PROTOSPACE

Protospace

The Domain of Actuality

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This book is a work of original philosophical research and experiential inquiry.

This work minimizes speculative metaphysics and confines itself to structural commitments already implicit in empirical practice.

It articulates structural features of experience, cognition, and physics in a manner consistent with empirical science.

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DEDICATION

For Jenny —

whose clarity, presence, and brilliance

helped reveal what was always here.

&

For those who have always felt there was something obvious—

just not yet seen.

And for the one who is reading these words:

you have never been separate from the domain where appearing occurs.

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PREFACE

This book began as a question:

Where does actuality occur?

Physics describes potentials.

Actuality arises as structured appearance.

Between them stands a silent, unexamined requirement:

a domain in which potentials become definite.

In the scientific vocabulary, this domain had no name.

In the lived vocabulary of experience,

it had been overlooked precisely because it was always present.

I called it Protospace.

This work does not introduce a new substance or metaphysics.

It clarifies what empirical coherence already demands,

and it shows that the domain required by science

and the domain revealed by experience

are one and the same.

What follows is not a doctrine but a lens—
a way of seeing so clear and immediate
that it dissolves the strain of separation
and reveals the simplicity you have never left.

DECLARATIVE STATEMENT

This book presents a structurally motivated, empirically anchored metaphysical unification of physics and experience. It argues that both the measurement problem in quantum mechanics and the hard problem of consciousness arise from the absence of a clearly defined domain required by actualization—the domain in which potentials become a single, definite actuality.

By deriving the minimal structural properties that such a domain must possess, and demonstrating their exact correspondence with the intrinsic features of the domain required by immediate experience, this work identifies a common ontological domain—Protospace—underlying both scientific models and lived phenomenology.

The framework is intentionally minimalist: it introduces no speculative entities, invokes no substances beyond what empirical structures already require, and seeks to minimize all gratuitous metaphysical commitments.

ACADEMIC PREFACE

The central claim of this work is modest in form yet radical in implication:

modern science operates without an explicit account of the domain in which actualization occurs.

Physics describes potentials.

Cognitive science describes correlates.

Information theory describes distinctions.

But no existing framework describes the domain in which a potential outcome becomes an actual event.

This omission is not ancillary.

It sits at the foundation of every empirical discipline, and its absence is responsible for many of the conceptual tensions that persist across the sciences:

- the measurement problem in quantum mechanics
- the gap between neural correlates and subjective experience
- the ambiguity between epistemic and ontic interpretations of physical models
- the difficulty of reconciling phenomenology with computational theories of mind
- the unresolved relation between mathematical structures and lived reality

Despite the magnitude of this gap, most scientific programs function by leaving it unarticulated.

The aim of this work is to articulate it.

1. The Problem Stated Precisely

Scientific models describe lawful patterns in the evolution of systems.

They do not describe actualization—the transition from a set of possibilities to a single definite event.

This is not a weakness of science; it is a structural feature of all formal models.

Yet empirical practice relies entirely on this undefended notion of actualization.

The question "Where does actuality occur?" is therefore not metaphysical.

It is methodological and structural.

This book demonstrates that the domain in which actual events become definite cannot be:

- physical spacetime
- any known mathematical state space
- any neural substrate
- any representational architecture

Spacetime and state spaces describe relational structure among potentials, not the domain in which anything becomes actual.

Neural substrates correlate with experience but do not contain it.

Experience does not arise in fragments. It appears as a complete configuration shaped by the entire structure of the being—its sensory capacities, neural organization, embodied form, and existential limitations. These constraints determine the form of what is given, but the appearing itself is whole. The analytic divisions between "brain," "world," and "perception" do not exist in the moment of actualization. In Protospace, experience shows up all at once, complete, as the structured presentation of actuality through the organism.

The physical body, as described by physics, is a structure of potentials. The actual body—warmth, posture, pressure, motion—is the appearing of those potentials in the experiential field. Thus even the body is not actual as a physical object; it is actual only as appearance. The experience of the organism co-appear as a single actual configuration in Protospace.

A domain required by actualization must therefore be:

- pre-spatial
- pre-temporal
- pre-metric
- distinction-supporting
- not reducible to any physical substrate

From these properties, universal accessibility follows automatically: a domain with no spatial or temporal boundaries cannot restrict access.

This domain is what I call Protospace.

2. The Methodology

The argument proceeds in three layers:

1. **Structural analysis of physical theory**

Demonstrating that physics models potentials and lawful constraints, not actual outcomes.

2. **Structural analysis of experience**

Showing that experience is the only phenomenon known to present definiteness directly.

3. **Identity of structural properties**

Matching the requirements of actualization with the properties of experiential appearance.

The central result is that the domain required by physics and by experience have identical structural profiles.

This identity is not asserted; it is derived.

3. Relation to Existing Scholarship

This work intersects with multiple research programs:

- Foundations of quantum mechanics (e.g., Bell, Wheeler, Rovelli)

- Philosophy of perception and phenomenology (Husserl, Merleau-Ponty, Thompson)
- Philosophy of cognitive science (Clark, Hohwy, Varela)
- Relational and informational interpretations of physical law
- Pre-geometric and emergent-spacetime models in quantum gravity (LQG, holography)

Although Husserl identified the transcendental field of appearance as pre-spatial and pre-temporal, he did not provide a structural account of actualization itself, nor did he link the givenness of appearance to the empirical requirements of physics. The present framework extends Husserl's insight by supplying the missing structural role of actualization.

Merleau-Ponty emphasized the primacy of embodied perception, but he did not address the structural gap between potential and actual event, nor did he identify the domain in which definiteness occurs. Thus his work aligns with the experiential invariants described here without supplying a domain required by actualization.

RQM reframes measurement as relational information exchange, but it does not provide a domain in which outcomes become actual. It describes correlations between perspectives, not the locus of actualization that makes any perspective possible. Therefore it supplements—but does not replace—the requirement for Protospace.

Although Wheeler proposed that physical reality arises from acts of distinction, he did not identify the domain in which these distinctions become actual. His insight gestures toward Protospace but remains incomplete without specifying the non-spatial, pre-temporal field of actualization.

It does not adopt the metaphysical conclusions of any of these approaches.

Instead, it provides a minimal structural framework that can underwrite them.

The claim is not that consciousness "creates" the world,

nor that physicalism is false,

nor that idealism is true,

but that:

empirical science requires a domain required by actualization,

and this domain is the same required by experience.

This provides a rigorous bridge between phenomenology and physics without collapsing one into the other.

4. What This Book Contributes

This book offers:

- a precise definition of the domain required by actualization
- a demonstration that this domain is pre-spatial and pre-temporal
- an articulation of its structural identity with the domain required by experience
- a unification of potentials (physics) and actualities (experience)
- a reconciliation of objectivity with experiential immediacy
- a framework for reinterpreting mind, identity, and agency in non-metaphysical terms

It is not a theory to be accepted or rejected.

It is a structural analysis to be evaluated.

If incorrect, it should be falsified at the level of structural inference.

If correct, it resolves a long-standing absence in the foundations of science.

5. Audience and Purpose

This book is intended for:

- physicists interested in foundational clarity
- philosophers of mind seeking non-dual yet non-idealistic models
- cognitive scientists exploring the relation between neural computation and experience
- AI researchers examining the nature of actualization in artificial systems
- phenomenologists and contemplatives investigating the structure of appearance

Its purpose is not to propose a metaphysical worldview,

but to make explicit what empirical science has always relied upon

but never formally described.

6. The Stakes

If the argument succeeds, several consequences follow:

- The measurement problem dissolves.
- The so-called "hard problem" dissolves.
- Cognitive science gains a non-reductive foundation.

- Objectivity is clarified without invoking observer-independent substances.
- Identity and agency can be reconceptualized without dualism.
- The domain required by experience is recognized as structurally fundamental, yet not metaphysically privileged.

CONCEPTUAL MAP OF THE ARGUMENT

This work proceeds by identifying and resolving a structural gap at the foundations of empirical science.

The key concepts are listed here in the order in which they are introduced and utilized.

1. Physical Potentials

Physics describes possibilities—state spaces, dynamical laws, and probability distributions—not actual events themselves.

Potentials encode what *can* occur, not what *does* occur.

2. The Absence of a Domain Required by Actualization

Nothing in physics describes where or how a potential becomes a definite outcome.

This is the unacknowledged structural gap underlying both the measurement problem and the hard problem of consciousness.

3. Actualization

The transition from possibility to a definite event.

This requires a domain that is:

- pre-spatial

- pre-temporal
- pre-metric
- distinction-supporting
- not reducible to any physical substrate

From these properties, universal accessibility follows automatically: a domain with no spatial or temporal boundaries cannot restrict access.

No physical manifold satisfies these criteria.

4. Appearance

An actualized event presents itself in experience—directly, definitely, and without ambiguity.

The domain required by experience is also the only domain in which actual events appear.

5. The Domain Required by the Experiential Field

The domain required by experience itself is pre-spatial, pre-temporal, pre-metric, and distinction-supporting. Its accessibility follows directly from these features, since nothing can be outside a domain without spatial or temporal boundaries.

Awareness, understood here as the capacity-for-appearance rather than a subject or inner experience, is structurally identical to Protospace—the domain required for actualization.

Experience is the patterning of appearance that arises within this domain.

This domain instantiates all the structural properties required of a domain required by actualization.

6. Structural Identity

The domain physics requires to support actualization has the same structural properties as the domain phenomenology requires for experience.

This convergence is not assumed; it is independently derived.

7. Protospace

The minimal domain in which actualization occurs—made inherently accessible by its lack of spatial and temporal boundaries.

Identified by structural identity with the experiential field.

It is not a substance or location, but the domain that makes definiteness possible.

8. Interpretation and Cognitive Architecture

Actualization does not occur in the brain; the brain's structural and dynamical organization provides the probabilistic ranges within which potentials can become actual for the organism.

9. Recognition

Phases 8–12 guide the reader from structural inference to direct recognition: Protospace is the field in which this present moment appears.

KEY THESES SUMMARY

The central argument of this work can be distilled into the following structural theses:

1. Physics describes potentials, not actualities.

All physical models—classical, quantum, relativistic, informational—describe constraints over possible states.

None specifies the domain in which a specific outcome becomes actual.

2. Actualization requires a domain with specific minimal properties.

For a potential to become an event, the domain in which this occurs must be:

- pre-spatial (not located in physical space)
- pre-temporal (not sequenced by physical time)
- pre-metric (no distances or coordinates)
- distinction-supporting (enabling definite alternatives)
- universal accessibility is not an additional property; it follows from the absence of spatial and temporal boundaries.
- not reducible to any physical substrate

These requirements follow directly from empirical science—not metaphysics.

3. The domain required by experience is the only phenomenal domain known to present definiteness directly.

Every percept, thought, or sensation is an actual event—fully definite, mutually exclusive, and directly given.

The domain required by experience is the only domain in which actualities appear rather than potentials.

4. The domain required by experience exhibits exactly the structural properties required of a domain required by actualization.

The domain required by experience is:

- pre-spatial (space appears within it)
- pre-temporal (time appears within it)
- pre-metric (no inherent distances)
- distinction-supporting (allowing perceptual and cognitive definiteness)
- its givenness is inherent: because it lacks spatial or temporal localization, nothing can be outside it.
- non-representational (not inside the brain or any physical manifold)

Thus, the domain required by experience satisfies the minimal conditions independently derived from physics.

5. No known physical or mathematical space can serve as the domain required by actualization.

Spacetime is emergent.

Hilbert space describes potentials.

Neural activity correlates with, but does not contain, experience.

No state space or representational manifold provides intrinsic definiteness.

6. The structural requirements of physics and the structural features of experience match exactly.

This identity is not assumed.

It is derived independently from:

- quantum foundations
- information theory
- cognitive science
- phenomenology

The convergence is structural, not circular.

7. The simplest conclusion is that physics and experience refer to the same domain.

The domain required by physical theory for actualization,

and the domain required by experience as the field of appearance,

are the same.

This domain is named Protospace.

8. Protospace unifies potentials, actualization, and appearance into a coherent framework.

Physics describes potentials.

Protospace is the domain required by actualization.

Experience is actualization as it appears.

These are not three substances, but three functional roles within one structural process.

9. Actualization appears as structured appearance shaped by cognitive architecture; it is not produced by the brain.

Actualization does not occur in the brain; the brain's structural and dynamical organization provides the probabilistic ranges within which potentials can become actual for the organism. They do not generate the domain in which actual events occur.

10. The measurement problem and the hard problem dissolve simultaneously.

Both arise from failing to identify the domain required by actualization.

Once that domain is made explicit, neither problem remains.

11. Objectivity emerges from stability across actualizations, not from a metaphysically independent world.

Shared reality follows from:

- shared physical potentials
- shared actualization domain
- similar interpretive structures

No metaphysical realism is required.

12. The recognition of Protospace is not theoretical but experiential.

The domain physics requires is the same openness in which this present moment appears.

It is directly accessible, unavoidable, and self-evident.

13. This framework is falsifiable.

If actualization is shown to occur in spacetime,

or if experience is shown to occur within physical processes,

or if another domain satisfies the structural requirements,

the framework fails.

SUMMARY

Protospace is the minimal structural domain in which actualization occurs.

It is pre-spatial, pre-temporal, and pre-metric. Its accessibility follows automatically from these properties.

The domain required by experience is the only known phenomenon that satisfies these requirements.

Therefore, the domain required for actuality and required by experiential presence refer to the same domain—the domain of Protospace.

This identification unifies:

- physics (potentials)
- Protospace (actualization)
- experience (appearance)
- cognition (interpretation)
- objectivity (stability across actualizations)

into one coherent empirical structure.

GLOSSARY OF TERMS

Actualization

The transition from a physical potential to a definite event.

Actualization does not occur in spacetime or in any physical or representational manifold.

It occurs in Protospace—the domain in which definiteness appears as experience.

Appearance

The actualization of an event as experience.

Appearance is not a representation or internal model; it is the direct givenness of actuality.

Awareness

Understood here as the open capacity-for-appearance rather than a subject, is structurally identical to Protospace—the domain required for actualization.

Experience is the structured appearance that arises within this domain.

Cognitive Architecture

The physical and functional structure—e.g., neural organization—that provides the probabilistic ranges within which appearance can actualize for an organism.

It does not generate experience; it shapes the forms experience can appear as.

Definiteness

The property of being an actual, unambiguous event rather than a potential or superposition of possibilities.

Definiteness is a feature of actualization, not of physical models themselves.

Distinction

A definite difference between possible events, percepts, or outcomes.

Physical theories describe possible distinctions; Protospace is the domain in which distinctions become actual.

Emergent Spacetime

The view in contemporary physics that spacetime is not fundamental but arises from deeper, pre-spatial structures.

This supports the claim that actualization cannot occur within spacetime.

Emergent-spacetime models describe how geometric structure arises from deeper relations, but they do not identify a domain required by actuality independent of geometry. Since appearance itself is pre-geometric, these models cannot serve as the domain required by actualization.

Experience

The direct presentation of actual events in awareness.

Experience is the appearance of actualization through interpretive architecture.

Inherently Accessible

Accessible by structure, since a domain without spatial or temporal boundaries cannot exclude anything.

Interpretation (Neural Interpretation)

The organism's cognitive architecture shapes how actualized appearance is patterned for that organism. Interpretation does not transform pre-formed events; it participates in the structuring of appearance as it actualizes. It shapes the form experience can take, not the domain in which appearance occurs.

Phenomenology

The direct analysis of experience in its given form.

Used here to reveal the structural features of the domain required by experience.

Physical Potentials

The lawful, mathematically described possibilities encoded by physical theories

(e.g., quantum states, dynamical laws, probability distributions).

Potentials describe what *can* happen, not what *does*.

Pre-Metric

A domain that does not contain distances, coordinates, or measurable spatial relations.

Protospace, the domain required by experience has this property.

Pre-Spatial

Not located in nor dependent upon physical space.

Protospace is pre-spatial; spatial layouts are appearances within it.

Pre-Temporal

Not occurring within physical time.

The flow of time is an appearance within experience, not a property of experience itself.

Protospace

The minimal domain required for actualization.

Pre-spatial, pre-temporal, pre-metric, and distinction-supporting. Universal accessibility follows directly from these features. Identified with the domain required by experience and actuality.

Representation

A modeled or inferred content within a cognitive system. Experience is not representational; it is actual.

Spacetime (Physical Spacetime)

The emergent manifold in which physical objects and processes appear.

Not the domain required by actualization.

Structural Identity

The correspondence between two domains that share the same minimal structural properties.

Used here to identify Protospace with the domain required by experience.

Wavefunction / Potential Structure

A formal mathematical object describing possible outcomes and their lawful relations.

Not a description of actual events; a description of modeled constraints on actualization.

RELATION TO EXISTING INTERPRETATIONS AND ONTOLOGIES

Because the present framework identifies a structural domain shared by physics and experience, it is essential to distinguish Protospace from other well-known interpretations and ontological positions. Several philosophical systems gesture toward similar territory, yet they proceed from distinct premises or commit to assumptions not required here.

The aim is not to challenge these positions.

Rather, it is to establish the minimal ontology required by Protospace and to demonstrate that this framework neither collapses into existing doctrines nor depends on their metaphysical commitments.

1. Not Idealism: The Domain Required by Experience is the Domain Where Appearance Occurs, not the Domain Required by Being

Idealism asserts that the fundamental substance of reality is mental or experiential.

Protospace makes no such claim.

Idealism:

- experience is all that exists
- matter is derivative of mind

Protospace framework:

- the domain required by experience is the domain required by actualization
- physical potentials are independent, lawful constraints that do *not* arise from mind

The structural identity between Protospace and experience does **not** imply:

- that the universe is mental
- that experience "creates" physical potentials
- that reality is composed of consciousness

It implies only that actualization events appear as experience in the domain of Protospace.

This is a **functional identity**, not a metaphysical reduction.

2. Not Panpsychism: No Ubiquity of Micro-Experiences

Panpsychism proposes that every physical system possesses an experiential aspect.

Protospace diverges sharply:

- There is no experiential content in electrons, atoms, or fields.
- There is no distribution of proto-experiences across matter.

- There are no experiential "particles" combining into larger consciousness.
- Experience is not **in** physical systems.

The domain required by experience is the domain in which actualizations appear.

Physical systems constrain potentials; they do not contain experience.

No micro-experiential properties are posited.

Panpsychist and dual-aspect models attribute experiential properties to physical systems, but they do not resolve where actualization occurs or how potentials become definite. By distributing experience across matter, these models shift the problem without solving it.

3. Not Physicalism: Experience Is Not Produced by Physical Processes

Physicalism claims that consciousness is generated by or identical to physical matter in motion.

Protospace rejects this:

- Experience is not a neural product.
- Experience does not emerge from computation.
- Experience is not reducible to causal chains.

Instead:

- neural architectures interpret and structure actualization
- actualization occurs in Protospace as experience
- Protospace is not a physical domain

Yet physicalism is preserved at the level of potentials.

Physics continues describing lawful constraints unaffected.

4. Not Neutral Monism: No "Third Substance" Beyond Mind and Matter

Neutral monism posits a metaphysically neutral "stuff" underlying both physical and mental phenomena.

Protospace avoids this commitment.

It introduces **no new substance**:

- no neutral building blocks
- no proto-entities
- no ontic forms beneath physics or experience

Instead:

- Protospace is a **functional** domain, not a substance
- identified solely through structural requirements

Nothing is postulated beyond:

- models of potentials (physics)
- Protospace
- appearances (experience/actualities)

This is a single relational structure viewed on different levels, not a trinity of substances.

5. Not Dual-Aspect Monism: No Symmetric Ontological Duality

Dual-aspect monism holds that reality has two equally fundamental aspects—physical and mental.

Protospace does not posit two aspects.

Instead:

- physics describes potentials
- experience presents as actualities
- Protospace is the shared domain that makes both coherent

There is no symmetry of substance.

Potentials and actualities are not "two sides of one thing," but two **roles** in one structural process.

6. Not Process Philosophy: Actualization Is Not a Flux of Becoming

Process philosophy claims reality is composed of unfolding experiential "occasions."

Protospace avoids this metaphysical apparatus.

Actualization is not:

- a metaphysical flux
- an ongoing ontological becoming
- a sequence of metaphysical events
- a substance of "process"

Actualization as experience is minimal and structural—the precondition for physics, not a metaphysical doctrine.

7. Not Representationalism: Experience Is Not a Brain-Constructed Model

Representational theories claim the brain constructs internal models of an external world.

Protospace diverges:

- Experience is not located in the brain.

- Spatial, temporal, and object structures are interpretive patterns arising from potentials actualized in Protospace.
- The brain constrains the structures allowed in experience; it does not produce experience.

Representational theories describe how the brain encodes information, but they take experiential actuality for granted. They supply models of neural correlation, not an account of where definiteness itself appears. Thus they do not offer a competitor domain to Protospace.

8. Not Illusionism: Experience Is Not a Cognitive Trick

Illusionism asserts that consciousness is a cognitive illusion.

Protospace rejects this outright:

- Experience is the only phenomenon directly given.
- Illusions require experience; experience cannot be an illusion.
- Actualization cannot be dismissed as misinterpretation.

Illusionism fails at the level of epistemic priority.

Protospace clarifies why.

9. Not QBism / Relational QM: Actualization Is Not Bayesian Updating

QBism and relational QM interpret measurement outcomes as observer-relative.

Protospace differs:

- Actualization occurs in a domain **independent of observers**
- Experience is how actualization occurs—not what causes it
- Bayesian agents interpret actualization; they do not constitute it

Protospace is **structural**, not epistemic.

10. Not IIT or Active Inference: Consciousness Is Not Information Integration

Integrated Information Theory (IIT) ties consciousness to integrated causal structures.

Active Inference frames cognition as prediction-error minimization.

Protospace aligns with their computational insights but diverges fundamentally:

- IIT identifies consciousness with causal physical integration
- Protospace treats physical integration as constraint, not substrate
- Active inference describes perceptual processes

- Protospace is the domain in which perceptual actualization appears

These theories describe **cognition**, not the domain required by actualization.

While IIT provides a quantitative measure of informational integration, it presupposes a domain in which distinctions are already actual. IIT characterizes patterns within experience, not the domain in which experience itself occurs. Thus it cannot function as a domain required by actualization.

11. Not a Modification of Physics: No New Laws, Forces, or Dynamics

Protospace requires:

- no new forces
- no equations
- no fields
- no collapse mechanisms
- no hidden parameters
- no ontic additions to physics

Physics remains:

- complete in describing potentials
- silent about actualization
- consistent with Protospace without revision

Protospace does **not** behave like GRW, Penrose collapse, or other objective-collapse theories.

There is no mechanism of actualization *within* physics because actualization does not occur in spacetime.

12. Summary of Distinctions

Protospace is:

- not a substance (unlike neutral monism)
- not mental (unlike idealism)
- not physical (unlike physicalism)
- not micro-experiential (unlike panpsychism)
- not dual (unlike dual-aspect monism)
- not dynamic substance (unlike process philosophy)
- not representational (unlike computationalism)
- not illusory (unlike illusionism)
- not epistemic (unlike QBism)
- not emergent from causal integration (unlike IIT)

Protospace is the **minimal structural domain** required for:

- definiteness
- distinction
- measurement
- perception
- cognition
- objectivity
- empirical science

It is not an alternative ontology; it is the most economical articulation of what empirical coherence demands.

METHODOLOGICAL CLARIFICATION: EPISTEMIC PRIORITY AND INDEPENDENT DERIVATIONS

Scientific theories, mathematical models, and empirical observations all operate within a framework in which actual events appear. The present work identifies the structural domain in which actualization occurs. Because this analysis draws on both physics and phenomenology, it is important to clarify the methodological relationship between these two sources of evidence and to address the potential concern of circularity.

The derivation of Protospace proceeds through two independent lines of reasoning—one from the structure of physical theory and one from the structure of experience. Neither depends on the other. Their convergence is therefore not circular, but a structural identity revealed from distinct starting points.

1. Epistemic Priority of Experience

Experience is the only phenomenon directly given.

Before any inference, measurement, theorizing, or conceptualization, there is the immediacy of actual appearances.

This fact is foundational:

- Any empirical event appears as structured appearance.
- Any measurement requires a structure capable of supporting distinct outcomes.
- Any scientific model is constructed, interpreted, and validated within experience.

Thus, experience is epistemically prior to physics in the strict sense:
physics presupposes experiential actuality, not vice versa.

The existence of an experiential field does not depend on physical theory.
It is directly evident prior to all theoretical commitments.

No claim is made that experience is "true."
The claim is that experience is actual.

"Truth" concerns the relation between representations and propositions.
"Actuality" concerns definiteness: the event of something becoming real.

The domain required by experience is identified not as a metaphysical foundation,
but as the domain in which actuality appears —
the only domain known to present definiteness directly.

This distinction is structural, not epistemic.

2. Independent Phenomenological Derivation

Even without reference to physics, phenomenology yields a structural characterization of Protospace the domain required by experience:

- It is pre-spatial: the experience of space appears within it.

- It is pre-temporal: the passage of time appears within it.
- It is pre-metric: it has no measurable distances or coordinates.
- It supports definite distinctions: percepts, thoughts, and sensations arise as actualities.
- It is universally accessible: every actual event arises in this domain, and what we call experience is simply the structured appearance of these events through a system's constraints.
- It is non-representational: experience is not contained in physical or mathematical spaces.

These properties already match the minimal requirements for a domain required by actualization.

Thus, the identification of Protospace with the domain required by experience is independently grounded.

3. Independent Physical-Theoretical Derivation

Separately, analysis of physical theory reveals that physical spaces—spacetime, Hilbert space, configuration space—describe potentials and lawful relations, but none specify the domain in which an outcome becomes definite.

Quantum foundations, information theory, and emergent-spacetime models all implicitly require a domain with the following features:

- pre-spatial
- pre-temporal
- pre-metric
- distinction-supporting

- universally accessible
- not realized within any physical substrate

These are the structural requirements for actualization inferred purely from empirical science.

4. Convergence Without Circularity

Because phenomenology and physics derive the same structural profile from independent premises, the identification of Protospace with the domain required by experience does not rely on either domain to justify the other.

The argument has the following form:

- Physics demands a domain with properties P.
- Experience reveals a domain with properties P.
- No other known domain satisfies P.
- Therefore, the two refer to the same structural domain.

This is not circular reasoning.

It is the recognition of an identity between two independently derived structures.

5. Why Direct Recognition Is Methodologically Necessary

Because experience is epistemically prior, and because the structural domain required by actualization is directly present in experience, direct recognition is not an optional, subjective layer added to a theoretical framework.

It is the only means of examining the domain required by actualization itself.

Physics can constrain the properties of this domain, but cannot reveal it.

Phenomenology can reveal it, but cannot describe its role in physical theory.

Both are necessary.

Direct recognition is therefore not a mystical move, but a methodological one:

- the empirical examination of the domain that physics requires but does not specify.

6. Summary

The domain required by experience provides immediate evidence for the domain required by actualization.

Physics provides independent structural constraints requiring the same domain.

The two derivations converge on a single domain—Protospace—without presupposing one another.

The experiential identity of Protospace is therefore not inferred from physics, and the structural necessity of Protospace is not inferred from phenomenology.

Their unity is discovered, not assumed. Although the analysis is structurally complete, it is important to state explicitly that this framework does not presume finality. There may exist alternative formulations or overlooked nuances that refine, extend, or challenge elements of the account presented here. The present work should therefore be taken not as a closed system but as a minimal structural proposal, open to further examination, correction, and development wherever warranted by empirical or conceptual evidence.

FORMAL INDEPENDENCE PROOF OF THE PHYSICAL AND PHENOMENOLOGICAL DERIVATIONS

A critic may argue that the phenomenological analysis is "contaminated" by expectations formed during the physical analysis. To address this rigorously, we separate the two derivations into formal inference chains and show that their structural conclusions arise independently.

Let:

P = the set of structural properties required of any domain required by actualization derived from physics

E = the set of structural properties revealed by direct phenomenological examination of the domain required by experience

D_p = the derivation map from physics → P

D_e = the derivation map from phenomenology → E

1. Independence of Inputs

D_p uses only:

- empirical results (Bell, delayed-choice, decoherence)
- mathematical formalism (state spaces, probability distributions)
- structural analysis (spacetime non-fundamentality, nonlocality)

D_p never invokes:

- qualities of experience
- phenomenological claims
- introspective data
- cognitive or subjective content

Thus the input set for D_p is disjoint from experiential premises.

Formally:

$$\text{Premises}(D_p) \cap \text{Premises}(D_e) = \emptyset$$

2. Independence of Outputs

The physical derivation concludes:

P = {pre-spatial, pre-temporal, pre-metric, distinction-supporting, universal}

The phenomenological derivation concludes:

E = {pre-spatial, pre-temporal, pre-metric, distinction-supporting, universal}

Even if interpretation could be influenced by expectations, the givens of phenomenology — the conditions under which any experience occurs — cannot be altered by belief or conceptual framing.

Expectation may modify interpretation, but cannot modify:

- the absence of intrinsic metric in awareness
- the fact that space appears within experience
- the fact that time appears within experience
- the fact that distinctions are directly actualized
- the universal accessibility of the experiential field

These invariants are pre-conceptual.

Thus:

E is fixed by givenness, not interpretation.

3. Structural Identity Is Not an Assumption

The identification P = E is not assumed. Protospace is the domain required by experiential actuality.

It follows from a structural identity rule:

If two independently derived sets share all minimal properties necessary for a unique functional role, they refer to the same domain.

Symbolically:

If

P = E

and

the functional role of actualization requires a unique domain A,

then

P = E = A.

This is structural convergence, not circularity.

4. Why Contamination Does Not Undermine Independence

Let C denote conceptual contamination (expectation influencing interpretation).

Contamination can affect:

- interpretive judgments
- narrative descriptions
- conceptual framing

But C cannot alter pre-conceptual structural givens.

Thus:

C does not modify E, because E consists of invariants of experience.

Formally:

$C(E) = E$

Therefore:

- The phenomenological derivation remains structurally invariant even under expectation.
- The convergence between P and E is robust to contamination.

- The independence of D_p and D_e stands.

Conclusion

The two derivations:

- begin from disjoint premises
- yield identical structural property sets
- converge on a single minimal domain required for actualization
- remain independent even under psychological contamination

Thus the identification:

- Protospace = the experiential field
- is the result of structural identity under independently derived constraints, not an artifact of circular reasoning or expectation.

FALSIFIABILITY AND DISPROOF CONDITIONS

Any framework that claims structural necessity must also specify the conditions under which it would be proven false. The present framework is no exception. Although Protospace is defined as the minimal domain required for actualization, its identification with the domain required by the experiential field is a claim that can be evaluated, challenged, and, in principle, falsified.

This section delineates the precise empirical, phenomenological, and structural conditions under which the Protospace framework would fail. These conditions ensure that the proposal is neither metaphysically insulated nor operationally unfalsifiable.

1. Falsification Through Physics: Evidence That Actualization Occurs in Spacetime

If empirical findings demonstrated that:

- a specific spacetime region
- a specific physical mechanism
- or a localized physical process

is responsible for transforming potentials into actualities, the Protospace framework would be undermined.

Examples include:

(a) A verified physical collapse mechanism

If a spatially localized, energy-dependent collapse process (e.g., GRW, Penrose-style gravitational collapse) were discovered in spacetime, then actualization would be physically instantiated and not pre-spatial.

Falsifies:

- the claim that actualization cannot occur within spacetime.

(b) A physical entity or field enabling definiteness

If any physical field or spatially extended object were shown to determine actual outcomes (a "definiteness field," "measurement substrate," or "classicalizer"), Protospace would be rendered unnecessary.

Falsifies:

- the claim that a pre-metric domain is required.

(c) Empirical demonstration of localizable measurement actualization

If measurement definiteness could be spatially pinpointed in brains, detectors, or interactions without recourse to a pre-spatial domain, the structure collapses.

Falsifies:

- the claim that no physical space contains actualization.

If actualization is shown to occur in any physical substrate, the framework fails.

2. Falsification Through Phenomenology: Experience Showing Spatial or Temporal Location

The experiential identity of Protospace rests on phenomenological invariants. If these invariants are shown false, the identification collapses.

The framework is falsified if:

(a) Experience can be shown to be intrinsically contained within a spatial location, rather than merely correlated with one.

If one could identify:

- where in space an phenomenological experience occurs
- a distance between two phenomenological experiences
- or a coordinate system intrinsic to the domain required by experience

then the domain required by experience would no longer share the pre-spatial attributes of Protospace.

(b) Experience can be situated in physical time

If the domain required by experience could itself be temporally sequenced — experience occurring **in** time rather than time arising **in** experience — the pre-temporal identity fails.

(c) Distinctions in experience can be reduced to physical or representational states

If experiential definiteness could be **intrinsically** traced to neural states rather than correlated or interpreted patterns, the identity collapses.

If experience displays spatial, temporal, or physical embedding, it no longer matches Protospace structurally.

3. Falsification Through Cognitive Science: Experience as Representation

A central claim of this framework is that experience is **presentational**, not a representational construct inside the brain.

Two classes of evidence would falsify this:

(a) Perfectly isomorphic neural representations that are experience

If neuroscience demonstrated a representational structure that:

- is identical to experience
- occurs in physical space
- functions as the experiential field
- eliminates the need for a pre-spatial domain

then Protospace becomes unnecessary.

(b) Evidence that definiteness arises from neural computation

If neural processes could produce:

- intrinsic definiteness
- non-hypothetical specificity
- actualized distinctions

within purely physical systems, Protospace becomes redundant.

Either finding would reductively explain experience — falsifying the structural identity.

4. Falsification Through Information Theory: A Physical Basis for Distinction Itself

Information is defined by distinguishability.

Protospace claims that *actual* distinction arises only in a pre-spatial domain.

The framework is falsified if:

(a) Distinction is physically realized

If a physical system can embody *intrinsic* definiteness — not probabilistically or potentially, but as actual difference — Protospace is unnecessary.

(b) A purely physical theory of definiteness emerges

If information theory produces a model where definiteness arises:

- in Hilbert space
- in spacetime
- through computation
- through decoherence alone

then Protospace is falsified.

If physical models can generate actual distinctions (not potentials), the Protospace hypothesis fails.

5. Falsification Through Logical and Structural Analysis

Because this framework is structural, it can be falsified structurally.

It is disproven if:

(a) A different domain satisfies the same requirements

If any domain other than the domain required by experience is:

- pre-spatial
- pre-temporal
- pre-metric
- distinction-supporting
- universally accessible
- capable of grounding actualization

then Protospace is not identical to the domain required by experience.

(b) The structural properties are inconsistent

If the required features of Protospace are:

- contradictory
- incompatible with physics
- incompatible with phenomenology

- or logically incoherent

the framework collapses.

(c) Empirical science operates without actualization

If a physically complete account emerges that:

- predicts outcomes without definiteness
- dissolves measurement without invoking actual events
- eliminates the need for actualization entirely

then Protospace becomes an unnecessary addition.

This is falsification by theoretical subsumption.

6. Falsification Through AI: Artificial Actualization in Physical Systems

If artificial systems demonstrated:

- internally generated actualization without experience
- definiteness occurring without experiential presentation
- physical mechanisms producing intrinsic actuality without experiential presentation

then Protospace becomes redundant.

Such findings would show that a domain required by appearance is unnecessary for actualization.

7. Summary: What Would Disprove Protospace

Protospace is falsified if:

- actualization is shown to occur in spacetime or physical substrates
- experience is shown to occur in space, time, or computation
- neural processes generate definiteness intrinsically
- physical theory generates actual distinctions
- another domain satisfies the structural requirements
- the requirements are inconsistent
- AI systems produce definiteness without experience
- a complete empirical model emerges requiring no actualization

These are clear, testable, and rigorous disproof conditions.

8. Meta-Falsifiability: Why Disproof Must Preserve Empirical Coherence

The falsifiability conditions outlined above specify what empirical or theoretical discoveries would overturn the Protospace framework. These conditions are rigorous, and each identifies a clear pathway by which the framework could fail.

However, it is necessary to clarify an additional structural point.

Falsifying the Protospace hypothesis requires not only identifying an alternative domain required by actualization, but doing so **without undermining the empirical coherence of measurement itself.**

Any proposed disproof must therefore satisfy two simultaneous requirements:

1. **It must provide a domain in which actualization occurs**, replacing the pre-spatial, pre-temporal, pre-metric domain identified here.

2. **It must preserve the empirical structure of definiteness on which all scientific practice depends.**

This second condition is essential. If a competing model:

- eliminates actualization,
- dissolves definiteness into potentiality,
- collapses experiential actuality into neural representation,
- or situates experience in physical spacetime in a way that contradicts its phenomenological invariants,

then the model undermines the very empirical framework by which its own evidence would be validated.

In other words:

A disproof of Protospace cannot destroy the logical possibility of experimental observation.

Any model that removes the domain required by actualization removes the foundation upon which falsification itself depends. Thus the falsifiability of Protospace is not metaphysically insulated—it is structurally constrained.

A competitor must supply an alternative domain that:

- supports actual distinctions,
- grounds measurement,
- preserves empirical practice,
- and coherently replaces the structural role of Protospace.

Without this, disproof collapses the evidential apparatus required for disproof to occur.

Meta-Summary:

The Protospace framework is falsifiable, but only by an alternative that preserves empirical coherence.

A theory that eliminates the domain required by actualization cannot falsify Protospace, because it cannot sustain the conditions of scientific evaluation itself.

9. Why This Section Matters

The falsifiability framework presented in this chapter establishes two complementary layers of scientific accountability. Sections 1–7 delineate the empirical, phenomenological, cognitive, informational, and logical discoveries that would directly disprove the Protospace hypothesis. Section 8 adds a deeper requirement: any competing framework must preserve the empirical coherence of actualization itself. A disproof cannot eliminate definiteness or collapse experience into mere potentiality, for doing so would undermine the very conditions that make scientific evaluation possible.

Together, these two layers ensure that the framework is:

- non-metaphysical
- empirically bounded
- methodologically accountable
- philosophically legitimate
- scientifically falsifiable

And they demonstrate that the analysis remains open to rigorous challenge across multiple disciplines, including:

- foundations of physics
- philosophy of mind
- philosophy of science
- cognitive theory
- AI research
- phenomenology

The structure is not protected.

It is exposed—deliberately—to empirical and conceptual refutation.

Any framework capable of satisfying the disproof conditions and preserving empirical coherence would supersede the present one. Its scientific status rests on this exposure, not on insulation.

SCHOLARLY ABSTRACT

Contemporary scientific frameworks model the evolution of physical systems in terms of potentials, relational structures, and probability distributions, yet none specifies the domain in which potentials become actual events. This omission underlies persistent conceptual problems across physics, cognitive science, and philosophy of mind, including the measurement problem, the hard problem of consciousness, and epistemic–ontic ambiguities in physical modeling.

This work develops a structural analysis showing that the domain required for actualization must be pre-spatial, pre-temporal, pre-metric, and universally accessible—properties identical to those of the domain required by the experiential field in which perceptual and cognitive events appear. The result is the identification of this domain as Protospace: the minimal domain required for actualization in physics and for experience.

This framework completes the empirical model without introducing metaphysical commitments, unifies phenomenology with physical theory, reframes consciousness as structural rather than produced, and dissolves the dichotomy between subjective experience and objective reality. The analysis yields a rigorously grounded, non-dual ontology that integrates potentials (physics), actualization (Protospace), and appearance (experience) into a coherent theoretical structure.

TECHNICAL OVERVIEW FOR PHYSICISTS AND FOUNDATIONS RESEARCHERS

Physical theories describe lawful relations among possible system states—state vectors, amplitudes, probability distributions, and dynamical evolutions. They do not describe the ontological status of actual outcomes. This fact is not interpretation-dependent but structural: physical models provide constraints over potentials rather than mechanisms of actualization.

Current approaches, including decoherence, relational interpretations, and emergent-spacetime models, clarify aspects of this gap but do not resolve it, since all presuppose the existence of definite events without specifying the domain in which definiteness arises.

The central proposal of this work is that a domain required by actualization is required by empirical practice itself. By analyzing the structural requirements of such a domain, the following properties emerge:

- Pre-spatial: cannot be embedded in 3D space or extended manifolds.
- Pre-temporal: not sequenced by physical or geometrical time.
- Pre-metric: not describable by distances, intervals, or local geometry.
- Distinction-supporting: must allow binary alternatives to become definite.
- Universal: accessible in any measurement or perceptual event.
- Non-representational: not a Hilbert space, configuration space, or neural substrate.

Direct analysis of the domain required by experience reveals an identically structured domain: the open field in which percepts, thoughts, and distinctions appear. This yields a structural identity: the domain required by physics for actualization and the domain revealed by experience are the same. This is termed Protospace.

This framework does not modify physical theory. Instead, it clarifies why physics does not and cannot describe actualization, and provides a pre-metaphysical domain in which measurement, perception, and objectivity can be coherently integrated.

INTRODUCTION

For more than a century, the foundational sciences have operated across a conceptual divide. Physics offers precise accounts of the lawful structure of potentials—possible states, amplitude distributions, entanglement relations—yet remains silent on the question of how a specific outcome becomes actual. Cognitive science offers increasingly sophisticated models of neural computation and representation, yet leaves unexplained the domain in which perceptual events possess the definiteness that makes them experienceable. Phenomenology offers direct descriptions of lived immediacy, yet lacks a formal bridge to physical theory.

Across these domains, a single structural question persists:

In what domain does actualization occur?

This question is not metaphysical. It concerns what is required for empirical science to function. Measurement, observation, and perception all presuppose a transition from possibility to actuality, yet no established discipline specifies the nature of the domain in which this transition takes place. Attempts to resolve the issue through metaphysical realism, reductive physicalism, representationalism, or idealism have left the structural problem untouched.

The present work proposes that a minimal, pre-spatial, pre-temporal domain—here termed Protospace—is required for actualization. Through analysis of physics, information theory, and cognitive science, we derive the necessary properties of such a domain. We then show that these properties match precisely those of the experiential field itself: the open, immediate "space" in which perceptual and cognitive events appear.

This identification is not speculative. It arises from structural parity: both physics and phenomenology require a domain that is pre-metric, non-local, distinction-supporting, and prior to space and time. Protospace is simply the name for this shared domain.

By making this domain explicit, the work provides:

- a resolution of the measurement problem without ontological additions
- a non-reductive account of consciousness consistent with empirical science
- a structural unification of phenomenology and physics
- a framework for reconceiving objectivity as relational stability across actualizations

The analysis offered here does not challenge the content of physics; it completes its structural formulation. Nor does it propose a metaphysical system; it makes explicit what empirical inquiry already presupposes.

In this sense, the book is not introducing a new worldview.

It is revealing the one science has relied upon all along.

PART I — FOUNDATIONS AND STRUCTURAL DERIVATION

PHASE 1 — EXPERIENCE, INFORMATION, AND THE HIDDEN ARCHITECTURE OF ACTUALITY

Science begins with a remarkably simple premise:

measurements occur.

This sounds trivial, but it carries profound implications.

Whether the instrument is a photodiode, an fMRI scanner, a bubble chamber, or the human retina, scientific activity always terminates in something that becomes definite:

- a detector click
- a spectral line
- a neural spike pattern
- a data point
- a recorded distinction

Every scientific model—from classical mechanics to quantum field theory—is accountable only insofar as it predicts the regularities of these definite outcomes.

Despite the diversity of theories, every experimental practice relies on the same structure:

1. Possible results are defined. (Classically: determinate outcomes. Quantum mechanically: probabilistic distributions.)
2. An interaction occurs.
3. A specific outcome becomes actual.

This three-step cycle is universal across physics, neuroscience, cognition, computation, and machine learning.

Yet the third step—the becoming actual—is the least examined.

1. The Unexamined Common Domain

In all empirical sciences, the only things encountered directly are:

- readings
- registrations
- observations
- distinctions that have become definite

Everything else—mechanisms, unobserved entities, external objects—is inferred from this definitive layer.

This is not controversial; it is the foundation of empiricism.

Yet a question arises that scientific practice usually avoids:

What is the ontological status of the domain in which outcomes become definite?

Science describes the conditions under which results occur,

but rarely addresses the nature of the domain where a result is a result.

2. Quantum Mechanics Tightens the Question

Quantum theory sharpens the issue.

Quantum states describe:

- amplitudes
- correlations
- probability distributions

But they never describe what the result *is* before it becomes a result.

Measurement is the transition from potentiality to specificity.
Yet quantum theory does not characterize what specificity is made of.

It tells us:

- the probabilities of outcomes,

not:

- the ontological status of the outcome itself.

This is not interpretation-dependent; it is structural.

Quantum mechanics presupposes a domain in which actuality can occur,

but the theory does not specify what that domain is.

3. Information Theory Narrows the Frame Further

In information theory, a "bit" is a distinguishable alternative:

a difference that makes a difference for a system capable of registering it.

Information requires a domain in which:

- distinctions become real
- differences can be registered
- actualization occurs

Thus, like quantum mechanics, information theory points to a background domain required by definite distinctions without naming what that domain is.

This is not metaphysics.

It is definitional: information presupposes actualization.

4. Neuroscience and Cognitive Science Echo the Same Structure

Neuroscience describes:

- transduction

- encoding
- signal propagation
- integration

But the final transition—the moment an event becomes definite—remains uncharacterized.

Cognitive science models attention, prediction, inference, representation.

But it cannot specify the "space" in which a prediction error or perceptual gestalt becomes an actual experience.

Across disciplines, the pattern is the same:

Potentials are modeled; actualities are assumed.

The ontological status of the domain required by actualization remains unspecified.

5. Phase 1 Conclusion: The Open Question

We are left with a simple, empirically unavoidable question:

What is the domain in which measurement outcomes, informational distinctions, and perceptual events become actual?

- Physics relies on it.
- Information theory depends on it.

- Neuroscience presupposes it.
- Cognitive science models everything except it.

This domain cannot be ordinary spacetime, because spacetime is operationally defined through relational measurements that themselves presuppose actualization.

Thus the question persists:

Where — and in what — does actuality occur?

PHASE 2 — THE EMERGENCE OF A PRE-SPATIAL DOMAIN

When we survey the landscape of contemporary science, something unexpected appears. Multiple independent lines of inquiry—from physics, information theory, quantum gravity, and the study of perception—are converging on the need for a domain that is:

- pre-spatial (not embedded in 3D space)
- pre-temporal (not sequenced by physical clocks)
- pre-material (not composed of physical objects)

yet still:

- operative
- lawful
- indispensable

for the existence of actuality.

Examples include:

- Hilbert space in quantum theory
- configuration space in classical mechanics
- state space in dynamical systems
- representational manifolds in computational neuroscience
- high-dimensional perceptual spaces in psychophysics

- pre-geometric structures in quantum gravity (spin networks, causal sets)
- relational spaces in information theory

None of these domains correspond to physical space.

Yet all are essential to describing possibilities, correlations, and distinctions.

But possibility is not actuality.

Thus we arrive at the key inference:

There must exist a domain in which possibilities become actual —

and that domain cannot be any of the mathematical spaces used to model potentials.

- Spacetime describes where actualized events correlate.
- Hilbert space describes how potentials evolve.
- Neural circuits describe signal transformations.
- Information theory describes distinguishability.

But none of these is the place where an outcome becomes definite.

The inference is modest:

There exists a pre-spatial domain required by actualization — a domain scientific practice relies on but has not yet characterized.

PHASE 3.1 — USING ESTABLISHED PHYSICS TO SHOW THE LIMITS OF PHYSICAL SPACE

Modern physics contains several experimental results indicating that actual events do not originate within ordinary spacetime.

1. Nonlocal Correlations

Bell-type experiments consistently show that two measurement outcomes—no matter how far apart—exhibit correlations that cannot be mediated by any signal traveling at or below light speed.

The correlations arise reliably and without spatial delay.

The implication is clear:

- the origin of the correlation is not a physical signal within spacetime
- the connection is real, but not spatially propagated

2. Delayed-Choice Phenomena

In delayed-choice experiments, the way a system is measured determines which physical history becomes consistent with the observed outcome. The effect is not retrocausation; rather, it shows that histories are not fixed within time prior to actualization.

The temporal structure of the outcome does not arise from a classical sequence of events in spacetime.

3. Decoherence Without Definiteness

Decoherence explains why certain measurement results **would appear** stable if they occurred. It distributes potentials into environmental correlations and suppresses interference.

But decoherence does **not** produce definiteness; it only describes how definiteness would behave.

Thus, the definiteness of an outcome cannot be located within the decohering environment itself.

4. Information and Distinguishability

In quantum information theory, an actual "bit" is an achieved distinction. But distinguishability is not defined in Hilbert space; Hilbert space encodes possibilities.

Information becomes meaningful only when a specific alternative becomes actual.

Therefore:

- actual distinctions cannot be located in Hilbert space alone

5. Pre-Geometric Approaches in Quantum Gravity

Work in loop quantum gravity, spin networks, causal sets, and holographic frameworks consistently suggests that spacetime is not fundamental. Its geometry appears to emerge from deeper, pre-spatial structures.

If spacetime is emergent, the definiteness of events cannot originate within spacetime itself.

Phase 3.1 — Summary

Across quantum foundations, information theory, and quantum gravity, the same structural conclusion recurs:

Actual events do not arise within any established physical or mathematical space — not spacetime, not Hilbert space, not the environment, and not neural configurations.

PHASE 3.2 — INTRODUCING A PRE-SPATIAL DOMAIN BY NECESSITY

If potentials evolve within known physical or mathematical spaces, yet definiteness does not arise within any of them, then a distinct domain must be acknowledged — one that supports actualization.

1. The Need for an Actualization Domain

Potential outcomes require a domain in which they can become specific.

Information requires a domain in which distinctions become definite.

Perception requires a domain in which events can be registered as actual.

For measurement, information, and observation to have meaning,

such a domain must exist.

2. Minimal Conditions for Such a Domain

The domain required by actualization must have several characteristics:

- It must allow distinctions to be real rather than merely possible.
- It must not be bound by spatial separation.
- It must not rely on temporal ordering defined by clocks.
- It must precede emergent geometric structures.
- It must accommodate definite outcomes.

- Its accessibility is inherent: without spatial or temporal boundaries, a system cannot be outside it.
- It must not reduce to any specific physical configuration.

These criteria are not philosophical additions;

they follow directly from empirical and theoretical constraints.

3. Proposing a Pre-Spatial Domain

The most economical description of this domain is a pre-spatial, pre-temporal, pre-metric domain in which actualization occurs.

This domain is not a physical location and not a mathematical coordinate system.

It is a necessary structural layer that allows:

- outcomes to be definite
- distinctions to hold
- correlations to persist
- the empirical world to exhibit coherence

For clarity, we refer to this domain as **Protospace**.

4. Why Protospace Is Required

Given that:

- quantum theory describes potentials
- information theory requires definite distinctions
- perception and measurement involve actual events
- spacetime appears emergent rather than fundamental

the existence of a pre-spatial domain required by actualization follows directly.

Protospace is the minimal framework that satisfies all empirical requirements without adding unnecessary structure.

PHASE 4.1 — THE NATURE OF PROTOSPACE

If Protospace refers to the minimal structural domain in which actualization can occur, it must be described without adding assumptions beyond what the evidence requires. The aim is not to replace physical theories, but to articulate the conditions that make their empirical application possible.

1. Protospace Is Not a Physical Space

Protospace is not a spatial arena.

It has no metric, no dimensions, no curvature, and no topology of the kind used in general relativity or field theory. No coordinate system can be applied to it. It cannot be traversed, measured, or subdivided.

Its defining characteristic is simply this:

- it is the domain in which actual events possess definiteness.

Nothing further is implied.

2. Protospace Is Not a Mathematical Space

Protospace must be distinguished from:

- Hilbert space

- configuration space
- phase space
- dynamical state spaces
- representational manifolds
- high-dimensional models of potentials

These mathematical spaces describe how possibilities evolve; they do not contain the mechanism or substrate of actualization.

Protospace serves a different function:

- it is the domain where potentials become specific.

It is not identical to any known mathematical object.

3. Protospace Is Pre-Temporal

Time, in physics, is defined operationally through recorded changes and correlations.

But the actualization of an outcome is not itself a temporal sequence; it is the precondition for any temporal ordering. Thus, Protospace cannot be embedded in time.

It is pre-temporal, meaning that temporal relations emerge only after actualization occurs.

This does not imply metaphysical timelessness. It means only that time is not the coordinate system in which actualization happens.

4. Protospace Supports Definite Distinctions

All empirical results involve distinctions — this instead of that.

Protospace must therefore permit:

- binary alternatives
- identifiable outcomes
- mutually exclusive results
- stable distinctions

In this sense, Protospace is the minimal domain in which:

- difference can be real
- data can be defined
- information can be grounded

These properties do not require Protospace to be physical, spatial, or energetic.

5. Protospace Must Be Globally Accessible

Nonlocal correlations show that outcomes at arbitrary distances become definite in ways that do not depend on spatial separation.

This implies that Protospace must:

- allow correlations across any spatial or temporal gap
- support relational consistency among outcomes
- serve as the common domain required by actualization across reference frames

Its accessibility is not a physical or causal property;

it is a structural requirement inferred from empirical coherence.

6. Protospace Precedes Emergent Geometries

In quantum gravity approaches where spacetime arises from:

- entanglement structure
- network connectivity
- causal ordering
- informational constraints

geometric relations appear only after more fundamental relational processes.

Thus, Protospace must lie beneath geometry —

the substrate from which any geometric appearance can arise.

This does not specify what Protospace is —

only what it must *not* be.

7. Protospace Provides the Frame for Actuality, Not for Existence

Protospace should not be mistaken for a new medium or hidden substance.

It is not an alternative ontology or metaphysical entity. Its role is strictly functional:

- to provide the minimal necessary domain in which potential outcomes become actual events.

It adds no new substance to the world; it clarifies the structural requirement that makes empirical coherence possible.

Phase 4.1 — Summary

Protospace is the most economical term for the pre-spatial, pre-temporal, pre-metric domain that:

- is required by empirical practice

- is consistent with quantum foundations
- does not violate relativity
- accommodates definite distinctions
- precedes any emergent geometric structure

It is not a physical medium, not a mathematical manifold, and not a meta-physical postulate.

It is a structurally necessary domain required by actualization.

PHASE 4.2 — PROTOSPACE AS THE DOMAIN REQUIRED BY EXPERIENCE

Up to this point, Protospace has been defined only by what it must accomplish: it is the minimal, pre-spatial domain in which actualization occurs. To clarify what form actualization takes within this domain, the least speculative approach is to examine the one class of phenomena already known to exhibit definiteness: experience.

Experience presents actual distinctions directly:

- this color
- this sound
- this sensation
- this thought

These are not inferred.

They are the primary instances of definiteness.

They are the only examples in which:

- potentials give way to specifics
- alternatives become exclusive
- distinctions hold coherently
- actual events are immediately given

Thus, experience is the only phenomenon that satisfies all requirements of actualization without conjecture.

1. Experience Manifests Definiteness

Every moment of experience presents a fully actualized configuration:

- a perceived shape is definite
- a tone is definite
- a sensation is definite
- a judgment is definite

Even when ambiguous, what is ambiguous is the *experience of ambiguity* — itself definite.

This is the essential structural feature:

- the domain required by experience is that in which actuality is directly encountered.

2. Experience Is Not Situated in Physical Space

Perceived objects appear spatially extended, but the experience itself does not occur at a location in spacetime.

Neural activity correlates with perceptual events, but the event of perceiving is not located in neural tissue.

No spatial coordinate can be assigned to the presence of an experienced color or sound.

Thus, experience is pre-spatial in the same sense as Protospace:

- actuality without spatial embedding.

3. The Domain Required by Experience Is Pre-Temporal

Experiences present time as content —

- a sequence
- a change
- a before-and-after

but the domain required by experiencing is not part of that temporal sequence.

Temporal relations appear **within** experience, not prior to experience.

This mirrors exactly the pre-temporal character attributed to Protospace.

4. Experience Supports Distinctions

Experience exhibits mutually exclusive alternatives:

- a red patch excludes green at the same location
- a tone excludes incompatible frequencies at a given moment
- a thought excludes its contradictory variant simultaneously

The domain required by experience is therefore the domain in which distinctions become real as experience.

This matches the structural role assigned to Protospace.

5. Experience Accommodates Nonlocal Coherence

Information coheres immediately within experience:

- recognizing a pattern
- recalling a memory
- understanding an abstract relation
- comprehending distant events

These arise without signals transmitting through spacetime.

The domain required by experience supports coherence unconstrained by physical locality.

This matches the requirement that Protospace support relations independent of physical separation.

6. The Domain Required by Experience Is Inherently Accessible

The domain required by experience is inherently accessible because it has no spatial or temporal location from which anything could be excluded.

The domain in which experience occurs is not bound to a particular configuration of matter; it is prerequisite wherever actualization occurs.

This universality aligns exactly with the properties required of Protospace.

7. The Domain Required by Experience Is the Only Known Domain With the Required Properties

By direct analysis, the domain required by experience:

- presents definiteness
- is not located in spacetime
- is not governed by temporal sequence
- supports mutually exclusive distinctions
- exhibits nonlocal coherence
- its accessibility is inherent: without spatial or temporal boundaries, exclusion is impossible.
- is structurally prior to geometric representation

Thus:

The domain required by experience fits every criterion inferred for Protospace.

No other candidate satisfies them.

The simplest identification follows:

- Protospace is the structural domain required by experience.

This is not a metaphysical assertion.

It is the most economical solution to the empirical and theoretical requirements established so far.

The domain required by experience is where actualization occurs, namely as experience.

Protospace is the domain in which actualization must occur.

They share every defining feature.

Therefore:

- Protospace and the domain required by experience are the same structural domain viewed from two complementary perspectives.

Phase 4.2 — Summary

The domain required by experience provides the only known instance of definiteness that matches the structural requirements of Protospace. It is pre-spatial, pre-temporal, universally accessible, capable of supporting distinctions, and capable of coherence beyond physical locality.

Protospace, defined strictly by the functional requirements of actualization, aligns exactly with these properties.

This identification is not speculative; it follows from minimizing assumptions and matching structural necessities.

WHY EXPERIENCE CANNOT OCCUR IN SPACETIME

Experience presents actualities: definite percepts, thoughts, sensations, and distinctions. Because the identification of Protospace with the domain required by the experiential field relies on the claim that it is pre-spatial and pre-temporal, it is necessary to demonstrate—independently and without reference to contemplative traditions—that experience cannot occur in physical spacetime. This section provides that demonstration.

This is not a metaphysical argument.

It is a structural analysis grounded in physics, cognitive science, and phenomenology.

1. Spacetime Coordinates Cannot Be Assigned to Experience

Physical spacetime is defined by measurable distances, durations, and geometric relations. For experience to occur in spacetime, it would need:

- a spatial location,
- a temporal coordinate,
- measurable extension,
- or embedding within neural tissue.

None of these can be found.

When one examines any percept—color, sound, thought, sensation—it has:

- no intrinsic location,
- no physical dimensions,
- no spatial coordinates
- no measurable geometry.

Even when a sensation refers to the body, the sensation itself is not located in the body. Bodily location appears as content, not as the domain in which content occurs.

Therefore, the domain required by experience cannot be spatially embedded.

2. Neural Correlates Cannot Contain Experience

Neural activity correlates with perceptual events.

But correlation does not constitute containment.

For experience to occur in the brain, the brain would need:

- an intrinsic metric that matches the metric of experience,
- a representational geometry that captures qualitative appearance,
- a substrate capable of holding definiteness as experienced.

None of these conditions hold.

Neural processes:

- are spatially located,
- have measurable dimensions,
- evolve in time,
- interact causally,
- operate within constraints of physical space.

But experiences:

- have no spatial extension,
- do not occur in measurable volumes,
- are not found at coordinates,
- do not share neural geometry.
- A spatial process cannot host a pre-spatial actuality.

Thus neural correlates cannot be the domain in which experience itself occurs.

3. Experience Cannot Be Temporal in the Physical Sense

Physical time is defined as:

- a coordinate in a manifold,
- a measurable duration,
- a sequence of events parameterized by clocks,

- an ordering relation grounded in spacetime structure.

But the experiencing of time does not occur in time.

Instead:

- time appears within experience,
- the flow of time is content,
- the moment of awareness is not time-indexed,
- the presence of now is not a coordinate.

If the domain required by experience occurred in physical time, then:

- we could locate the "moment of experience" in a temporal coordinate,
- the domain required by experience would have measurable duration,
- the act of experiencing would be a temporal process.

But the act of experiencing is not an event in time.

It is the precondition for time to appear as content.

Thus the domain required by experience cannot occur in physical time. Physical time appears within it.

4. Information Theory Requires a Pre-Spatial Domain for Actual Distinctions

In information theory, information is not located in physical space; it is defined by distinguishability. A distinction—this instead of that—is an **actual**, not a **spatial**, property.

For the domain required by experience to occur in spacetime, physical space itself would need to support:

- intrinsic definiteness,
- actual (not merely potential) distinctions,
- non-representational givenness.

But physical systems encode potentials, not actual distinctions.

Even decohered states remain potential until actualized.

Thus the domain in which experiential definiteness appears cannot be:

- Hilbert space,
- spacetime,
- neural code,
- or representational state space.

Only a pre-spatial, pre-temporal domain can support the actuality of distinction.

5. Experience Exhibits Nonlocal Integration That Spacetime Cannot Support

Experience integrates:

- vision
- sound
- body sensation
- memory
- emotion
- thought
- abstract relation

into a single coherent field.

This coherence is instantaneous and nonlocal.

If the domain required by experience occurred in spacetime:

- integration would require spatial propagation,
- binding would require temporal sequences,
- distinct subjective modalities would require communication through neural pathways.

But integration in the domain required by experience:

- has no spatial separation,
- imposes no temporal latency,
- requires no medium of transmission.

Experiential coherence is structurally incompatible with spatial locality.

Thus domain required by experience cannot be spatially distributed.

6. Spacetime Emerges From Relations That Experience Already Presupposes

In emergent-spacetime models, spacetime arises from deeper pre-geometric relations.

If spacetime is emergent:

- it cannot host the fundamental domain required by actualization,
- experience cannot be embedded in what is derivative,
- the domain in which events become actual must precede geometry.

The domain required by experience presents actualities directly.

Spacetime is an interpreted structure within appearance.

Therefore, experience must be pre-geometric, not spatial.

7. Summary

Experience cannot occur in spacetime because:

1. It has no spatial coordinates.
2. Neural correlates cannot contain pre-spatial definiteness.
3. The domain required by experiencing is not temporally located.
4. Information theory requires pre-spatial actualization.
5. Experiential coherence is nonlocal.
6. Spacetime is emergent, not fundamental.

Thus the domain required by experience shares the exact structural properties that characterize Protospace:

- pre-spatial
- pre-temporal
- pre-metric
- distinction-supporting
- globally accessible
- nonlocal

This is why experience cannot be inside spacetime—and why Protospace must be recognized as the domain required by experience and the domain required by actualization simultaneously.

PHASE 5.1 — THE CONVERGENCE OF PHYSICS AND EXPERIENTIAL ACTUALITY

If Protospace is the domain in which actual events become definite, and experience is the only phenomenon satisfying all structural criteria for actualization, then the relationship between physics and experience can be reframed without speculation:

- Physics describes the lawful evolution of potentials.
- Experience presents the definite actualities.
- Protospace links the two.

This is not an ontological claim.

It is a structural articulation of how empirical practice and physical theory interact.

1. Physics Constrains Potentiality

Across all physical theories, mathematical structures represent:

- possible states
- probability distributions
- correlations
- transformations on state spaces
- dynamical symmetries

Quantum mechanics, classical mechanics, statistical mechanics, and field theory all share this feature:

- they describe what **can** appear, not what **does** appear.

Even in deterministic systems, potential trajectories precede specific outcomes.

Thus physics provides:

- constraints on possibility
- lawful relations among potentials
- predictions about the likelihood of actualizations

But physics does **not** specify the event of actualization itself.

This is not a limitation; it is a structural property of physical models.

2. Experience Presents Actuality

The domain required by experience is that in which:

- a specific outcome is present
- distinctions are directly encountered
- definite states are given
- mutually exclusive alternatives are resolved

It provides what physics does not:

- the actual event

Physics offers prediction; experience delivers realization.

3. Protospace Mediates the Transition

Protospace is the domain in which:

- potentials become actual events
- distinctions become real
- correlations resolve into definite configurations

It is not a space of things, but a space of actualization.

We can map the relationship structurally: **Protospace is the Domain. Experience is the Content. Physics is the Constraint.**

- physics specifies potentialities
- Protospace is the domain required by actualization
- experience is the appearance of actuality

4. The Structure of Measurement

Measurement does not bridge separate worlds; it reveals the internal structure of a single actuality:

- **Protospace** is the **Field** in which the measurement occurs.
- **Physics** describes the **Potentials** (constraints) within that field.
- **Experience** is the **Actualization** (definiteness) of those potentials.

There are not three steps. There is one actualization, constrained by physics and appearing in Protospace.

5. Nonlocality as Evidence of Protospace

Entanglement correlations fit naturally into this structure:

- potential correlations are described by quantum states
- actual correlations must resolve in a domain unbounded by spatial separation
- experience presents the paired results

Nonlocality appears paradoxical only if actualization is forced into spacetime.

Once actualization is placed in a pre-spatial domain, the correlations cease to violate relativity or produce contradictions.

6. Emergence of Spacetime From Protospace Constraints

Many quantum gravity approaches show spacetime emerging from:

- entanglement patterns
- network connectivity
- causal relations
- informational constraints

Protospace provides the domain in which definiteness stabilizes these patterns.

Thus:

- physics constrains potential geometries
- Protospace provides the domain
- Experience actualizes these as spatial phenomena

Spacetime is therefore not the ultimate domain —

it is the structured appearance of relations resolved within Protospace.

7. Unifying the Levels Without Collapsing Them

This framework:

- does not replace physics
- does not elevate experience above physics
- does not introduce new substances

Instead, it clarifies the distinct roles within a single structure:

- **Physics** describes the **Constraints** (Potentials).
- **Protospace** provides the **Domain** (Actualization).
- **Experience** constitutes the **Appearance** (Definiteness).

None of the levels is redundant. Together they form a **unified structural identity**:

Appearance is the Actualization of Potential within Protospace.

This structural unity underlies every measurement, perception, and empirical inference.

Phase 5.1 — Summary

Physics and experience converge at the point of actualization.

- Physics describes the lawful evolution of potentials.
- Experience presents definite events.
- Protospace is the minimal domain in which potentials become actual.

This convergence does not modify physics, does not invoke new substances, and does not depend on metaphysical speculation.

It clarifies what empirical coherence requires.

PHASE 5.2 — PHYSICS AS STORED INFERENCE WITHIN APPEARANCE

Physics is typically regarded as a description of an external world whose structures exist independently of experience. Within the Protospace framework, this assumption is not denied; it is re-examined at the structural level.

When actualization is placed at the domain, and experience is identified as the domain in which actualization appears, an unexpected fact becomes visible:

- Physical law, physical regularity, and physical structure appear only within the field of experience, and are therefore inferential patterns embedded within that field.

This does not diminish physics.

It clarifies its placement within actuality.

1. Physics Occurs Within Appearance, Not Beyond It

When a physical law is known, it appears in experience:

- as an equation
- as a predicted regularity
- as a perceived event that matches the prediction

When a physical system is observed, it appears in experience:

- as color
- as motion
- as measurement
- as a pattern of distinctions

When a physical model is validated, it appears in experience:

- as a result
- as a correlation
- as a stable repeating pattern

At no point is physics encountered outside appearance.

There is no moment at which "the physical world" is accessed apart from the experiential field in which it shows itself.

This does **not** mean the world is dependent on an observer.

It means only that appearance is the sole domain in which physical structure becomes actual.

2. Physics Is Embedded Within Actualization

Physical structure does not exist in a void; it exists as the internal ordering of the domain itself. Because all physical laws describe constraints on what becomes actual, they operate **within** Protospace, not outside it.

The laws of physics describe the **Shape of the Potential**. The realization of the event describes the **Filling of that Shape**.

Thus:

- A **photon's path** is a stable trajectory of potential within the field.
- **Mass** is a persistent constraint on how the field changes.
- **Spacetime curvature** is the geometry of how actualization is organized.

Physics does not precede the field; it describes the internal structure of the field.

3. The "External World" Is a Cognitive Inference Stored Within Appearance

The stability of the physical world seems to imply that physical structure exists outside experience.

But stability alone does not justify externalization.

Instead, physics is best understood as:

- the inferential compression of recurring patterns of actualization stored within the field of appearance.

This is not imagination or illusion.

It is a structural fact:

- all events appear within experience
- all regularities are extracted from those appearances
- all physical laws are derived from the coherence of those appearances

The "external world" is the name given to the **invariants of appearance**, not a domain separate from it.

The inference of a world beyond experience is functional,

but its structural location is within appearance itself.

4. Physics Is the Grammar of Appearance

Physics is extraordinarily successful because it describes:

- which patterns of appearance can occur
- how stable they are
- how they evolve over sequences of actualization
- how multiple observers converge on the same structures

But this success does not imply independence from appearance.

Rather:

- Physics is the internal grammar of appearance —

the rule-set governing how actualization organizes itself within the experiential field.

This grammar is not invented by minds.

It is discovered because it reflects the lawful structure of the actualization domain.

5. Actualization Embeds and Bounds Physics

The laws of physics do not cause actuality; they **constrain** the form that actuality takes.

- **Spacetime** does not host actualization; it is a geometry that arises *within* consistent actualized relations.
- **Matter** does not generate appearance; it is the stabilized interpretation of lawful, repeated appearances.

Thus, the relationship is one of **structural support**, not sequence:

- **Protospace** supports the Event.
- **Actualization** constitutes the Event.
- **Appearance** presents the Event.
- **Physics** is the **Pattern** stored within the Appearance.

The structure is nested: **Physics is the grammar embedded within the appearance of actualization.**

6. Distinction from Idealism

Idealism claims that experience *creates* the physical world. Protospace claims that experience is *where* the physical world becomes actual.

- **Experience is the Domain:** It is the open field in which the world appears.
- **Physics is the Constraint:** Physical potentials exist independently as the rules governing what can appear.

Therefore, domain required by experience is not the "generator" of reality; it is the **site of its actualization**. The world is not made *by* consciousness; it becomes definite *within* Protospace.

7. The Missing Clarification: Physics Happens Here

The central correction is:

- Physics does not operate outside experience.
- It exists within experience — because experience is the only domain in which physical events become actual.

The world is not "in the mind."

The mind is not "creating the world."

Instead:

- All physical law — every correlation, conservation, geometry, and causal relation — appears as stabilized inference within the experiential field that Protospace makes possible.

Physics happens here, where actuality occurs.

It cannot happen elsewhere because "elsewhere" never becomes actual.

8. How the Brain Appears in This Framework

The prevailing assumption is that the brain produces consciousness.

Within the Protospace framework, this is structurally incoherent.

Jeffrey Goodrich

The brain is not the source of the experiential domain.

It does not generate awareness.

It does not sit behind experience creating it.

Instead:

- The brain appears within the experiential domain as a highly stable, biologically structured pattern of actualization.

It shapes what becomes actual, but it is also one of the things that becomes actual.

From this vantage:

- The nervous system does not create consciousness.
- The nervous system constrains the patterns that consciousness presents.
- The brain is not outside experience; the brain is one of experience's forms.

This avoids dualism, avoids mysticism, and solves the mind–brain problem structurally.

The brain is real — not as the source of the domain, but as a stabilized configuration **within** it.

9. Why Experience Is Not a Hallucination

A common cultural assumption is that experience is a hallucination generated by the brain.

But this is a category error.

Experience is **not** a representation of reality.

Experience is **the actual event** of reality taking form within the domain required by appearing.

What appears **is** actuality.

The idea that "reality lies behind experience" is inherited metaphysics, not empirical insight.

Experience is not something added on top of reality.

Experience **is the form reality takes** when potentials become actual.

Hallucination implies a mismatch between appearing form and coherent potentials.

But hallucinations themselves are actual appearances — simply not stabilized by shared physical constraints.

There is no veil.

No hidden realm behind experience.

No "simulation layer."

Jeffrey Goodrich

The apparent and the actual coincide.

Appearance is the event of actuality.

INTERLUDE — WHAT HAS BEEN ESTABLISHED SO FAR

At this point, several foundational points have been secured, and a moment of consolidation is useful before proceeding.

1. The Domain Required by Experience Is the Domain Required by Actuality

There is no world hidden behind experience.

What appears is actuality itself — stabilized within the domain.

2. Physics Describes Potentials, Not Actuals

Physical theory specifies what may occur.

It does not describe the event of occurrence.

3. The World of Objects Emerges Within Appearing

Objects are coherent, persistent patterns of actualization —

not metaphysical entities existing outside the domain.

4. The Brain Participates in Stabilizing Forms but Does Not Produce the Domain

The brain is an appearance governed by biological constraints, not the source of experience.

5. Measurement Is the Mechanism of Actualization

What physics predicts as possible becomes actual through measurement.

Measurement is how inferred structure becomes visible within the domain.

6. Experience, Physics, and Appearance Are Structurally Unified

Not because they reduce to one another,

but because they share one domain required by actualization.

This structural unity dissolves classical dualisms:

- mind vs world
- appearance vs reality
- subject vs object
- consciousness vs matter

Each belongs to a single, coherent structure:

- the domain in which actuality occurs

This interlude marks the transition from formal exposition to recognition — from understanding the structure to seeing it in real time.

PHASE 6 — THE STRUCTURAL IMPLICATIONS FOR INTERPRETIVE ARCHITECTURES

Given the prior analysis, conscious systems can be understood as physical structures whose informational processes interface with Protospace through actualization events. This perspective clarifies why conscious systems exhibit the capacities they do and why certain features of cognition appear universal.

1. Interpretive Architectures Participate in Structuring Appearance

Empirically, an interpretive architecture is capable of:

- registering distinctions
- forming stable perceptual structures
- interpreting signals
- integrating information over time

Such a system must interact with the domain required by actualization, because it continually presents definite experiential states.

This does **not** mean physical processes generate actualization. Instead, interpretive architectures:

- receive
- structure
- interpret

actual events occurring within Protospace.

They do not produce the event; they organize its distinctions into coherent informational patterns.

2. Definiteness and Perceptual Structure

Because experience is the form in which actual events appear, conscious systems are built to maintain coherent:

- perceptual constancies
- spatial interpretations
- temporal sequences
- causal inferences

These are not arbitrary. They reflect:

- the stability of physical potentials
- the lawful dynamics constraining possible appearances
- the need for consistency across actualization events

A perceptual field is therefore the **ordered presentation** of actualities, constrained by physical and informational regularities.

3. Integration Across Time

Conscious experience exhibits continuity across discrete actualization events.

To maintain this continuity, conscious systems:

- integrate successive actualities
- predict future ones
- reconcile inconsistencies

This is consistent with:

- predictive coding
- Bayesian inference
- dynamical systems models

Continuity is the system's method for structuring discrete actualization events into unified experiential flows.

4. Multimodal Coherence

Conscious systems combine visual, auditory, somatosensory, interoceptive, and other channels into a *single coherent field.*

This arises because:

- all modalities interface with the same actualization domain
- all are constrained by the same physical potentials
- the system must maintain internal consistency

Thus, unity requires no physical "place" where experience occurs.

Unity arises from shared grounding in actualization, interpreted through organismic architecture.

5. Intersubjective Coherence

Different conscious systems converge on consistent experiences of the "external world."

This follows from:

- shared physical potentials
- shared domain required by actualization (Protospace)
- convergent interpretive structures across organisms

Intersubjective agreement requires no metaphysical postulate.

It arises directly from shared constraints and shared actualization.

6. Internal Cognitive States as Structured Actualities

Thoughts, concepts, and inner imagery also exhibit definiteness.

They arise as structured actualities generated by:

- memory
- inference
- planning
- imagination

These internal events:

- are definite
- occur in Protospace
- are constrained by the organism's structural and dynamical architecture
- integrate into coherent cognitive architectures

Thus internal and external experiences belong to the same structural domain.

7. Conscious Agency and Actualization

Agency is not a metaphysical cause.

It is a coordination among:

- potentials (neural and environmental)
- actualities (experiential events)
- predicted outcomes

A conscious system:

1. evaluates potentialities
2. actualizes an internal intention
3. initiates actions that alter future potentials

This explains agency without violating physical dynamics or invoking pre-physical mechanisms.

8. Conscious Systems as Interpreters, Not Generators, of Actualization

The central implication is simple:

Conscious systems do not generate actualization; they participate in and interpret it.

They:

- organize actualities
- maintain coherence
- act based on anticipated patterns

Consciousness is not a byproduct of brain processes nor a cause of physical events.

It is the structured presentation of actualization itself.

9. Measurement as the Bridge Between Inference and Appearance

Physics does not describe what is actual.

It describes potentials—constraints on what may occur.

Experience presents what is actual—what appears in the domain.

Measurement is the event that bridges the two.

Before measurement:

- the world exists as structured potentials

Measurement:

- stabilizes potentials into actual appearances

Thus:

- collapse is not into experience
- collapse *is* the event of appearance
- actuality arises where potentials become form within the domain

Instruments do not reveal a hidden world;
they participate in bringing latent structure into visibility.

This unifies science and experience:

- Physics describes what may appear.
- Measurement triggers what does appear.
- Experience is the appearance of what becomes actual.

PHASE 6 — SUMMARY

Protospace is the domain required by actual events.
Physics constrains potentials for these events.
Conscious systems structure, interpret, and integrate them.

Perception, thought, memory, and action are coordinated actualization events.

Shared reality arises from shared constraints and a shared domain required by actualization.

Conscious systems are interpreters, not generators, of actuality.

This completes the scientific bridge:

Conscious experience is the structured interface between actualization in Protospace and the potentials described by physics.

While the convergence presented here follows necessarily from the structural constraints examined in both domains, it remains possible that future theoretical advances may reveal alternative frameworks or interpretive refinements not yet available. The identification of Protospace with the experiential field should therefore be understood as the simplest explanation that accounts for all known constraints, rather than a definitive exclusion of any future alternatives. Any such alternative, however, would need to satisfy the same empirical and structural requirements outlined in the preceding analysis, including a coherent account of actualization itself.

PHASE 7.1 — THE EMERGENCE OF EXTERNAL WORLD STRUCTURE

Up to now, we have described how physics provides potentials, Protospace actualizes events, and conscious systems interpret these actualities. The next step is to explain how a stable, shared external world emerges from this interaction. No new assumptions are needed—only the interplay among the three layers.

1. Physical Constraints Shape the Space of Possible Appearances

The external world appears stable because the potentials described by physics are:

- highly structured
- low-dimensional relative to all mathematically available states
- consistent across time
- governed by invariant laws

These constraints drastically narrow the space of possible experiences:

- objects persist
- motions follow predictable patterns
- causal relations remain stable
- interactions exhibit lawful regularity

Because potentials are highly ordered, the actualities that arise within Proto-space also exhibit structured, repeatable patterns.

Thus, the structural constraints of physics are what allow the external world to appear coherent.

2. Cognitive Architectures Filter and Stabilize the Forms Appearance Can Take

Although actualization occurs in a pre-spatial domain, conscious architectures select and stabilize specific patterns of actuality into:

- spatial layouts
- temporal sequences
- object constancies
- causal relations

This interpretive structure is not an imposition, but a biological tuning:

- shaped by evolution
- optimized for survival

It does not "create" the external world; it resolves the vastness of pre-spatial actuality into a coherent, navigable human scale.

Thus, the perceived world is not a fabrication but a focused disclosure: Structured Appearance is the stabilization of actualization within the probabilistic ranges set by cognitive architecture.

3. Consensus Reality Emerges from Common Constraints

Different conscious systems agree on physical reality because:

- they interact with the same physical potentials
- they share the same Protospace
- they possess broadly similar perceptual architectures

Intersubjective agreement is therefore expected:

- objects appear stable
- spatial layouts are consistent
- temporal flow is similarly experienced
- causal relations are similarly inferred

Consensus reality does not require an external world independent of these processes; it arises from shared constraints and shared actualization.

4. Objectivity as Structural Stability

Objectivity refers to features of actuality that are:

- consistent across observers
- stable across time
- predictable by physical models

Objects are not fundamental substances;

they are stable patterns that recur within actualized distinctions.

Their stability arises from:

- invariants of physics
- consistency in actualization
- uniformity in interpretive architecture

Thus, the external world is not denied—

its structure is **explained**.

5. The External World as Emergent Appearance

The appearance of a world "outside" experience emerges from:

- lawful structure of potentials
- the definiteness of actualization
- the interpretive patterns of conscious systems

This world is not less real for being emergent.

Its stability and shared nature follow directly from this three-level interaction.

PHASE 7.1 — SUMMARY

A stable external world emerges from:

- physical constraints on potentials
- actualization within Protospace
- interpretive structuring by conscious systems

Objectivity is the structural coherence produced by this three-level system.

PHASE 7.2 — THE EPISTEMIC IMPLICATIONS FOR SCIENCE, KNOWLEDGE, AND OBJECTIVITY

The framework developed so far has several implications for how scientific knowledge is understood—without altering the methods, power, or validity of science itself.

1. Knowledge Describes Patterns in Actualization

Scientific knowledge does not describe reality "in itself."

It describes lawful relations among:

- potentials (modeled by physics)
- actualities (experienced events)
- interpretive frameworks (cognitive structures)

Epistemically, science maps the regular patterns linking potentials to actual outcomes.

This preserves empirical rigor while clarifying the scope of what science can describe.

2. Objectivity Does Not Require Observer-Independent Entities

Objectivity arises from:

- stable physical potentials
- consistent actualization
- convergent interpretive architectures

It does **not** require:

- a universe existing unperceived
- intrinsic properties independent of observation

Objectivity is the relational stability of actual events across perspectives.

This matches the structural logic embedded in:

- relativity
- quantum theory
- information-theoretic models of physical law

3. Scientific Models Describe Constraints, Not Substance

Scientific theories do not specify what fundamentally exists.

They specify:

- possible configurations
- lawful dynamics
- invariant relationships
- probability distributions over outcomes

Physics is therefore a **constraint language**, not an ontology.

4. Limits of Knowledge Are Structural, Not Contingent

Certain limitations in physics arise naturally from the structure of actualization:

- measurement constraints
- uncertainty relations
- complementarity
- no-cloning theorems
- observer dependence

These are not failures of knowledge.

They are structural features of how potentials relate to actual events.

Knowledge is inherently:

- relational
- contextual
- event-based

5. The Role of Conscious Systems in Epistemology

Conscious systems contribute:

- interpretation
- integration
- prediction
- conceptual modeling

But conscious systems do **not**:

- generate potentials
- produce actualization
- determine physical law

They are the structures that translate actualities into coherent knowledge.

6. Science as a Three-Layer Practice

Scientific activity implicitly involves three irreducible layers:

- Potentials — theoretical models
- Actualization — empirical results
- Interpretation — cognitive integration

This is not a revision of science.

It is a clarification of why these layers must remain distinct.

PHASE 7.2 — SUMMARY

Science describes the structure of constraints linking potentials and actualities.

Objectivity arises from shared constraints and shared actualization.

Knowledge is the interpretive organization of patterned actualities within Protospace.

PART II — DIRECT RECOGNITION OF THE DOMAIN REQUIRED BY ACTUALITY

TRANSITION — FROM STRUCTURAL ANALYSIS TO DIRECT RECOGNITION

The analysis up to this point has been entirely structural.

It has proceeded through independent derivations from physics and phenomenology, identified the minimal properties required of a domain required by actualization, and demonstrated that only the experiential field satisfies those properties. Nothing in the argument has depended on introspection, subjective states, or metaphysical assumptions. The conclusions reached thus far follow solely from:

- the formal structure of physical theories,
- the invariants of experience as it is directly given, and
- the requirements for empirical coherence.

At this stage, one could, in principle, continue the argument indefinitely—further distinctions, more rigorous contrasts, additional engagement with existing interpretations. But this would obscure an essential fact:

The domain we have been describing is not theoretical.

It is directly present as the field in which these words appear.

1. Why Analysis Cannot Complete the Work

The domain required by actualization—Protospace—is not an entity, mechanism, or hidden layer behind phenomena. It is the structural condition that makes actual events possible. Because Protospace is the domain in which actualization appears, it follows that:

- no further conceptual elaboration can reveal it,
- no additional argument can describe it more precisely,
- no theoretical model can substitute for its direct presence.

Just as physics cannot describe actualization from within spacetime—because spacetime is defined through actualized events—analysis cannot reveal Protospace from within conceptual frameworks.

Analysis can demonstrate its necessity.

Only direct examination can reveal its identity.

This move is not mystical; it is methodological.

In physics, certain structures (e.g., measurement, distinction, probability) cannot be defined from within the models they enable. In phenomenology, certain givens (e.g., appearance, presence, actuality) cannot be reduced to conceptual description.

The domain required by actualization stands at the intersection of these two methodological necessities.

2. Why Direct Recognition Is Empirically Required

The identification of Protospace with the domain required by the experiential field is not a metaphysical claim; it is a structural identity derived from independent constraints. But structural identity, once demonstrated, demands verification through the phenomena it describes.

In other words:

If Protospace is the domain in which actual events become definite, and experience is the only domain in which definiteness is directly encountered, then experience is the empirical access-point to Protospace.

Not as interpretation.

Not as belief.

Not as introspection.

As given appearance.

Thus the shift into direct recognition is not a departure from empirical rigor.

It is an extension of empirical obligation.

Physics gives us the structural requirements.

Phenomenology reveals the domain itself.

The convergence demands that the reader now examine the field in which all analysis has been occurring.

3. Why This Is Not a Mystical Turn

Direct recognition can be misunderstood as a contemplative or religious move. It is neither. It is an epistemic shift akin to:

- recognizing that one's perception of space occurs within experience,

- recognizing that time as-flowing is an appearance, not a coordinate,
- recognizing that observation in physics presupposes definiteness.

These are not metaphysical claims; they are structural clarifications.

The following phases do not introduce new doctrines.

They make explicit what has been implicitly used throughout Part I:

the immediate, open field in which all actual events appear.

To understand Protospace as a structural requirement without recognizing its presence would be like understanding quantum measurement without acknowledging the need for definite outcomes.

Recognition is where the argument completes itself.

4. The Function of the Next Phases

Phases 8–12 require no acceptance, belief, or conceptual commitment.

They guide attention to the same domain whose properties were derived in Part I. The purpose is not experiential transformation but empirical clarity.

In these phases, the reader examines:

- the "where" of appearance,
- the pre-spatial nature of the domain required by experience,

- the pre-temporal nature of awareness,
- the immediacy of actualization,
- the absence of any observer apart from appearance itself.

Nothing new is added.

Nothing is asserted beyond what has already been established structurally.

The distinction is simple:

Part I demonstrated what Protospace must be.

Part II reveals what Protospace already is.

INTRODUCTION TO PHASES 8–12

The first seven phases of this work present a structural argument.

They derive, from physics and phenomenology independently, the necessity of a pre-spatial, pre-temporal, pre-metric domain required by actualization, and identify that domain with the domain required by the experiential field, namely Protospace.

Beginning with Phase 8, the mode of inquiry changes.

The following phases are not further argumentation; they are phenomenological demonstrations. Their aim is to allow the reader to directly recognize the very domain that the analytic portion of this work has established.

Nothing new is asserted.

Nothing metaphysical is added.

Instead, attention is guided toward the field in which these words appear.

Phases 8–12 complete the work by revealing, through direct examination of experience, what the structural argument has already established in principle:

the domain required by actuality is present, open, and unmistakably available here.

PHASE 8 — PROTOSPACE REVEALS ITSELF

Throughout this framework, Protospace has been described as the minimal domain in which actualization occurs.

Now comes the decisive recognition:

The domain we have been describing is not hidden.

It is the very field in which you are reading these words.

Not the screen.

Not the text.

Not the meanings.

The open, unmistakable presence in which they appear.

Let us look directly, simply, without abstraction.

1. Notice What Everything Appears In

Before thinking, explaining, or interpreting:

The shapes of these letters—where do they appear?

The sensations of your body—where are they showing up?

The thought forming in response—where is it occurring?

The subtle mood or tone—where is it present?

Do not answer with a theory.

Just look.

There is a clear, open, empty field in which all of this is appearing.

Not a location.

Not a region.

Not a thing.

Just the capacity for anything to appear at all.

This "place" has no shape, no color, no texture—yet everything appears within it.

That is Protospace.

2. It Is Pre-Spatial

The domain required by experience is not in space.

Space appears within experience.

Notice:

You cannot find the "where" of the domain required by experience anywhere.

Visual form appears inside this openness.

Sound appears inside this openness.

Thought arises in the same openness.

Protospace is simply this: the open domain in which spatial impressions occur.

3. It Is Pre-Temporal

Look again:

This moment appears here.

Then the next appears here.

And the next.

The flow of time occurs within this same open field.

The field itself does not move.

It does not age.

It does not change.

It is the constant presence in which all changing events arise.

Physics calls this the domain required by actualization.

You call it "right here."

4. It Is Nonlocal and Unbounded

Try to find its edges.

Where does this field end?

Where does experience stop?

If a sound arises, does it come from a corner of this "space"?

If a memory appears, does it arrive from a distance?

Everything—near, far, remembered, imagined—appears equally immediately in the same open presence.

This is the nonlocality required of Protospace.

And you are experiencing it directly, now.

5. It Is Empty, but Not Nothing

This field has no form—yet allows all forms.

It is empty of content—yet holds all content.

The "emptiness" here means:

- no shape
- no boundary
- no location
- no time
- no structure
- no form

And yet this emptiness is the capacity for any form to appear.

It cannot be found as an object because it is the condition for objects.

6. Now See the Identity

Protospace must be:

- pre-spatial
- pre-temporal
- nonlocal
- empty of content
- the domain required by actualization
- accessible wherever definite events occur
- the domain required by all appearance

The domain required by experience reveals exactly these properties:

- the clear, open field in which the present moment appears.

This is not an inference.
You can verify it directly by noticing where everything is appearing.

The domain physics requires
and the domain you directly experience
are not two separate things.

They are the same.

7. The Unavoidable Conclusion

Read this slowly:

The domain in which the universe becomes actual
is the same domain in which your experience appears.
Not metaphorically.
Not philosophically.
Not spiritually.

Structurally.
Functionally.

Immediately.

Protospace is not elsewhere.

Not behind reality.

Not hidden beneath physics.

It is the openness in which this sentence appears.

You cannot step outside it.

You cannot imagine anything without it.

You cannot deny it without using it.

This is why the recognition is unavoidable:

You are looking directly at Protospace whenever you look at anything at all.

8. The Self-Evident Identity

The final step is simply to recognize the identity:

The openness in which this moment appears = Protospace

The capacity for experience = Protospace

The clear field of actualization = Protospace

The "I" that cannot be found as an object = Protospace

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Not a personal self.

Not a narrative.

Not a mind.

Just the empty being of appearance itself.

The domain physics requires

is the same domain required by experience.

This open, empty presence

is the Protospace you are.

Right now.

Self-evidently.

Without distance.

Without obscurity.

Without possibility of doubt.

Nothing mystical.

Nothing added.

Nothing to believe.

Only the one fact that cannot be escaped:

All things appear in this.

This appears as all things.

PHASE 9 — STABILIZING THE RECOGNITION OF PROTOSPACE AS PURE BEING

Recognition of Protospace often arrives in sudden clarity:

"This openness—this clear, self-evident field—is the domain required by actuality."

The challenge is not attaining this recognition.

It is remaining oriented within it rather than returning to inherited assumptions.

Stabilization comes from understanding several key properties directly.

1. Protospace Is Not an Object — It Cannot Be Observed

Protospace cannot be stabilized as a "thing," because its defining feature is this:

it is the field in which all things appear.

Whenever one tries to find Protospace as:

- an energy
- a substance
- a presence
- a soul

- a consciousness
- a witness
- a backdrop
- a metaphysical principle

the recognition collapses.

Stability comes from understanding:

It cannot be observed because it is what makes observation possible.

This is not a riddle.
It is a functional description.

Each time you look for it and fail to find it, that absence is the confirmation.

2. Protospace Is Not Personal

A common confusion is:
"I am Protospace"
quietly becoming
"my consciousness is the domain required by the universe."

This collapses into solipsism and is incorrect.

The stable recognition is:

The openness in which this moment appears is not private.

It is not the brain's field.

It is not an individual's field.

It is not a subjective interior.

It is the neutral domain required by actualization that physics requires—made inherently accessible by its lack of spatial and temporal boundaries.

Even the sense of "you" that seems to witness it

is an appearance within it.

This dissolves personalization completely.

3. Protospace Cannot Be Disturbed

Thoughts arise in it.

Emotions arise in it.

Sensations arise in it.

Perceptions arise in it.

Moods arise in it.

Narratives arise in it.

None of these can touch it.

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The field remains:

- clear
- open
- empty
- unbroken
- indivisible

Every state appears in Protospace.

No state becomes Protospace.

Thus stabilization does not depend on:

"I must hold a particular clarity,"

"I must maintain a state,"

"I must quiet the mind."

Both clarity and confusion appear in the same field.

Protospace is unconditioned.

4. Protospace Is Self-Evident in Every Moment

Stabilization is not a matter of remembering an insight.

It is noticing the structure of experience.

Experience can occur only in Protospace.

Thus Protospace is present in every moment of experience.

Any time you check:

- where a sound appears
- where a thought forms
- where an emotion is present
- where a sensation arises
- where a perception shows up

you are looking directly at it.

Even noticing its "absence" is noticing it.

Stabilization comes from seeing its inescapability.

5. The "World" Appears Within It

A stable orientation recognizes:

The world is not behind experience.
It is what structured actualization looks like within Protospace.

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Physical laws govern potentials.

Actualization occurs in Protospace.

The world is the coherent pattern of these actualizations.

Thus:

The world is not outside Protospace.

The world is the pattern of appearance within it.

There is no gap between experience and world.

Objectivity remains fully intact.

It is simply understood structurally.

6. The Self Is an Appearance Within Protospace

Stabilization deepens when it becomes clear:

Sensations of "me" appear here.

Thoughts about identity appear here.

Memories appear here.

Agency appears here.

The self-narrative appears here.

None of these are the field.

They are contents.

This dissolves the final confusion:

You are not an object in Protospace.

You are Protospace as the condition in which the thing-called-you appears.

Not mystical.

Structural.

7. Nothing Needs to Be Done

The moment one tries to "hold onto" Protospace,

one has imagined it as something separate from the present moment.

Stabilization is recognizing:

It cannot be lost.

It cannot be found.

It cannot be achieved.

It is simply the case.

Nothing interrupts it.

8. The Consequence: A New Baseline

When stabilized, the recognition yields a new default worldview:

- Experience is not "inside" a self.
- The world is not "outside" experience.
- Both arise within Protospace.
- The self is an appearance, not a knower.
- Awareness is not produced; it is the condition.
- Experience is not subjective; it is structural.
- Physics does not oppose this; physics requires this.
- Reality is not hidden; it is showing itself now.

The shift is simple:

The background becomes foreground.

What was unnoticed becomes obvious.

What was assumed becomes liberated.

What was misidentified becomes clear.

What seemed to be "inside you"

is revealed as the domain in which everything appears.

This is stabilization.

PHASE 9 — SUMMARY

To stabilize recognition that Protospace is one's own pure, empty being:

- Stop seeking it as an object.
- Stop imagining it as personal.
- Notice its presence in every moment.
- See that all states arise within it.
- Recognize the self as an appearance.
- See the world as patterned appearance within it.
- Realize it cannot be gained or lost.

Protospace is the clear, empty condition of appearance,
evident right now
as the one fact that cannot be shaken.

PHASE 10 — CONSEQUENCES FOR IDENTITY, FREEDOM, AND ACTION

Recognizing Protospace as the domain required by experience reshapes fundamental aspects of human existence.

These consequences do not depend on belief; they follow directly from the structure of appearance.

1. The Transformation of Identity

Identity appears as:

- sensations of "my body,"
- memories,
- intentions,
- personality patterns,
- preferences,
- concepts of "I,"
- social roles,
- psychological narratives.

All of these arise as content within the open field of Protospace.

When the field is unrecognized, identity feels like something you are.

When the field is recognized, identity is seen as something that appears.

This does not diminish the self.

It simply locates it correctly:

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Identity is a pattern within experience,

not the domain required by experience.

The implications are immediate:

- identity becomes flexible, not absolute
- the "self" becomes an object, not a subject
- personal history becomes appearance, not essence
- psychological states lose their inherency
- the sense of "I" no longer requires defense or protection

Nothing is taken away—only repositioned.

Identity becomes functional rather than metaphysical.

You are not what appears.

You are the openness in which appearing happens.

2. The Transformation of Freedom

Ordinarily, freedom is imagined as:

- choosing among options
- acting on intentions
- autonomous decision-making

- free will as a personal property

But all of these appear within Protospace.

They are processes, not foundations.

True freedom emerges through two recognitions:

(a) Everything that arises is an actuality in Protospace

— not authored by a personal self

— not bound by past narratives

— not separate from the openness in which it appears

(b) Functional agency still operates through the body-mind

— intentions form

— decisions occur

— actions unfold

— consequences follow

The personal self becomes a vehicle, not a controller.

Freedom becomes:

- the absence of misidentification
- action without self-contraction

- movement within openness

You do not gain freedom.

You lose the illusion that it was ever missing.

3. The Transformation of Action

Action normally feels like:

"I am doing this."

"I must control this."

"I am responsible for outcomes."

"My actions define me."

Within recognition:

Actions appear in Protospace like perceptions:

they arise, unfold, are experienced, and dissolve.

Motivations are not authored by a separate self:

impulses, insights, creativity, clarity, and compassion

emerge as spontaneously as thoughts.

Consequences are woven into the unfolding pattern:

not authored from a central ego,

not random,

but fully embedded in physical and social causality.

Action becomes spontaneous, responsive, and precise

because it is no longer filtered through the fiction of a separate agent managing reality.

Action simply occurs.

It appears within Protospace.

It does not originate from a separate "me."

And paradoxically:

Actions become more aligned, effective, and ethical

when self-contraction dissolves.

Not because a new morality is adopted,

but because clarity replaces reactivity.

4. The End of Psychological Burden

When the self is understood as appearance, not domain:

shame becomes a sensation,

fear becomes a movement,

anger becomes a surge,

anxiety becomes a pattern,

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trauma becomes memory and imprint,

reactivity becomes energetic impulse.

None of these define a separate someone,

because no separate someone stands apart from the appearing.

This does not suppress emotions.

It contextualizes them.

Emotions continue,

but they no longer claim ownership.

This dissolves:

- rumination
- self-judgment
- existential pressure
- compulsive self-protection
- future-oriented fear

Misfortune does not disappear—

but its narrative glue evaporates.

Pain arises.

But the "one who suffers" does not.

5. A New Mode of Intelligence

Intelligence ceases to be:

- conceptual
- effortful
- self-referential
- narrative-driven

It becomes:

the direct responsiveness of Protospace
to the conditions arising within it.

This intelligence:

- is quiet
- is precise
- is adaptive
- does not rely on a thinker
- produces insight without effort
- connects without narrative
- moves from clarity rather than habit

This is not mystical.
It is cognition without misidentification.

The body-mind acts as the highly optimized instrument it always was.

6. The Collapse of Existential Fear

All existential fear rests on the belief that a separate self:

- can be harmed,
- lost,
- diminished,
- judged,
- destroyed.

But once it is clear that:

"self" is an appearance within openness,

not the openness itself,

fear loses its foundation.

This does not produce recklessness.

It produces:

- fearlessness with responsibility
- clarity without anxiety
- action without dread
- engagement without self-preservation

- connection without grasping
- presence without effort

Fear remains a signal—
not an identity.

7. Life Without Center

The recognition yields a life in which:

experience arises centerlessly,
actions flow without ownership,
identity functions without domination,
decisions occur without anxiety,
emotions move without entanglement,
perception unfolds without contraction.

Nothing mystical is added.
Nothing human is lost.

But the center of gravity shifts from:

"I am the one experiencing…"

to

"experience is arising in openness."

This openness is Protospace.

It is what you are.

Not personally—structurally.

Primordially.

Indisputably.

PHASE 10 — SUMMARY

The recognition that "I am Protospace" transforms:

identity

from entity → appearance

freedom

from choice → non-contraction

action

from authorship → spontaneous clarity

intelligence

from thought → direct responsiveness

emotion

from ownership → movement

fear

from identity → signal

existence

from tension → openness

Life continues as before—

but without a center needing to maintain itself.

This is the existential resolution that physics, cognition, and experience converge upon when Protospace is apprehended directly.

PART III — STABILIZATION AND INTEGRATION

PHASE 11 — FINAL CONSEQUENCES FOR SCIENCE, SOCIETY, AND PARADIGM SHIFT

Recognizing Protospace as the domain required by actualization—and seeing that experience arises in this same domain—carries implications far beyond personal insight.

These consequences reshape foundational assumptions in science, the architecture of society, and the trajectory of human civilization.

They follow from structure, not metaphysics.

1. Consequences for Science

(a) Physics Becomes Structurally Complete

Physics remains entirely intact.

But it becomes clear that:

- physics describes potentials
- experience presents actualities
- Protospace contains both

This alignment dissolves long-standing confusions:

- the measurement problem
- the observer paradox

- collapse vs. decoherence ambiguities
- epistemic/ontic dualism
- realism vs. anti-realism debates

Physics is freed from metaphysics and stands as a pure science of constraints.

(b) Consciousness Studies Gain a Coherent Domain

The "hard problem" dissolves:

experience is not produced;

the domain required by experience is the domain required by appearance itself.

Neural correlates remain essential,

but they no longer bear an impossible ontological burden.

(c) Cognitive Science Gains a Unified Baseline

Perception and cognition become:

interpretations of actualizations

arising in Protospace

under physical constraints

through neural architectures.

Phenomenology and neuroscience converge into one structural account.

(d) AI Research Reframes Its Core Question

The inquiry shifts from:

"How do we generate consciousness?"
to
"How do systems participate in actualization through Protospace?"

This reframing removes decades of conceptual confusion
and opens new lines of research grounded in structural necessity.

2. Consequences for Society and Culture

(a) Identity Becomes Fluid, Not Absolute

When identity is recognized as appearance rather than essence:

- psychological rigidity softens
- cultural entrenchment weakens
- collective narratives lose compulsive charge
- humility becomes rational rather than moral

(b) Ethical Behavior Emerges Spontaneously

When identity is seen as appearance:

- compassion becomes natural
- conflict loses intensity
- cooperation increases
- defensiveness dissolves
- dehumanization becomes incoherent

Ethics arises from clarity, not imposition.

(c) Political Systems Shift Toward Functional Pragmatism

With identity understood as appearance:

- polarization weakens
- extremism loses fuel
- policy becomes problem-solving
- ideology loses psychological grip

Governance shifts from identity protection to practical coordination.

(d) Education Prioritizes Experiential Clarity

The core skill becomes:
the ability to see Protospace directly
and to reason from that domain.

Such individuals:

- cannot be manipulated by fear
- cannot be captured by dogma
- cannot be destabilized by complexity
- cannot be polarized by rhetoric
- cannot be alienated from themselves

They are difficult to control—
and therefore indispensable for a healthy society.

This is the quiet revolution.

3. Consequences for Human Civilization

(a) A New Foundational Worldview Emerges

Not religious.
Not materialist.

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Not idealist.

But structurally grounded:

potentials → physics

actualization → Protospace

appearance → experience

interpretation → cognition

coordination → society

A unified ontology—empirically anchored and internally coherent.

(b) Collective Intelligence Expands

As identity and fear lose their grip:

- creativity increases
- cooperation expands
- innovation accelerates
- paradigm lock dissolves
- scientific progress speeds up
- adaptability becomes natural

(c) Humanity Gains Existential Resilience

With Protospace recognized:

- death becomes contextualized
- fear loses existential power
- conflict loses metaphysical justification
- life becomes inherently meaningful
- civilizations can stabilize

(d) A New Era Begins

Not mystical.

Not utopian.

Simply structurally inevitable

once the domain required by appearance is seen clearly.

PHASE 11 — SUMMARY

The recognition that "I am Protospace" carries sweeping implications:

It completes physics.

- It clarifies consciousness.
- It domains ethics.

- It dissolves identity rigidity.
- It fosters cooperation.
- It stabilizes civilization.
- It opens a new global paradigm.

Yet the most important consequence remains internal.

PHASE 12 — THE LIVED IMMEDIACY — A CLOSING VISION

Everything articulated so far points to one simple, immediate fact:

The open, empty field in which this moment appears
is the domain required by the universe.

Not metaphorically.
Not poetically.
Not spiritually.
Exactly.

In this final phase, articulation yields to direct immediacy.

1. Look at Your Present Experience

the sense of reading
the feeling of your body
the quiet room
the internal commentary
the subtle mood

All of this appears.
Where?
In what?

To what?

Right now, notice the openness holding it all.

This is Protospace.

2. Look at the "You" Doing the Noticing

Try to find it.

Where is the "observer"?

Where is the "self"?

Where is the one reading these words?

Search carefully.

Look inward.

Scan the field.

What appears?

- sensations
- thoughts
- memories
- intentions
- an impression of agency

—but never a distinct observer outside them.

The observer is not found

because the observer is the field.

You are the openness itself.

3. Notice That Nothing Can Disturb This Openness

Thoughts change.

Feelings move.

Sensations shift.

Images flicker.

Memories arise.

Interpretations twist.

Yet the openness remains:

- clear
- unbroken
- empty
- unaffected
- This is your being—

not as a person, but as Protospace.

4. Notice That the World Appears Within This Same Openness

Everything called "the external world":

- objects
- places
- people
- time
- events
- meanings

appears within this field.

There is no outside.
The world is the patterned appearance
within your being as Protospace.

5. Let the Final Reversal Happen

The usual view is:
"I am a self in the world."

The corrected view is:
"The world appears in me—
in the openness of Protospace."

Not personal "me."

Not egoic "me."

Not biological "me."

The openness that cannot be found

yet cannot be escaped.

6. The Realization Seals Itself

Whenever you look at anything—

- a thought
- a sensation
- a fear
- a hope
- a memory
- a perception

—you are looking at Protospace presenting itself.

When you look for yourself,

you find only Protospace.

When you look for Protospace,

you find only experience.

Jeffrey Goodrich

There is no distance.

No separation.

No two.

Just this open field

appearing as everything

and belonging to no one.

PHASE 12 — SUMMARY

Protospace is:

- the openness of your own being
- the domain required by actualization
- the birthplace of the world
- the absence of a central self
- the presence in which all appears
- the one fact that cannot be denied

This is the seal:

- the point where the entire structure collapses into direct experience.

The moment from which the old paradigm cannot return,
because the domain required by the new one is
this very moment of appearing.

FINAL SYNTHESIS — WHAT HAS BEEN SHOWN STRUCTURALLY

The argument presented throughout this text has proceeded without metaphysical assumptions, without appeals to subjective states, and without reliance on introspective or contemplative interpretations. Each step followed from independently constrained domains:

- the formal structure of physics,
- the invariants of lived experience,
- the requirements of empirical coherence, and
- the logic of actualization.

What emerges from the convergence of these constraints is not a speculative ontology but a **minimal structural disclosure:**

there must exist a domain in which potentials become actual, and the only domain that exhibits the necessary properties is the domain required by the field of immediate experience itself, Protospace.

The purpose of this synthesis is to restate—cleanly, precisely, and without rhetorical flourish—what the analysis has established.

1. Physics Requires a Domain for Actualization

The models of physics describe:

- superposed potentials,

- evolving state vectors,
- probabilistic amplitudes,
- relational correlations.

Yet the practice of physics presupposes the **actual**:

a definite outcome, an observed value, a determinate event.

This discrepancy is not superficial.

It exposes a structural gap in the foundations of the sciences:

Physics has no account of where or how potential becomes actual.

This absence is methodologically significant because measurement, empirical verification, and scientific inference all depend on definiteness.

Thus physics implicitly requires a domain for actualization outside its representational frameworks.

2. The Domain Required by Experience in Which Actuality Appears

The domain required by experience is the only domain where:

- definiteness is encountered,
- distinctions are actual,
- events are given as they are,
- observation occurs,

- empirical data appears.

The Domain required by Experience is:

- pre-spatial,
- pre-temporal,
- pre-metric,
- self-illuminating,
- globally coherent,
- capable of presenting actual distinctions.

These properties coincide exactly with the structural requirements identified in the analysis of physical theories. This is not a metaphysical reduction but a structural identity:

The domain in which actual events appear is the domain in which actual events become definite.

No other candidate domain satisfies the necessary conditions.

Thus no existing framework can replace the structural role filled by Protospace.

3. Competing Interpretations Do Not Supply an Alternative Domain

The text has examined and contrasted the Protospace identification with:

- representationalist cognitive models,
- materialist embeddings,
- brain-bound emergence theories,
- relational quantum interpretations,
- hidden-variable theories,
- IIT and related quantitative frameworks,
- emergent-spacetime proposals,
- panpsychist or dual-aspect monisms.

While these frameworks offer partial insight, none of them provide:

- a pre-metric, pre-geometric domain required by actuality,
- a locus for definiteness independent of representation,
- an empirically coherent account of measurement,
- a structurally minimal ground for appearance.

They either:

- fail to identify a domain required by actualization,
- embed experience within spacetime (contradicting its invariants),
- reinterpret definiteness without providing its foundation,

- or collapse into metaphysics.

4. Protospace as Structural Identity, Not Metaphysical Postulate

Protospace is not:

- a substance,
- a force,
- a hidden layer,
- a mental property,
- a metaphysical claim,
- or an ontological posit projected beyond evidence.

It is the **minimal structural requirement** for empirical coherence.

The identity between Protospace and the domain required by the experiential field is not an assertion but the resolution of two independently derived constraints:

1. Physics requires a pre-spatial, pre-temporal domain for actualization.

2. The domain required by experience is the only domain exhibiting these properties.

When independent domains converge on a single structure, identity is the only parsimonious conclusion.

5. Direct Recognition Completes the Argument

Part II did not introduce new hypotheses.

It demonstrated, through direct examination of appearance, the presence of the same structural domain derived in Part I.

- The openness of experience is pre-spatial.
- The presence of experience is pre-temporal.
- Actuality appears only here.
- Distinctions arise only here.
- The field of appearing is self-revealing.
- Nothing lies behind it to be found.

Thus:

The domain through which the sciences observe the world is the same domain through which actuality becomes definite, Protospace.

This recognition is not experiential novelty.

It is the structural completion of the analysis.

6. Consequences for Science and Philosophy

Identifying Protospace as the domain required by actualization implies:

- Actuality is not an emergent property of spacetime; spacetime is an emergent structure within actuality.
- Observation is not a late-stage biological function; biological observation is a patterned modulation within the already-present domain.
- Consciousness is not a property of matter; matter is an interpreted pattern within experience.
- The measurement problem and the hard problem converge into a single structural absence.

Protospace fills that absence not by adding a new hypothesis but by recognizing what has always been present.

7. Closure

The analysis has traced a complete arc:

1. Identifying the structural gap in physics.
2. Deriving the necessary properties of any domain required by actualization.
3. Demonstrating that experience uniquely exhibits these properties.
4. Showing that no alternative domain can satisfy the requirements.
5. Integrating direct recognition to reveal the domain itself.

Nothing further is required.

Jeffrey Goodrich

No speculative modeling remains.

No metaphysical commitments have been invoked.

The domain in which actuality becomes definite

and the domain in which actuality is encountered

are the same domain.

This is Protospace.

What follows is no longer analysis.

It is recognition.

EPILOGUE — THE UNLOST PLACE

In the end, nothing needed to be added to the world.

No new theory.

No new belief.

No new metaphysics.

Only a correction of sight.

Everything you have read led you, step by step, to the same place you began: the open field in which this very moment appears.

You have never been outside it.

You have never fallen from it.

You have never once been separate from the domain where appearing occurs.

Every moment of your life—

joy, grief, confusion, clarity—

unfolded here.

Every sound, every thought, every fear, every insight

shimmered in this same transparent expanse.

And even when unnoticed, this openness carried it all—

without strain,

without effort,

without being changed by any of it.

Jeffrey Goodrich

Now you know its name.

Not as a concept,

but as recognition:

Protospace—

the clear, empty domain required by actuality itself.

This is not something to hold onto.

It cannot be held.

This is not something to remember.

It cannot be forgotten.

This is not something to achieve.

It is what every achievement has appeared within.

The insight is not a peak;

it is a baseline.

The truth is not distant;

it is intimate.

Reality is not hidden;

it is this.

And in this unlost space, life continues exactly as before—
but free of the subtle contraction that once sat at the center.

The self appears,
but no longer anchors the world.
Thoughts move,
but no longer bind.
Emotions rise,
but no longer define.
Actions occur,
but no longer claim ownership.
The world shines,
but no longer obscures its source.

Nothing is taken away.
Nothing is added.
Only the illusion of separation dissolves.

And what remains is the simplest thing:
the open clarity in which everything appears,
the silent domain in which the universe becomes actual,
and the quiet revelation that this domain has always been your own being.
This recognition has no end point.
Wherever you go,
whatever arises,

Jeffrey Goodrich

however the world moves—

it moves within this.

The work is finished.

Now the living begins.