

- **Inflation Is a Philosophical Prosthetic**

Ultimately, inflation serves a philosophical role: to defend the classical assumption that the universe always existed as it now appears, only earlier and hotter. In doing so, it masks the more radical insight that the past may not be ontologically prior, but selected—stitched together by the recursive dynamics of observation itself.

Summary of Section 3

When we adopt the ontological framework of 2PC, the traditional justifications for inflation collapse. The problems it was designed to solve are not genuine features of the universe, but inconsistencies that arise when we mistakenly impose classical reasoning onto a quantum-informational domain. In this light, inflation is no longer necessary. It is not falsified, but rather *dissolved*—revealed to be a solution to a problem that only exists if we misunderstand what kind of

thing the early universe is.

4. Without Inflation, Λ CDM Loses Ontological Status

The Λ CDM (Lambda-Cold Dark Matter) model is widely regarded as the “standard model” of cosmology. It has achieved remarkable success in fitting a wide range of observational data, from the cosmic microwave background (CMB) to baryon acoustic oscillations and galaxy distributions. However, its perceived accuracy relies heavily on initial conditions presumed to be set by inflation. Once inflation is reclassified as a post hoc consistency mechanism—rather than an ontologically real phase of the early universe—the foundational assumptions of Λ CDM lose their metaphysical footing. In the context of Two-Phase Cosmology (2PC), Λ CDM remains a useful heuristic model, but its claims to represent the “true history” of the universe dissolve.

4.1 Λ CDM as a Post-Collapse Construct

The Λ CDM model assumes the following foundational premises:

- A continuous and determinate spacetime geometry evolving smoothly from $t=0$ forward;
- The existence of dark energy (represented by the cosmological constant Λ) and cold dark matter (CDM) as fundamental constituents of the universe;
- A spectrum of primordial density perturbations—Gaussian and nearly scale-invariant—set during an inflationary epoch.

These premises are taken to describe the actual history of the universe from its earliest moments. However, under 2PC, these assumptions do not describe a pre-existing classical past, but a post-selected classical framework that becomes meaningful only after the collapse event at the Quantum Convergence Threshold (QCT).

In this new light:

- Λ CDM is not a model of the “universe as it was,” but a reconstruction applied after collapse to explain observable regularities.
- It does not describe an evolving physical system from first principles, but encodes a statistical consistency across the observable universe as perceived by conscious observers.
- The values of Ω_Λ , Ω_{CDM} , and other parameters are not necessarily indicative of intrinsic properties of the universe—they may simply reflect the selected, self-consistent structure of a world-history that permitted psychogenesis.

This reframing changes Λ CDM from an ontological theory to an *epistemic framework*: a map of what can be coherently inferred within the bounds of the collapsed, classical world, not a record of the metaphysical structure of the cosmos before consciousness emerged.

4.2 The False Confidence of Pre-Conscious Cosmology

In conventional cosmology, the success of Λ CDM is often taken as strong evidence that its assumptions are correct. The model’s ability to fit high-precision observations—particularly those of the CMB—creates the illusion of deep explanatory power. However, much of this confidence rests on the assumption that the past can be reliably reconstructed from the present, and that inflation provides a bridge between quantum fluctuations and classical structure.

Under 2PC, this inference breaks down:

- The assumption that spacetime existed in a determinate, evolving form before the QCT

event is not supported; it is imposed.

- The uniformity and equilibrium conditions attributed to the early universe are not observed facts, but reconstructed premises embedded in a model designed to fit post-collapse data.
- Parameters such as the CMB-inferred Hubble constant are not directly measured values—they are outputs of a model that assumes inflation, classical dynamics, and a smooth extrapolation to $t=0$.

In short, the early universe, as described by Λ CDM, is not *discovered* through observation but *retrofitted* through inference. This inversion of epistemological authority—treating model outputs as ontological facts—creates the illusion of precision in regions where none exists.

From the 2PC viewpoint, the past is not ontologically fixed prior to observation. It is constrained by present coherence, not by a continuous causal chain stretching backward into a physical void. As such, the parameters describing the early universe have no necessary ontological significance. They are part of the “collapsed narrative” that emerged through selection at the QCT, not features of a mind-independent classical reality.

Summary of Section 4

Once inflation is dissolved as a physical process, the Λ CDM model loses its status as a map of the actual pre-conscious universe. Its assumptions about early-time geometry, particle content, and causal structure no longer hold ontological weight. Instead, Λ CDM becomes a phenomenological approximation—a useful model for describing the classical phase, but not a description of the universe’s true origin. Crucially, this shift invalidates any strong ontological claims based on its early-universe outputs, including the CMB-derived Hubble constant. These are no longer constraints on a fixed cosmic past, but artifacts of a particular post-collapse reconstruction.

5. Dissolving the Hubble Tension

The so-called “Hubble tension” has emerged as one of the most significant anomalies in contemporary cosmology. The discrepancy between the locally measured value of the Hubble constant and the value inferred from cosmic microwave background (CMB) data using the Λ CDM model has been described as a crisis, prompting speculation about new physics, exotic particles, or modifications to general relativity. But from the perspective of Two-Phase Cosmology (2PC), the Hubble tension is not a puzzle to be solved by tweaking existing models—it is a philosophical error stemming from a misunderstanding of what constitutes a measurement, what is being measured, and when it becomes meaningful.

5.1 The Nature of the “Tension”

The standard formulation of the Hubble tension is as follows:

$$\Delta H_0 = H_0^{\text{local}} - H_0^{\text{CMB}} > 5\sigma$$

Here:

- $H_0^{\text{local}} \approx 73$ km/s/Mpc is the value obtained from direct, late-time astronomical measurements (e.g., Cepheids, supernovae).
- $H_0^{\text{CMB}} \approx 67$ km/s/Mpc is inferred from the structure of the CMB under the assumption that Λ CDM correctly describes the universe back to the surface of last scattering and beyond.

In conventional cosmology, this discrepancy is alarming because both values are assumed to measure the same physical quantity: the expansion rate of a single, continuous universe. The fact that they differ significantly, and persistently, despite improving data quality, appears to undermine the completeness of Λ CDM.

But from the 2PC standpoint, this interpretation fails to recognize a crucial ontological divide:

- $H_{0\text{local}}$ is a true *post-collapse* measurement, occurring within the classical, observer-relative domain after the emergence of consciousness and spacetime.
- $H_{0\text{CMB}}$ is not a measurement in the same sense—it is a *model-dependent inference*, derived from applying Λ CDM (itself a post-collapse construct) to a reconstructed image of a pre-conscious epoch that never existed as a classical spacetime.

As such, comparing these two values as if they were direct, independent observations of the same physical reality is a category error. They arise in different phases of the 2PC architecture: one in Phase 2 (the classical domain), and the other as a projection onto Phase 1 (the quantum-informational, non-spatiotemporal domain). The apparent contradiction emerges only when one assumes, wrongly, that the classical past was ontologically real before collapse.

5.2 The Tension Is Not a Discrepancy—It's a Misconception

In the 2PC framework, the so-called Hubble tension is not a real physical discrepancy, but a conceptual misunderstanding. The two Hubble constants are not measuring the same thing in the same ontological context:

- $H_{0\text{local}} \approx 73$ km/s/Mpc is a measurement made by conscious observers within a post-collapse, time-directed world. It is an empirical observation with direct phenomenological access.
- $H_{0\text{CMB}} \approx 67$ km/s/Mpc is not measured, but inferred from a simulation of early-universe conditions based on a model (Λ CDM) that itself rests on inflationary assumptions, which are rendered philosophically unjustified under 2PC.

These two values:

- Emerge in distinct ontological domains (pre-collapse vs. post-collapse);
- Use fundamentally different referents (model-consistent projection vs. direct observation);
- Reflect separate stages in the actualization of reality (quantum potential vs. classical experience).

There is therefore no reason to expect these values to match. Doing so assumes a continuity of classical spacetime that 2PC explicitly denies. In fact, their discrepancy is what 2PC would *predict*: a break between the pre-conscious potentiality (from which models like Λ CDM extract parameters) and the post-conscious actuality in which real observations are made.

The Hubble tension is not an indication of missing physics, but of missing metaphysics.

Summary of Section 5

Under Two-Phase Cosmology, the Hubble tension is not a scientific inconsistency requiring resolution, but a philosophical mistake requiring dissolution. The tension evaporates once we recognize that the classical past was never a physical stage through which the universe evolved, but a retroactively selected history constructed at the moment of quantum collapse. One value of $H_{0H_0H_0}$ is real and empirical; the other is modeled and conditional. Thus, the discrepancy is not a clash between facts, but a confusion between levels of reality.

What remains is an open empirical question: What is the expansion rate of the post-collapse universe, as experienced by conscious observers? Freed from the metaphysical burden of fitting a fictional classical past, cosmology is invited to return to its proper domain—describing the observed, actual world from the standpoint of its participants.

6. The Open Empirical Question

With the Hubble tension dissolved rather than resolved, we are left not with a paradox, but with a liberated epistemic horizon. The core question becomes:

What is the best empirical model of the post-collapse universe, given that early-universe models are projections not observations?

This shift—away from reconciling incompatible measurements and toward constructing coherent models of post-collapse reality—marks a profound reorientation of cosmological inquiry. Two-Phase Cosmology (2PC) does not merely critique inflation or Λ CDM; it reframes the entire enterprise of cosmology in light of a foundational epistemological insight: *the past is not given, but selected*.

6.1 From Explanation to Construction

Standard cosmology takes the classical past as ontologically real and seeks to *explain* the present in terms of it. Under 2PC, the order is reversed. The emergence of consciousness at the Quantum Convergence Threshold (QCT) selects a consistent history from a vast pre-spatiotemporal superposition. The present is real; the past is a construction that supports it.

This implies:

- Early-universe models are not reports of pre-collapse facts, but tools for *constructing consistent histories* compatible with the actualized present.
- Inflation, Λ CDM, and even spacetime itself are not pre-given, but contingent features of the selected collapse path.

In this view, the goal of cosmology is not to trace a determinate physical lineage back to a classical big bang, but to explore the structure of reality that *became actual* at collapse and evolved forward from that moment.

6.2 A New Program for Empirical Cosmology

Freed from the burden of justifying early-universe models as ontological truths, cosmologists are now invited to develop empirical models that:

- Begin at or after the point of collapse, taking the emergence of a time-directed, classical spacetime as the true "initial condition";
- Reconstruct large-scale structure using only observationally grounded data, without importing inflationary priors or assuming a classical prehistory;
- Treat the CMB not as a window into a real past, but as a constraint on what sort of past could have been *retrospectively selected* to make the current world coherent.

This approach reframes familiar cosmological data:

- The isotropy of the CMB becomes a feature of a selected history, not a relic of pre-collapse physics;
- Baryon acoustic oscillations (BAO) are understood as patterns embedded into the history by

the collapse process, not as echoes from a primordial plasma;

- Redshift-distance relations can be reinterpreted as empirical patterns emerging *within* the collapsed domain, rather than mappings of expansion across a classically-evolving spacetime.

6.3 Empiricism After Ontological Humility

2PC advocates for a new kind of empiricism—one that is compatible with ontological humility. Instead of assuming the past exists "out there" to be uncovered like an archaeological layer, we acknowledge that the past is *conditioned by the present*, and constrained by the requirements of conscious coherence.

This shift opens new avenues of theoretical and observational research:

- Exploring cosmologies where time begins at collapse;
- Investigating non-inflationary explanations for observed isotropy and flatness;
- Developing quantum-cognitive models of the universe where the observer plays an active, selecting role in the emergence of structure.

In short, the 2PC framework transforms the cosmological project from an effort to recover an independent history to an effort to characterize the structure of the actualized universe—including the selection process that gave it birth.

Summary of Section 6

The so-called "Hubble tension" reveals not a failure of physics, but a failure of philosophical clarity. In its place stands an open empirical question: *What is the nature of the post-collapse universe, as experienced by its conscious inhabitants?* Two-Phase Cosmology dissolves the illusion of an independent, classical past and replaces it with a principled, observer-centered framework. This is not a retreat from science, but a maturation of it. Cosmology now stands poised to begin anew—not from the fiction of a spacetime that always was, but from the fact of a world that only just became.

7. Conclusion: A Clearer Cosmological Epistemology

Contemporary cosmology stands at a precipice—not of data, but of meaning. The proliferation of increasingly precise measurements has led not to clarity, but to confusion. The Hubble tension is only the most visible symptom of a deeper illness: the unexamined assumption that the universe possesses a fixed, observer-independent past stretching back to a classical beginning.

Two-Phase Cosmology (2PC) offers a radical yet principled cure. It reframes the measurement problem, the inflationary dilemma, and the cosmological paradoxes not as technical issues, but as signs of philosophical incoherence. Under 2PC:

- Reality begins not at $t=0$, but at the collapse threshold—when a coherent observer (or observer-ensemble) emerges from the quantum sea and retroactively selects a consistent history.
- The classical past is not ontologically prior to the present, but is constructed at the moment of collapse as a boundary condition enabling experience.
- Cosmology is not the archaeology of an objective past, but the reconstruction of a selected trajectory that supports coherent participation in a shared world.

From this vantage, the inflationary model is revealed as a metaphysical crutch—a tool for

smoothing over the inconsistencies that arise when we mistakenly treat the post-collapse world as if it extended classically into the pre-conscious domain. Λ CDM, likewise, is reclassified: not as a literal description of a physically evolving cosmos, but as a best-fit empirical framework operative *after* collapse.

The Hubble tension, then, is not a failure of Λ CDM, nor a window into exotic new physics. It is a reminder that we have been asking the wrong question. We have treated model-derived inferences as if they were empirical observations, and assumed a unity of referents where none exists. When this confusion is cleared, the tension dissolves—exposing, in its place, the deeper truth that the past itself is a selection, not a given.

This insight does not end cosmology. It purifies it. By embracing the participatory nature of observation, the role of consciousness in the actualization of structure, and the distinction between pre-collapse potentiality and post-collapse actuality, 2PC opens a path toward a new cosmological epistemology—one that is at once more honest, more rigorous, and more capable of accommodating the strange, recursive emergence of reality itself.

In the wake of inflation, in the absence of a classical past, what remains is not less than before. It is more. It is a universe aware of itself, selected into coherence, and open to a future not yet collapsed.