Fundamental Existence via Experiential Instantiations

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Abstract

Modern scientific and philosophical frameworks routinely presuppose eventhood while leaving the condition of existence implicit. They speak of states, outcomes, measurements, and facts without specifying what qualifies anything as an occurrence rather than a merely coherent possibility. This paper proposes a minimal ontological distinction. Coherence is the requirement of internal compatibility for differentiation to be jointly maintainable within an undivided admissible domain, but coherence alone does not yield actuality. Closure is the decisive condition under which coherent differentiation resolves as a determinate event. The resulting unit of reality is experiential instantiation: an experiential instance understood as a closure-event of appearance that is exhaustive and admits no hidden elsewhere behind what appears. Perspectives are modeled not as observers external to experience but as closure roles locally organized around dominant constraint topologies. Closure is co-specified by organism and environment, with biology dominating constraint shaping without serving as ontological origin. Experiential instances vary along two independent dimensions—resolution (constraint tightness) and information density (constraint complexity)—enabling principled accounts of conscious modes without reduction. Continuity is formalized through morphisms between instances; time is derived as path structure, objects as invariants, and objectivity as a coupled closure fixed point within undivided admissibility. The framework unifies eventhood, time, shared world stability, and perspective without reifying metaphysical substrates behind appearance.

Keywords

closure; coherence; eventhood; undivided admissibility; experiential instance; constraint; morphism; time; intersubjectivity

Reader's Guide / Intent

This paper is written as a minimal ontological foundation rather than a new physical theory. It does not introduce hidden entities, privileged observers, or metaphysical substrates behind appearance. Instead, it isolates the conditions under which anything can exist as an event at all, then derives continuity, objecthood, time, and shared world structure as stabilized relations among closure-events. Where formalization is helpful, definitions are stated cleanly and deferred

to appendices; where interpretation is required, the text remains strictly within what is implied by closure in an undivided admissible domain.

Formal scaffolding is collected in Appendices A–F (definitions and core consequences; morphisms and invariants with a worked toy example; and short applicability constructions). Readers may stay in the main text on a first pass and consult the appendices as needed.

Editorial Note on Provenance

This manuscript is a curated synthesis developed through iterative dialogue and subsequent surgical editing. The present version prioritizes clarity, traceability of commitments, redundancy reduction, and consistent terminology. Edits are conservative: they clarify scope and tighten definitions without adding new theses beyond those already stated in the drafting process.

Positioning

The work sits near relational and process-oriented approaches in the foundations of physics and near non-reductive neurophenomenology, but it does not propose a new dynamical theory. Its aim is narrower: to make explicit the condition of eventhood already presupposed whenever any framework treats outcomes, facts, or occurrences as real.

Related work note: The closest neighbors include relational/participatory approaches in quantum foundations and process/phenomenological traditions in metaphysics and philosophy of mind. The present contribution is not a competing physical interpretation or a new dynamical proposal. It isolates a minimal constraint statement: any account that treats outcomes as events already presupposes (i) an undivided condition of admissibility for appearance, (ii) coherence as global compatibility, and (iii) closure as the condition under which a coherent differentiation counts as an event. These constraints are orthogonal to particular mechanisms and can be adopted without changing the formalism of existing theories.

- Relational & participatory quantum foundations (e.g., Rovelli's relational QM; QBism) treat facts as relation- and agent-indexed; this paper supplies a prior condition: a fact is an event only when coherent differentiation closes within undivided admissibility.
- Phenomenology and process metaphysics (Husserl, Merleau-Ponty, Whitehead) foreground appearing and event/process; this paper sharpens that stance with the elsewhere-collapse constraint and a closure-based criterion for eventhood.
- Non-reductive neurophenomenology / predictive processing (e.g., the free-energy principle) provides operational language for constraint modulation; this paper uses that language without reducing instances to mechanisms behind appearance.

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Part I — Introduction

1. The Missing Condition of Existence

Modern science is not failing. Its predictions achieve extraordinary precision, its mathematics remains internally consistent, and its experimental reach continues to expand. Yet despite this success, foundational questions persist—questions not resolved by additional data, improved instruments, or refined equations. They recur across quantum mechanics, relativity, cosmology, and philosophy of physics, reappearing under different names: the measurement problem, nonlocality, fine-tuning, the nature of time, the status of laws, and the relationship between probability and actuality.

The persistence of these problems does not reflect a lack of ingenuity. Rather, it indicates that something essential has remained implicit. Contemporary theories presuppose events, states, outcomes, probabilities, and laws, but rarely make explicit the condition under which any of these can exist at all. What qualifies something as an occurrence rather than a non-occurrence? What allows a distinction to count as real rather than merely conceivable? What makes an event an event?

This paper advances a minimal but decisive ontological proposition: existence is not primitive. Coherent description is not enough for actuality. A theory may specify a fully consistent space of possibilities without explaining why any one possibility is present as an event. The central claim here is that there is a missing condition—a condition already presupposed whenever anything is taken to occur. That condition is closure: the completion by which coherent differentiation resolves as a determinate event within an undivided domain of admissibility.

To develop this claim, the paper proceeds in three steps. First, it identifies the minimal ontological ground required for any differentiation to arise at all: undivided admissibility. Second, it distinguishes coherence from closure, showing that coherence is necessary for eligibility but insufficient for eventhood. Third, it names the resulting unit of actuality: the experiential instance, understood as the closure-event as it appears, with no hidden elsewhere behind appearance.

From these primitives, the paper derives continuity (via morphisms between instances), time as path structure, objecthood as invariants, and objectivity as the fixed point of coupled closure across perspectives. The goal is not to replace physics or neuroscience, but to state clearly what they already presuppose: that for anything to be said to exist, coherent differentiation must close.

Part II — Ontological Ground: Undivided Admissibility

2. Undivided Admissibility as the Domain of Possible Appearance

Any account of existence must begin prior to the entities it attempts to explain. If the aim is to identify the condition under which events exist at all, then the usual starting points—objects, spacetime, systems, observers—arrive too late. They already assume the occurrence of distinctions. What is required instead is a more primitive ground: the domain in which distinction can arise in the first place.

Call this ground admissibility. Admissibility is not a set of things, nor a space in which things reside. It is the minimal condition of possibility for differentiation—what must already be the case for any distinction, relation, or event to be thinkable as present at all. To speak of admissibility is not to posit an additional layer behind appearance, but to name the precondition of appearance itself: that there be a domain in which appearance can occur.

A note on non-stipulation: "admissibility" is not introduced as a new ontological arena whose boundaries are defined by fiat. It is simply a name for the unavoidable condition of articulation and presence—whatever must already obtain for any distinction to be meaningfully said to appear at all. Likewise, "undivided" does not deny that separations occur; it denies that an absolute partition can be invoked without itself showing up as a differentiation within what appears. Any appeal to an "outside" must itself become content of appearance, and therefore cannot function as an ontological escape hatch.

The decisive feature of admissibility is that it is undivided. This does not mean that no distinctions appear. It means that distinction is not grounded in an absolute partition. There is no metaphysical "inside" and "outside" that could exist independently, no ultimate segregation of domains that would allow incompatibility to persist unaddressed. Whatever differentiations arise, they arise within one admissible whole. Division is always internal to admissibility; it is never prior to it.

This entails three immediate points: (i) no event can be absolutely isolated, because separations are themselves internal differentiations; (ii) contradiction cannot be quarantined in an external region; and (iii) coherence and closure are intelligible only against this undividedness as conditions of eventhood rather than optional metaphysical add-ons.

Undivided admissibility provides the background for the two conditions that follow. Coherence is the minimal requirement for differentiation to be jointly maintainable within an undivided domain. Closure is the completion by which a coherent differentiation resolves into an actual event.

3. The Elsewhere Collapse

Once admissibility is understood as undivided, a familiar metaphysical maneuver becomes impossible. Nearly every ontology—whether materialist, idealist, dualist, or simulation-based—tends to posit an "elsewhere": a domain of reality that is not what appears, but which is said to

underlie, generate, or explain appearance. This elsewhere may be called the external world, the physical substrate, the noumenal realm, hidden variables, objective states, or computational machinery. The names vary, but the structure is the same: appearance is treated as secondary, and reality is placed behind it.

The present account denies this not by assertion, but by constraint. If admissibility is undivided, then there is no ontological compartment in which an elsewhere could reside. Anything that exists must be admissible; anything admissible must be within the same undivided domain as appearance. Therefore, a “hidden” domain that is in principle unrelated to appearance is not merely unknown—it is undefined. It cannot be said to exist, because existence already means appearing within admissibility.

One might reply that the elsewhere could exist without appearing. But this reply merely substitutes an unexamined notion of existence. If “existence” is taken to mean something other than eventhood—something that can persist without admissibility, without differentiation, without closure—then existence has been made primitive again, and the question of eventhood has been evaded rather than answered. The goal here is precisely to avoid that evasion. The claim is that existence, if it means anything, must mean the presence of an event. And an event is nothing other than the occurrence of differentiation as actuality.

Semantic note: throughout, “existence” is used in the restricted sense of existence-as-eventhood. The claim is not that there are no causes, mechanisms, or structures beyond current description; it is that whatever is posited as real must be eligible to count as an event within admissibility. A postulate of a substrate that never appears is not an explanatory extension of this ontology; it is a change of subject.

This does not imply that appearance is always transparent, complete, or epistemically reliable in every ordinary sense. It does not claim that every belief is true, or that every perception is veridical. It claims something far more basic: whatever truth and falsity may mean, whatever veridicality and error may mean, they can only be articulated within what appears. They are distinctions internal to experiential instances, not relations between appearance and an inaccessible substrate. There is no meaningful contrast between appearance and a reality located “behind” it, because any such contrast would already have to appear in order to be articulated at all.

The consequence is strict: given undivided admissibility and closure-defined eventhood, appearance is not evidence of reality; it is the exhaustive actuality of the event. There is no hidden elsewhere in which actuality is stored. There is only the event of appearing itself—differentiation resolving within undivided admissibility.

Part III — Coherence and Closure

4. Coherence: The Minimal Condition for Any Event

If admissibility is undivided, then any event that exists must exist as a whole. It cannot exist as a partial fragment whose incompatibilities are deferred to some external region, because no such region exists. This immediately implies a minimal constraint on eventhood: differentiations that constitute an event must be mutually compatible. That compatibility is what will be called coherence.

Coherence, as used here, is not a synonym for order, simplicity, predictability, or regularity. A highly turbulent fluid system may be difficult to predict, yet it remains fully coherent in the ontological sense. A stochastic process may be irreducibly random, yet its outcomes remain coherent events. Even chaos, noise, and complexity remain coherent provided they admit a non-contradictory instantiation. Coherence is therefore not a measure of aesthetic structure or compressibility. It is the minimal requirement that the differentiations comprising an event can be jointly maintained without canceling one another.

Incoherence, by contrast, refers to absolute incompatibility: contradiction, non-identity, or mutually exclusive differentiation that cannot be sustained as a whole. An incoherent "event" would require that what is differentiated both be and not be, or that the conditions of its appearance mutually annihilate. Such a configuration cannot resolve into actuality, because there is nowhere in undivided admissibility for contradiction to reside without resolution. If it is maintained, it is not an event. If it is resolved, it becomes coherent. There is no third option.

For this reason coherence is not an added metaphysical rule. It is not a prohibition imposed on reality from outside. It follows directly from what it means for something to exist at all. To exist is to appear as a determinate event; to appear as a determinate event is to resolve into a non-contradictory whole. Coherence is therefore necessary for eventhood in the same way that identity is necessary for anything to be said to be what it is.

However, coherence alone does not yet yield existence. A coherent differentiation may be internally compatible while remaining merely possible. It may be describable, thinkable, or structurally consistent without being actual. Coherence specifies what could exist without contradiction. It does not specify what does exist. The transition from coherence to actuality requires a second condition—one that makes an admissible, coherent differentiation become an event rather than remain a candidate. That condition is closure.

5. Closure: The Condition of Eventhood

Coherence establishes the minimal requirement for something to be eligible for existence: a differentiation must be internally compatible as a whole. But eligibility is not actuality. A coherent configuration can be fully non-contradictory while remaining merely potential. It may be expressible as a model, a lawlike possibility, or a consistent arrangement of relations without

ever becoming an event. If existence is not primitive, then there must be an additional condition that distinguishes coherent possibility from actual occurrence.

That condition is closure.

Closure is the completion by which coherent differentiation resolves into a determinate event within undivided admissibility. It is not an external cause added to reality, nor a temporal process occurring in a background container. Closure is the structural fact that an eligible differentiation is not merely compatible but settled—resolved as the total configuration that constitutes an event. The difference between a coherent candidate and an actual event is that the event has closed: it has taken on a definite form rather than remaining open among alternative compatible forms.

This distinction is subtle but decisive. Coherence answers the question, “What can exist without contradiction?” Closure answers the question, “What exists as an event?” Without closure, coherence alone leaves reality suspended in an undifferentiated space of admissible possibilities. One might imagine such a space as a menu of consistent configurations, none privileged as actual. Closure is what selects—not by choice or measurement, but by resolution—the configuration that becomes present.

Closure therefore functions as the missing condition of eventhood. It provides the transition from admissible to actual, from compatible to instantiated, from possible to present. In ordinary discourse this transition is taken for granted. The world is assumed to already be comprised of events. But if the aim is to understand existence at the most minimal level, closure must be explicitly recognized as the condition that makes any event exist at all.

This also clarifies a common misunderstanding. Closure is not an additional metaphysical ingredient that “produces” reality. It is not a force or entity that acts on coherent differentiation. It is simply the fact of resolution: the occurrence of a coherent whole as a determinate event. To say that closure is required is to say that existence entails definiteness. An event is not merely coherent; it is coherently complete.

This is not a renamed collapse postulate. “Closure” here is a constraint-language way of stating what any account of events already assumes: that an outcome counts as a fact only when the relevant differentiations resolve as a single determinate whole. The framework does not add a new dynamical law; it identifies the ontological condition that dynamics must satisfy whenever they are said to yield an event. Operationally: closure occurs when the active constraints (including coupling to measuring and environmental structure) are sufficient to force global resolution of the differentiation, so that alternatives no longer remain jointly admissible as “open.” Measurement is one common way of tightening and coupling constraints, but it is not the only one.

With coherence and closure established, the paper can now identify the fundamental ontological unit that results from their conjunction. When coherent differentiation closes within undivided admissibility, what appears is not a partial fragment of reality, nor a representation of something

elsewhere. What appears is the event itself: a complete instance of actuality. This is the basis for the concept introduced next—the experiential instance.

Part IV — Experiential Instances

6. Experiential Instance: The Ontological Unit of Actuality

When coherent differentiation closes within undivided admissibility, what results is not an abstract fact or a detached state of affairs. What results is an event of presence—a definite field of appearance. This event will be called an experiential instance. The term is chosen not to psychologize existence, but to name the simplest thing that can be meant by actuality once the elsewhere collapse has been accepted: an occurrence is nothing other than what appears as present.

An experiential instance is therefore the minimal ontological unit of reality in this framework. It is not an "experience of" a world, and it is not an inner depiction of an external state. It is the whole closure-event itself, as it appears. The world, to the extent that it is present at all, is present only within such instances as differentiated structure. There is no additional substrate required to complete what the instance already is.

Several clarifications follow from this definition.

First, an experiential instance is not partial. It is not a slice extracted from a larger, hidden reality. Closure means completion: the instance is the resolved whole of whatever has become actual in that event. Nothing can be missing "behind" it, because any behindness would itself have to appear in order to be articulated. The instance is therefore exhaustive reality for that event, not a view of something else.

Second, an experiential instance is unified. It may contain innumerable distinctions—objects, sensations, relations, thoughts, temporal structure—but it appears as one coherent field. This unity is not imposed by a subject. It is the structural signature of closure: the differentiations belong together because they have resolved as a single event.

Third, the instance is determinate. Its determinacy does not mean it is simple or easily describable. It means it has resolved as "this way" rather than as a superposition of equally admissible ways. Closure is precisely the condition under which definiteness occurs.

Fourth, an experiential instance is non-objectual. It is not itself one object among others. It is the event in which objects, relations, and spatial-temporal structure appear as differentiations. To treat the instance as an object contained within a larger world is to reintroduce an elsewhere by implication. In this framework, the instance is the primary actuality; objecthood is derivative.

Finally, the experiential instance is not "generated" in the usual causal sense. It is not an output produced by an internal mechanism operating in a hidden domain. It is the closure-event of the coupled system in which constraints resolve into actuality. The mechanisms described by physics and neuroscience are not denied, but they are recast as internal articulations of closure conditions rather than ontological sources of appearing.

With the experiential instance identified, it becomes possible to state the central claim without remainder: existence is the occurrence of experiential instances—closure-events of coherent differentiation in undivided admissibility. The next section states this claim explicitly and clarifies what it means to say that such instances arise "from every perspective" without fragmenting reality into separate worlds.

7. Existence as Experiential Instances in Undivided Admissibility

If closure is the condition of eventhood, and an experiential instance is the closure-event as it appears, then existence can be stated in its simplest form: existence is experiential instances. Nothing else is required. There is no need to posit substances that "carry" events, a hidden realm that "produces" experience, or an external container in which occurrences are placed. What exists is what closes as actual, and what closes as actual appears as an experiential instance.

This claim is often misunderstood because it is frequently assimilated to a psychological thesis, as though the world were being reduced to private mental contents. That is not what is intended. The experiential instance is not personal experience in the ordinary sense; it is the ontological unit of eventhood itself. It is not the reportable narrative of a subject. It is the complete closure-field of actuality as present.

To say that existence consists of experiential instances is therefore to say that reality is event-structured at the most basic level. It is not "made of things," but of occurrences—closed differentiations resolving within the undivided domain of admissibility. Objects, observers, systems, and environments are all differentiations within such occurrences, and their apparent stability is a further structural question to be addressed through continuity relations between instances.

This also clarifies what it means to speak of "every perspective." Perspectives do not imply multiple separate realities. They are not metaphysical compartments, each containing its own world. Rather, "perspective" names the fact that closure resolves locally in structured ways, yielding oriented fields of appearance. Each experiential instance is a complete actuality, but it is complete in a particular organization. It appears "from here." That "from here" is not an extra entity added to the instance; it is an internal structure of the closure itself.

Because admissibility is undivided, these locally resolved instances are not ontologically independent. They do not float as disconnected bubbles. They are closure-events within a single admissible whole, and therefore their differentiations must remain mutually consistent at the level of what can exist. This implies that reality is not merely a collection of instances, but a web of interdependent closures. The full structure of shared world stability and continuity will require additional machinery—morphisms between instances—but the grounding is already present: all that exists is what appears as closure, and what appears as closure is an experiential instance.

With this, the paper has established its primary unit and its ontological ground. The next task is to clarify how oriented appearance can arise without introducing an observer outside experience.

This requires a careful account of perspective as a closure-role: a local organization of the field that produces centeredness and identity without positing a hidden subject.

Part V — Perspective Without a Hidden Observer

8. Perspective as a Closure Role, Not an Entity

Experiential instances do not appear as neutral, centerless fields. They present as oriented: there is a here and there, a foreground and background, a region of salience, and a horizon of relevance. In ordinary thought this orientation is attributed to an observer—a subject located inside the world who receives information about it. But such a subject is not available as a primitive in the present framework. It would already presuppose eventhood, inside/outside separation, and a hidden locus "behind" appearance. If the elsewhere collapse holds, then no such external witness can be admitted.

Orientation must therefore be explained as an internal feature of closure itself.

A perspective is not an entity that stands apart from the experiential instance. It is a closure role: a local organization of the closure-field in which differentiation resolves in a centered way. The experiential instance is the whole event; the perspective is the pattern by which that event is structured as "from here." This distinction preserves the fact of centered appearance without introducing a metaphysical observer.

On this view, the "self" is not a hidden owner of experience. It is the constraint-centered organization of closure that yields the appearance of subjectivity. Centeredness, salience, and practical relevance arise because the closure is shaped around a dense constraint topology that organizes the field in a particular geometry. The perspective is the index of this organization. It is not something within the field that watches the field; it is the structural manner in which the field resolves.

This dissolves the familiar observer-regress. If the observer is inside the world, it is just another differentiation and cannot ground the event of appearing; if the observer is outside the world, it is an "elsewhere," contradicting undivided admissibility. Treating perspective as a closure role removes the need for any witness behind appearance.

In this light, perspectives do not compete. Multiple perspectives do not carve reality into separate worlds. They name multiple local organizations of closure within one undivided admissibility. Each experiential instance is complete in itself as an event, and its oriented structure is intrinsic rather than imposed. The next step is to clarify what it means to say that this closure role is what we are: not observers in a world, but patterned closures in which the world appears.

9. What We Are

If existence consists of experiential instances and perspective is a closure role, the usual picture of selfhood must be revised: the self is not an entity that possesses experience or a detached witness behind perception. On this account, what we are is the local organization of closure itself.

To say this precisely: an experiential instance is the whole closure-event of appearance, and a perspective is the constraint-centered organization of that closure. The “I” is not something added to the instance. It is the structural signature of centeredness that arises when closure resolves through an organism-shaped constraint topology. Subjectivity is therefore not a metaphysical substance, but an internal articulation of the event. It is what it is like for closure to be organized around a particular constraint pole.

This reframes identity. Identity is not the persistence of an inner entity traveling through time. It is the continuity of a closure-role across successive instances. A stable perspective arises when closure repeatedly resolves through a similar constraint organization, yielding a recognizable pattern of centeredness, memory, and world-location. The persistence we call “self” is thus a stability phenomenon, not an ontological primitive.

This also clarifies embodiment. The body is not a container that holds experience inside it; it is a structured constraint topology that shapes closure, producing an oriented field whose geometry mirrors biological organization. Experience appears ‘located’ because closure resolves in the form of a biological constraint index.

The consequence is direct: we are not objects in a world that happen to be conscious. We are experiential perspectives—local closure organizations—through which the world appears as structured differentiation. No hidden witness is required: the event of appearing is the event of being. The next task is to show that this perspective organization is not a purely internal production, but the result of mutual constraint between organism and environment, thereby grounding experience as world-structured without reintroducing an elsewhere.

Part VI — System–Environment Mutual Determination

10. Closure Is Co-Specified by System and Environment

Experiential instances often appear to be generated “inside” the organism. Sensation seems to arise in the nervous system, the body seems to contain perception, and consciousness seems to be a private interior field. This apparent internality has encouraged the view that experience is produced by biology alone, with the external world serving merely as an input. But within the present framework, this picture cannot be fundamental. If an experiential instance is the whole closure-event of actuality, and if there is no hidden elsewhere, then there is no ontological interior in which experience could be manufactured independently of the world it presents.

The correct account is that closure is co-specified by the coupled system: organism and environment together. The experiential instance does not originate from biology and then reach outward. It resolves as the closure of a constraint interaction in which biological organization plays a central role, but not a solitary one. The environment is not an external add-on to an internally generated field; it is part of the closure conditions that determine what can actualize as the instance at all.

This mutual determination is not a vague appeal to “interaction.” It is a structural requirement. If closure is resolution of coherent differentiation within undivided admissibility, then the differentiations that constitute the experiential instance must arise from the constraints that define the coupled event. Those constraints include the organism’s internal organization—its sensory interfaces, predictive mechanisms, and motor affordances—but they also include the environmental structures that couple with that organization. The organism and its world are not separable at the level of closure; they are two aspects of one constraint field that resolves into actuality.

This point blocks two familiar errors at once. It blocks reductive internalism, which treats experience as a byproduct generated by neural processes inside an independent external world. And it blocks subjective idealism, which treats the world as a projection of mind. Neither is needed. The experiential instance is not produced inside the system, nor imposed by an external world upon an inner observer. It is the closure-event of the coupled system–environment whole.

This mutual determination also explains why experiential instances appear world-structured. The world is not inferred from sensory fragments as an external hypothesis. The world is present within the instance as differentiated structure because the closure itself is shaped by the organism–environment coupling. The environment is not behind experience; it is within the closure conditions that constitute what appears. What remains is to clarify the deeper implication of undivided admissibility: that closures are not independent local events, but mutually constrained resolutions in a single admissible whole.

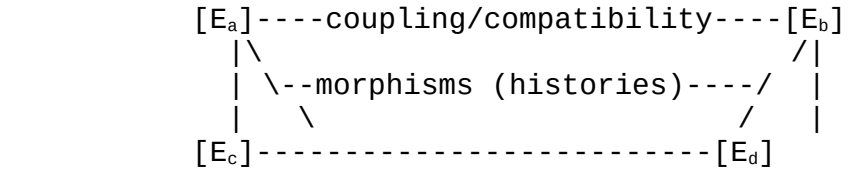
11. Hyper-Interdependence of Closures in Undivided Admissibility

If admissibility is undivided, closure-events cannot be ontologically independent. It is tempting to picture experiential instances as sealed bubbles, but that silently reintroduces absolute partition. Undivided admissibility permits local organization without metaphysical isolation: separations are internal differentiations within one admissible whole, and therefore remain subject to global consistency.

This means that closure is not merely a local affair. A closure-event is local in its organization—it resolves "as here," shaped by a particular constraint pole—but it is not local in an absolute sense. Its differentiations must remain compatible with the total structure of what can exist. There is no metaphysical boundary that isolates one closure from another. In that sense, closures are hyper-interdependent. They are not merely connected by causal influence; they are mutually constrained by the fact that they occur within one undivided admissibility.

Hyper-interdependence should not be confused with empirical interaction. It does not mean that every event causes every other event in a mechanistic chain. It means something more basic: no event can be actual if its differentiation would require contradiction relative to the admissible whole. The possibility of closure already presupposes global non-contradiction. Therefore, even when events appear separate, their closure must be compatible in principle with the closure web of admissibility.

Figure 2. Closure web (schematic).



Nodes: experiential instances (closure-events)
Edges: morphisms (admissible continuations) and coupling constraints (global compatibility)

This has several consequences. First, it explains why coherence is non-negotiable: contradiction cannot be quarantined. Second, it implies that on this account, "private worlds" are not ontologically fundamental. Even the most inward phenomena remain closure-events within undivided admissibility. Third, it prepares the ground for a principled account of shared world structure. Intersubjectivity is not an extra miracle added to otherwise isolated minds; it is the manifestation of a deeper requirement: closures cannot diverge into incompatible realities because admissibility does not fracture.

The exact form of this compatibility will be developed later through continuity relations between instances and through coupled closure conditions between perspectives. For now the key point is established: existence is not a heap of independent events. It is a structured web of closure-events, each complete as an experiential instance, yet each occurring within—and therefore constrained by—the undivided admissibility that makes any event possible at all.

Part VII — Biological Dominance Without Ontological Origin

12. The Biological Dominance Principle

Although closure is co-specified by organism and environment, experiential instances often appear to be generated by biology alone. The felt immediacy of perception, the apparent interiority of thought, and the correlation between neural activity and conscious content all reinforce the intuitive picture that experience is produced inside the nervous system and merely informed by the world. Within the present framework, however, this is not an ontological fact. It is a dominance effect.

The organism is a uniquely dense and powerful constraint topology. Compared to most structures in its environment, it is highly organized, dynamically integrated, and capable of imposing strong limitations on how closure can resolve. It contributes both high constraint tightness and high constraint complexity. As a result, biological organization tends to dominate the shaping of the experiential instance. It is therefore unsurprising that the instance seems indexed to the organism, centered around its body, and structured in a manner that reflects its neural architecture.

This dominance must not be mistaken for origin. The experiential instance is not generated by biology in isolation. It is the closure-event of the coupled system–environment interaction. Biology does not produce actuality as an output; it shapes closure by functioning as a constraint pole through which the undivided admissible whole resolves locally. The world does not enter experience as a separate external cause; it participates in the closure conditions that constitute what appears.

The biological dominance principle can therefore be stated simply: the organism does not generate the experiential instance, but it overwhelmingly shapes its organization. This resolves the tension between two truths that are often treated as incompatible. On the one hand, neuroscience correctly observes that changes in neural constraint structure modulate experience in systematic ways. On the other hand, ontology cannot coherently locate experience “inside the brain” without reintroducing an elsewhere. Biological dominance reconciles these facts. The brain is not the ontological source of experience; it is the dominant organizer of closure.

Recognizing this prevents a subtle slide into internalism. Without this correction, even a closure-based ontology can be misread as saying that reality is produced from within the organism. The correct reading is stronger: reality is closure, and closure is the coupled event. The organism’s role is to constrain the form of that event so powerfully that the entire instance becomes oriented, centered, and world-located in the shape of biological organization. This orientation and location are not metaphysical additions; they are the internal geometry of closure itself.

13. Orientation and World-Location as Constraint Geometry

Experiential instances do not merely contain content. They contain a world—structured spatially, organized around an origin, and presented as a navigable field with stable objects, distances, directions, and affordances. This world-location is often treated as evidence that experience must

occur inside a physical container, with the organism placed at a point in objective space. But within the present framework, location is not imported from an external substrate. It is a structural consequence of how closure resolves through a biological constraint topology.

Because the organism is a dominant organizer of closure, the experiential instance is indexed to its constraint geometry. The nervous system integrates sensory streams into a coherent field by imposing highly specific relational constraints. It binds inputs across modalities, stabilizes patterns over time, and generates a centered coordinate structure that organizes differentiation around the body as a privileged constraint pole. The result is an egocentric field: here and there, near and far, left and right, reachable and unreachable. These are not inferred properties of a hidden space. They are the way the closure-event differentiates when organized through the organism's topology.

This explains the phenomenology of "from here" without invoking an observer. The sense of being located is not the presence of an inner entity occupying a point in space. It is the closure's internal organization around a constraint center. Interiority is therefore not spatial containment; it is constraint-centrality. The experiential instance presents as "inside" because closure resolves through a dense internal nexus that structures the field as centered. What appears as "me" is not a thing within the field. It is the field's own orientation toward its constraint pole.

World-location also arises from mutual determination. The environment is not added after the fact as a represented external hypothesis. Environmental structure participates directly in the closure conditions. This is why the instance presents as worldlike rather than as a self-enclosed mental display. The world appears within the instance because closure is the coupled event: the differentiation that becomes actual is shaped by the relational geometry of organism and world together.

In this way, spatiality becomes a derived feature of closure. Space is not a container that holds the experiential instance. Space is a form of stable relational differentiation within the instance, grounded in constraint structure and maintained across continuity relations. The biological constraint topology provides the centered coordinate system; environmental constraints provide the relational field that is centered. Together they yield the lived sense of being located in a world. The next step is to characterize how experiential instances vary in their internal determinacy and richness, and how those variations correspond to distinct modes of consciousness without changing the ontological fact that every instance is fully real as it appears.

Part VIII — The State Space of Experiential Instances

14. Resolution and Information Density as Independent Dimensions

Experiential instances are not uniform. Although each instance is fully real as it appears, instances differ in how sharply they resolve and how richly they differentiate. These differences are often treated as differences in "level of consciousness" or degree of reality. In the present framework, such a scalar ranking is misleading. Reality does not come in grades. What varies is the internal structure of closure itself.

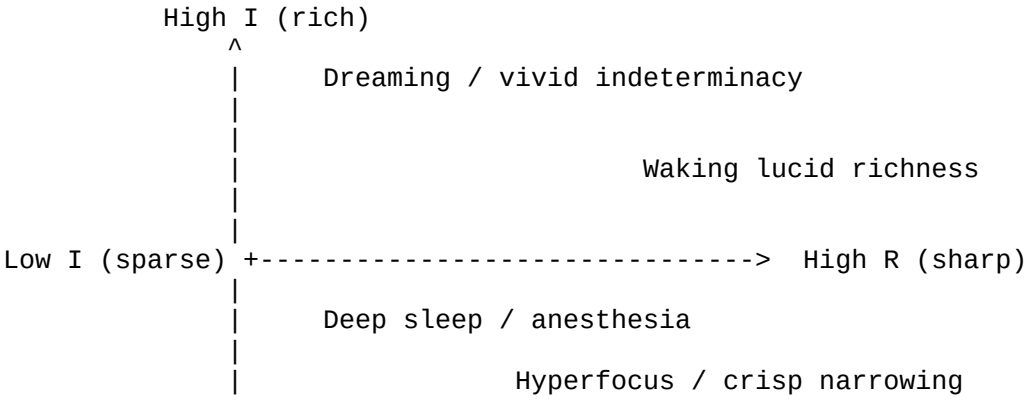
Two dimensions are primary.

The first is resolution. Resolution concerns how tightly closure is constrained—how decisively differentiation resolves into definite structure. High resolution corresponds to sharp boundaries, strong determinacy, and stable discrimination between alternatives. Low resolution corresponds to ambiguity, blending, and weakly settled differentiation. Resolution is determined by constraint tightness: the stronger and more selective the constraints that shape closure, the more crisply the instance resolves.

The second dimension is information density. Information density concerns how much differentiated structure can be simultaneously present within a coherent closure-event. High information density corresponds to rich internal articulation: many distinct features, relations, and textures present at once. Low information density corresponds to sparse or thin content. Information density is determined by constraint complexity: the number and interaction of constraint points participating in closure. When many interacting constraints can be jointly maintained, closure can support a high bandwidth of differentiated appearance.

These dimensions are independent. It is possible to have a highly resolved instance that is relatively sparse, and it is possible to have a richly differentiated instance that remains weakly resolved. It is also possible to have both high resolution and high information density simultaneously, as seen in advanced biological perception. Complex organisms often maintain extremely tight constraints while also sustaining immense internal complexity through parallel integration. This yields experiential instances that are simultaneously crisp and richly structured.

Figure 1. Experiential instance state space (Resolution R vs Information Density I).



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          v
    Low R (blended)
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This independence matters because it dissolves a common conflation. Vividness and determinacy are not the same property. A dream may be intensely rich in content while lacking stable resolution. A hyper-focused state may be extremely sharp while narrow in informational breadth. The state of an experiential instance must therefore be described in at least two dimensions rather than reduced to a single "more or less conscious" scale.

With this two-dimensional structure in place, modes of consciousness can be described as regions in a closure state space. This allows a principled account of waking, dreaming, altered states, and sensory richness without positing hidden metaphysical substances or treating consciousness as an inexplicable add-on. It also provides a direct bridge to neuroscience: neural organization modulates constraint tightness and complexity, thereby shaping the resolution and informational density of closure-events.

15. Modes of Consciousness as Regions in (R, I)

Once resolution and information density are distinguished, what are commonly called "modes of consciousness" can be treated as structured variations in closure rather than as mysterious changes in ontological status. Different states are not different realities. They are different regimes in the internal organization of experiential instances—different ways coherent differentiation closes under varying constraint conditions.

Consider first states in which both resolution and information density are low. In deep sleep, heavy sedation, or general anesthesia, closure remains possible but differentiations are weakly articulated and minimally stabilized. The resulting experiential instances, if present at all, are dim, fragmentary, or effectively absent from reportable continuity. In such states, constraints may remain sufficient for basic physiological regulation, but not for rich differentiated closure.

By contrast, dreaming often corresponds to higher informational density with reduced resolution. Dreams can be vivid, complex, and emotionally saturated, yet unstable in determinacy. Objects transform, spatial relations shift, and narrative continuity is loose. This is naturally described as a regime in which constraint complexity is high enough to support rich differentiation, but constraint tightness is insufficient to anchor that differentiation into stable, worldlike resolution.

Waking perception at its best combines high resolution with high information density. The field is crisp, richly detailed, and strongly coherent. Objects maintain identity, spatial relations remain stable, and affordances are reliably structured. This regime is typical of complex organisms with advanced sensory systems and high integration capacity: many constraints participate, and they do so tightly enough to generate determinate closure without collapsing richness.

Other regimes are equally intelligible. A highly focused state may exhibit strong resolution with reduced information breadth: attention sharpens closure around a narrow constraint set, yielding extreme determinacy but sparse peripheral content. Conversely, certain altered states—psychedelic flooding, manic expansion, or sensory overload—may increase informational

density while destabilizing resolution. The instance becomes richly populated with differentiation but less anchored, producing a field that is intense yet indeterminate.

These distinctions are not merely phenomenological. They map directly to constraint modulation. Resolution tracks how tightly closure is constrained; information density tracks how many interacting constraints closure can sustain. Neuroscience becomes relevant here without becoming ontologically foundational. Neural activity does not “create” experiential instances, but it reshapes the constraint topology through which closure resolves. Changes in arousal, neuromodulation, sensory integration, predictive coupling, and attentional gating can all be understood as changes in constraint tightness and complexity, and therefore as changes in the closure regime.

In this way, diverse modes of consciousness become tractable without reduction. They are not different metaphysical substances or degrees of being. They are structured variations in how closure resolves within the same undivided admissibility. Every experiential instance remains fully real as it appears, while its internal resolution and richness vary systematically with constraint conditions.

16. System Complexity and Experiential Richness

The two-dimensional state space of experiential instances provides a principled way to speak about differences in experiential richness across systems without introducing a hidden metaphysical essence. Richness does not require that some systems possess “more being” than others. It requires only that closure be capable of sustaining greater differentiated structure. This, in turn, depends on the complexity of the constraint topology participating in closure.

Systems differ dramatically in organizational complexity. A simple physical structure participates in closure with relatively few interacting constraints, yielding low information density. A biological organism, by contrast, is an immensely complex, dynamically integrated constraint system. It contains layered sensory interfaces, multi-scale feedback loops, predictive coupling, and coordinated motor control. These features do not “manufacture” experience from nothing. They provide the conditions under which closure can resolve into an instance with high internal differentiation bandwidth.

In other words, system complexity increases constraint complexity, and constraint complexity increases information density. An organism with rich sensorimotor integration can sustain an experiential instance populated with fine-grained distinctions, stable objecthood, nuanced relational structure, and high-dimensional salience landscapes. This is why biological experience is not merely sharper but deeper: it is not only resolved, but richly articulated.

This also allows the expression “what it is like to be” to take on a precise meaning. To ask what it is like to be an experiential perspective is not to ask about an ineffable substance hidden behind appearance. It is to ask about the qualitative signature of closure when indexed to a particular constraint topology. Different organisms yield different characteristic structures of oriented appearance because their constraint organizations differ. A perspective is a closure role,

and the richness of that role depends on the complexity and integration of the constraints through which closure resolves.

Here the biological dominance principle becomes especially important. Because organisms are dense constraint poles, their structure strongly shapes the qualitative form of the experiential instance. This is why experience appears centered, embodied, and world-located. The organism does not generate the instance, but it provides the dominant organization by which closure resolves. Richness is therefore not an inner possession of a subject. It is a feature of the closure-field itself, arising from the complexity of the coupled constraint system.

The account remains fully compatible with neuroscience. Different levels of richness correspond to different constraint capacities: how many interacting differentiations can be sustained coherently and how tightly they can be resolved. Yet nothing here reduces experience to mechanisms operating behind appearance. Mechanisms are internal articulations of constraint structures within closure. The experiential instance remains the primary actuality, and system complexity is one of the primary determinants of its internal richness.

Part IX — Morphisms and the Emergence of Time

17. Morphisms Between Experiential Instances

Up to this point, the analysis has treated experiential instances as complete closure-events: each instance is an actuality as it appears. But reality is not experienced as a single isolated event. It presents as continuity, persistence, and succession. Objects remain stable, identities endure, and the world exhibits regularities that allow prediction and memory. If experiential instances are the ontological units of eventhood, then these features must be accounted for as relations between instances rather than as properties of a hidden substrate.

To do this, the present framework introduces the notion of morphisms between experiential instances. A morphism is a structured compatibility relation: a way in which one closure-event can continue into another without contradiction.

The meaning of a morphism is simple: it is an allowed continuity of actuality. If an instance E_i closes as a certain differentiated structure, then only certain subsequent closures E_j can follow coherently given the constraints that remain operative. A morphism captures this constraint-preserving transition. It expresses how one closure-event can be related to another as a valid succession rather than as an unrelated discontinuity.

This provides a precise way to speak about persistence without reifying objects. An object is not a substance that survives across time. It is a pattern of differentiation that remains stable across a chain of morphisms. Likewise, memory is not access to a stored internal record; it is a continuity relation within the closure web, whereby aspects of one instance are preserved or carried forward into subsequent instances as constraints on what can close next.

Morphisms are therefore the structural basis of continuity, predictability, and history. They formalize the intuition that experiential instances are not disconnected snapshots, but linked closure-events within undivided admissibility. The next step is to recognize that what is ordinarily called time is nothing more than the structure of these linkages. Time is not an external dimension in which instances are placed. It is the pattern of composable transitions between closure-events.

18. Time as Path Structure in the Closure Graph

Time is typically treated as a background parameter: a dimension in which events occur, ordered by an external axis that exists independently of what happens. On that view, instances are placed in time, and time continues regardless of whether anything occurs. But this treatment silently assumes what the present framework rejects: that existence is primitive and container-like, and that events are secondary occupants of a pre-existing arena. If experiential instances are the primary units of actuality, then time must be derived from their relations rather than assumed as a prior stage.

Once morphisms are introduced, time becomes legible as an emergent structure. A morphism expresses an admissible continuity from one instance to another. A sequence of morphisms

expresses a history. Such sequences possess an internal compositional logic. The capacity to compose morphisms is what yields the sense of an extended past and a reachable future, not as metaphysical regions, but as structural possibilities within the closure web.

On this account, time is the path structure of closure. A “before” and “after” are not primitive relations in an external dimension; they are relations internal to the morphism network linking experiential instances. Temporal order is the order of admissible continuation. Duration is not a container through which instances move; it is the degree and structure of transition between closures. History is the accumulated constraint structure that governs which closures can follow which.

This does not deny the empirical success of time-based physics. It explains it. Physical timekeeping, dynamical laws, and temporal symmetries become compressions of stable morphism structures within domains of repeated closure. Clocks work because certain constraint patterns yield highly regular sequences of closure-events. Causal explanation works because morphism patterns stabilize into reliable continuities. But none of this requires that time exist as an ontological primitive behind appearances. Time is a derived order of eventhood.

By grounding time in morphisms, the framework also dissolves a familiar confusion. If time is treated as external, one is forced to ask why a particular present is actual rather than all times existing equally. If time is internal to closure relations, the question is inverted: actuality is the closure-event, and temporal structure is the pattern of its continuation. The present is not selected from a timeline; the timeline is extracted from the structure of present-to-present closure.

With time grounded in morphism structure, it becomes possible to define object stability and world structure precisely: objects are those differentiations that persist as invariants across chains of morphisms. This is taken up next.

19. Objecthood as Invariants Under Morphisms

If reality is constituted by experiential instances linked by morphisms, then objecthood cannot be primitive. Objects cannot be substances that exist independently and persist through time as the same thing. Persistence would then require an external temporal container in which the object travels or endures. But time, on the present account, is not an external dimension. It is the structure of continuity between closure-events. Objecthood must therefore be defined in terms of what remains stable across those continuities.

An object is a pattern of differentiation that is preserved as an invariant across a chain of morphisms. It is not a thing behind experience. It is a stable structure within experience that continues to appear coherently across successive closure-events. In this sense, objecthood is a derived phenomenon: it is a consequence of stability in the morphism network.

This definition explains why objects are both real and non-fundamental. A table is real because it is a stable invariant across experiential instances: its shape, location, and affordances remain sufficiently preserved for it to function as a persistent feature of the world-structure. But it is not

fundamental because its identity is not a primitive fact; it is a coherence phenomenon sustained by constraint continuity. If the morphism structure fails to preserve the relevant differentiations, the object ceases to exist as an invariant. It is not “destroyed” in an external world; it simply no longer persists as a stabilized pattern of closure.

This framing also clarifies causality and probability. Causality is not metaphysical pushing from behind appearance. It is the regularity of morphisms: the fact that certain closure continuations reliably follow others under stable constraints. What is called a cause is a compression of morphism structure—a stable mapping from one region of the closure network to another. Probability, likewise, is not ignorance about hidden states. It is the distribution of admissible morphisms and closures under given constraint conditions: the measure of which continuations can occur and how frequently closure resolves in one way rather than another.

In this way, the apparent solidity of the world is explained without reintroducing an elsewhere. The world is stable because closure continuations are stable. Objects persist because invariants persist. Laws are reliable because morphisms are regular. The physical domain becomes the region of closure space in which invariants are strong enough to yield long-range stability and predictable continuation.

This prepares the final conceptual bridge: reality is not merely continuous for a single perspective. It is shared. Multiple closure-poles coexist, interact, and converge on stable common structure. The question is how objectivity and intersubjectivity arise when all that exists is local closure-events. The answer is not a metaphysical external world accessed by multiple observers, but a coupled closure condition that stabilizes shared invariants. This is developed next.

Part X — Intersubjectivity and the Shared World

20. Coupled Perspective Closures

Experiential instances arise as closure-events organized around local constraint poles. In biological systems, these poles correspond to organism-shaped constraint topologies that yield centered, world-located fields of appearance. If each experiential instance is complete in itself as an actuality, it may seem that reality should fragment into disconnected private worlds: one closure per perspective, sealed from the others. Yet this is not what occurs. The world appears shared. Multiple perspectives inhabit a common structure. Objects are public, not merely personal. Communication and coordination are possible. Any ontology of closure must therefore explain intersubjectivity without reintroducing an external substrate behind appearance.

The key is that closure poles are not isolated. They are embedded in the same undivided admissibility and therefore participate in a single hyper-interdependent closure web. Organisms do not exist as independent centers producing private experience; they exist as dynamically coupled constraint systems within an environment that itself participates in closure. Because the environment is not an external arena but part of the coupled closure conditions, it functions as the medium through which multiple perspective closures become mutually constrained.

Intersubjective coordination therefore arises not by multiple observers separately accessing an objective world, but by coupled closures converging on compatible differentiation. Each organism shapes closure locally, but because closure is co-specified by environment coupling—and because closures must remain globally coherent—perspectives cannot resolve into incompatible realities in the strong ontological sense. Divergence can occur as error, hallucination, or disagreement within instances, but global contradiction cannot be sustained as eventhood. The shared world is the consequence of this constraint: closure must resolve in ways that remain mutually compatible across the closure web.

This coupling is not merely causal interaction. It is structural mutual determination. One organism's actions reshape environmental constraints that condition the closure possibilities of another organism. Communication, perception, and coordination are therefore special cases of a more general principle: closure-events are linked through shared constraint structures. The environment mediates this linkage, stabilizing patterns that can be preserved across multiple perspective chains.

Seen this way, intersubjectivity is not a miracle appended to an otherwise private ontology. It is a natural outcome of undivided admissibility. A shared world emerges because closure is not permitted to fracture into ontologically independent compartments. The next step is to state this in the strongest form: objectivity is the stable fixed point of coupled closure, and "the world" is the set of invariants that remain stable under this coupling.

21. Objectivity as a Coupled Closure Fixed Point

Objectivity is often treated as the hallmark of an external reality: a world that exists independently of experience and to which multiple observers can gain access. In that framing, intersubjective agreement is explained by reference to a shared substrate, and truth is conceived as correspondence between representations and an observer-independent state. The closure-based ontology developed here rejects the need for such an external ground. Yet it does not dissolve objectivity into mere consensus or subjectivity. Instead, it redefines objectivity as a stability condition within the coupled closure web.

Because admissibility is undivided and closures are hyper-interdependent, multiple perspective closures cannot resolve arbitrarily. They must remain mutually compatible under environmental coupling. This imposes a convergence condition: the differentiated structures that persist across many coupled closures become increasingly constrained toward shared invariants. These invariants are what appear as a common world. They are not imposed from outside experience; they are extracted from within it as stable patterns preserved across perspective-linked morphism chains.

This can be expressed as a fixed point condition. Consider multiple perspectives, each corresponding to a closure-pole within the coupled constraint field. Their closures generate experiential instances whose differentiations are shaped by both internal organization and shared environmental constraints. When coupling is stable, the resulting world-structure converges toward a configuration that remains consistent under repeated closure. The shared world is therefore the closure structure that reproduces itself under coupling: the invariant backbone of mutually constrained eventhood.

On this account, objectivity is not a privileged view from nowhere. It is the stabilized overlap of many “views from here.” The world is what remains when closure-events are coupled and iterated under common constraints. This explains why objects appear public rather than private: objecthood is the persistence of invariants across morphism chains, and intersubjective objectivity is the persistence of invariants across coupled morphism chains. It also explains why scientific descriptions tend toward invariance: science is the compression and codification of stable closure invariants that hold across perspectives, scales, and contexts.

This reframing dissolves the traditional dichotomy between realism and idealism. The world is not external to experience, but neither is it a solipsistic construction. It is the fixed point of closure coupling within undivided admissibility. The external world is not an elsewhere behind appearance; it is the stable structure that appears when closure-events are constrained to remain mutually compatible. With this in place, the remaining task is to draw out the broader implications: how foundational problems in physics are clarified, how neuroscience is naturally integrated, and how classical philosophical splits collapse once appearance is treated as exhaustive reality.

Part XI — Implications and Consequences

22. Foundations of Physics

Many foundational puzzles in physics arise from treating events as primitive while simultaneously treating the world as an observer-independent substrate behind experience. The result is a persistent mismatch: theories describe continuous dynamical evolution of states, yet experience presents discrete outcomes; theories assign probabilities, yet actuality presents definiteness; theories posit spacetime structures, yet the event of "now" remains unexplained. The closure ontology developed here reframes these puzzles by shifting what is taken as basic. Events are not assumed; they are explained. Appearance is not treated as secondary; in this framework it is treated as exhaustive actuality. With these reversals, several core difficulties become less mysterious.

First, the measurement problem can be re-expressed as a closure problem. Quantum theory provides coherent descriptions of admissible possibilities, but the question is why a definite outcome occurs. On the present account, the occurrence of a definite outcome is not an additional metaphysical jump. It is what closure is. A measurement is a case in which constraints become sufficient to force closure into a determinate event. The "collapse" is not a special intervention; it is the condition of eventhood itself. The puzzle is not why collapse happens sometimes, but how closure constraints are structured such that definite events appear when and where they do.

The present claim is therefore not "collapse happens," but "eventhood already presupposes closure." Any proposed micro-mechanism—whether decoherence-based, relational, or otherwise—must still meet the same criterion: it must specify when constraints yield a globally resolved outcome that can count as an event. The ontology does not compete with such mechanisms; it states the minimal target they must hit.

Second, the status of laws changes. Laws are often treated as governing entities—structures that exist independently and compel physical systems to behave. In a closure ontology, laws are compressions of stable invariants across morphism chains. They summarize the regularities of closure continuation within domains where constraint structure remains stable. Laws do not govern closure from outside; they describe the stable forms closure takes under repeatable conditions. This makes the lawlike character of physics an emergent consequence of invariant-preserving morphisms rather than a metaphysical axiom.

Third, probability becomes intelligible without hidden variables. In the closure framework, probability does not describe ignorance about an underlying definite state that exists behind appearance. It describes the distribution of admissible closures under a given constraint field—the relative measure of which coherent differentiations can close and which continuation morphisms are available. Probabilistic predictions are therefore predictions about closure-space structure: how likely closure is to resolve one way rather than another given the constraints present.

Finally, the role of geometry can be inverted. Geometry is commonly treated as ontologically prior: a spacetime manifold in which events occur. But if eventhood is closure, then geometry is best understood as the expression of stable relational coherence across closure-events. Geometric structure is the form that compatibility takes when it repeats. Space and time, in this sense, are not containers; they are derived invariants of closure coupling and morphism regularity. This suggests a new framing for why geometry is so effective in physics: it is the formal language of stable relational coherence across closure-events.

None of these implications claim to replace existing physics. They clarify the ontological status of what physics already describes. Physics remains the best compression of stable invariants within the closure web. The closure ontology simply identifies what is being compressed: not hidden substances, but patterns of eventhood—coherent differentiations that repeatedly close in compatible ways within undivided admissibility.

23. Consciousness and Neuroscience

A closure ontology does not compete with neuroscience; it clarifies what neuroscience is actually describing. Neuroscience successfully correlates changes in brain dynamics with changes in experience: arousal modulates vividness, anesthesia collapses awareness, attention sharpens perception, and damage or disorder disrupts continuity. These facts often motivate the claim that experience is generated by neural activity alone. But within the present framework, this conclusion is a category error. Neural activity is not an ontological source located behind experience. It is a dominant constraint topology within the coupled closure field that shapes how experiential instances resolve.

This becomes precise once experiential instances are characterized by the two independent dimensions introduced earlier: resolution and information density. Neural systems modulate constraint tightness through mechanisms of selective gating, predictive stabilization, attentional focusing, and feedback control. These mechanisms increase or decrease the determinacy with which closure resolves, thereby shifting resolution. Neural systems also modulate constraint complexity through multi-modal integration, parallel processing, hierarchical coupling, and relational binding. These mechanisms determine how many interacting differentiations can be sustained coherently within a single closure-event, thereby shifting informational density.

Different modes of consciousness become structured variations in these parameters. Dreaming corresponds to rich differentiation with weak determinacy; anesthesia corresponds to minimal differentiation and low stability; wakefulness combines high determinacy with high richness; dissociation corresponds to fragmentation of integration such that local differentiations fail to unify into a stable closure-field. These are not different substances or degrees of being. They are different regimes of closure organization driven by constraint structures, many of which are biological.

The biological dominance principle ensures that this does not collapse into internalism. Biology can dominate the shaping of closure so strongly that experiential instances appear to arise

“inside” the organism. Yet the instance remains the closure of a coupled system–environment whole. The environment participates in closure conditions through sensorimotor coupling and shared constraint fields. Perception is world-structured not because a private mind constructs a model of an external domain, but because closure itself is co-specified by organism–world coupling.

In this way, the explanatory power of neuroscience is preserved and strengthened. Neuroscience becomes the study of constraint architectures that tune the resolution and richness of closure-events, and that stabilize continuity across morphism chains. What it does not require is the metaphysical claim that experience is an output produced in a hidden physical substrate and then somehow displayed to an inner observer. There is no inner observer. There is only closure appearing. Neural constraint topology is how closure is shaped into an oriented, centered, richly differentiated experiential instance.

24. Philosophy: Dissolving the Traditional Splits

Much of philosophy inherits its central problems from a single structural assumption: that appearance and reality are distinct domains, related by representation or correspondence. From this assumption follow the traditional splits: mind versus matter, subject versus object, inner versus outer, self versus world, perception versus truth. These splits are treated as fundamental, and philosophy becomes the attempt to bridge them—either by reducing one side to the other or by positing a third substance capable of unifying both. The closure ontology developed here takes a different approach. It does not bridge the splits. It shows that they are downstream artifacts of treating eventhood as primitive while locating reality behind appearance.

Once the elsewhere collapse is accepted, the appearance/reality split is dissolved at its root. Within this framework, appearance is not a veil. It is exhaustive actuality for the event. The distinction between veridicality and illusion remains, but it becomes an internal distinction within experiential instances rather than a relation between experience and an inaccessible substrate. Truth and error are not determined by correspondence to an elsewhere; they are determined by stability, coherence, and invariant preservation across closure continuations and coupling.

The mind/matter split dissolves in the same way. “Mind” names oriented, centered closure structure; “matter” names stable invariants within that structure that persist across morphism chains and across coupled perspectives. Both are differentiations within experiential instances. Neither requires an ontologically separate domain. The world is not external to experience, but experience is not private mental content. The world is the fixed point of coupled closure invariants within undivided admissibility.

Subject/object dualism also collapses. There is no subject behind experience and no object existing independently behind appearance. Perspective is a closure role: an internal organization of the event that produces centeredness and salience. Objecthood is an invariant: a stable pattern

preserved across continuations. The “subject” and “object” are two derivative structural features within one closure-event, not two substances requiring metaphysical reconciliation.

Even the self/world split loses its apparent inevitability. The self is not an entity inside the world; it is the constraint-centered organization of the world-appearing field. The world is not a container within which the self is located; it is the differentiated structure of closure that includes an egocentric orientation. The sense of being “in a world” is a structural fact of closure resolving through a biological constraint topology.

In this way, closure ontology does not attempt to solve philosophical dualisms by adding metaphysical machinery. It removes their generating assumption. When eventhood is grounded in closure, and closure is understood as appearing within undivided admissibility, the splits are revealed as internal articulations of a single actuality rather than as fundamental fractures in being.

Part XII — Conclusion

25. Summary of the Ontological Proposal

This paper began with a simple observation: modern theories presuppose events while rarely specifying the condition under which events exist at all. Foundational puzzles persist not because science lacks predictive power, but because eventhood is treated as primitive. The proposal advanced here is that existence is not primitive. Actuality is not free. For anything to exist as an event, a minimal condition must be met.

That minimal condition is coherence: the internal compatibility required for differentiation to be jointly maintainable within an undivided domain. Incoherence, understood as absolute contradiction, cannot exist as an event because undivided admissibility provides no external compartment in which incompatibility can persist unresolved. Coherence is therefore necessary for anything to be eligible for existence.

Coherence alone, however, does not yield actuality. Coherent differentiations can remain merely admissible possibilities. What is required for existence is a second condition: closure. Closure is the completion by which coherent differentiation resolves into a determinate event. Closure is not an entity or causal force behind appearance. It is the fact of resolution itself—the transition by which compatible possibility becomes actual presence.

When coherence closes, what results is an experiential instance: the closure-event as it appears. Experiential instances are the ontological units of reality in this framework. They are not representations of a hidden world, nor private mental contents generated inside biology. They are exhaustive actuality for the event as presented, with no ontological remainder behind them. This yields the elsewhere collapse: appearance is not evidence of reality; in this framework, appearance is the reality of the event.

Perspectives arise not as observers external to experience but as closure roles within experiential instances. A perspective is the constraint-centered organization of a closure-event that yields centeredness, salience, and world-location. What we are, on this account, is not a subject who possesses experience, but the stable organization of closure appearing as “from here.” Identity is continuity of this closure-role across successive instances, not the persistence of an inner entity.

Closure is co-specified by organism and environment. Biology dominates the shaping of closure because it is a dense and powerful constraint topology, but this dominance does not imply ontological origin. The experiential instance is the closure-event of the coupled system–environment whole, oriented and located in the geometry of neural constraint structure while remaining world-structured through environmental participation.

Experiential instances vary along at least two independent dimensions: resolution, determined by constraint tightness, and information density, determined by constraint complexity. Different modes of consciousness are regimes in this state space, and neuroscience is naturally integrated

as the study of constraint architectures that modulate these dimensions without generating experience from an elsewhere.

Continuity is modeled through morphisms between experiential instances: constraint-preserving relations that define admissible succession. Time is derived as the path structure of composable morphisms rather than assumed as a background container. Objects are invariants preserved across morphism chains, and causality and probability are compressions of stable morphism regularities and closure distributions. Intersubjective objectivity arises as the fixed point of coupled closure under shared constraint conditions, yielding a shared world without requiring an observer-independent substrate behind appearance.

In sum, existence is eventhood, eventhood requires closure, closure yields experiential instances, and experiential instances are reality as it appears in undivided admissibility. Everything else—objects, time, self, laws, and world—follows as stabilized structure within and across closure-events.

26. What Remains Open (Defined Precisely)

The closure ontology developed here is intentionally minimal. It seeks to identify the condition of eventhood without inflating the account into a full theory of everything. For that reason, what remains open is not a vague remainder or an appeal to mystery, but a set of precise structural tasks. These are the points at which further formal development and application can proceed.

First, the framework requires a fully explicit characterization of morphisms between experiential instances. The paper has treated morphisms as constraint-preserving continuations—relations by which one closure-event can follow another without contradiction. A mature version of the theory would define these relations with greater rigor: what it means for constraints to be preserved, what structures are carried forward, and what constitutes admissible versus inadmissible continuation. This formalization would also clarify the emergence of persistence, memory, and causal regularity as features of morphism networks.

Second, the framework points toward a stronger principle: global closure consistency. If admissibility is undivided and closures are hyper-interdependent, then local closure-events must remain globally compatible with the closure web. This paper has established the motivation for such a principle, but a full treatment would state it explicitly and derive its consequences. Among these consequences would be a deeper explanation of why objectivity stabilizes, why contradictions cannot become events, and why the world exhibits the extreme conservatism observed in physical law.

Third, the extraction of geometric structure from closure compatibility conditions remains a central frontier. The paper has suggested that geometry is not ontologically prior but emerges as the expression of stable coherence across closure-events. A developed account would show how metrics, topological relations, and dynamical symmetries can be derived as invariants of closure continuation and coupling, rather than imposed as background assumptions. This would offer a principled bridge between eventhood ontology and the geometric language of physics.

Fourth, the paper has introduced a two-dimensional state space of experiential instances—resolution and information density—and mapped modes of consciousness as regimes within it. Further work could expand this into a comprehensive closure phenomenology, articulating additional structural dimensions such as stability, integration depth, and coupling strength, and mapping them to empirical neuroscience without reducing experience to mechanism. Such refinement would clarify not only altered states but also developmental differences across organisms, levels of richness, and the structural meaning of “what it is like to be” a perspective.

Finally, the ontology invites programmatic applications. In physics, it suggests a reformulation of measurement, lawhood, and probability in closure-native terms. In cognitive science, it offers a principled framework for describing consciousness modes as closure regimes. In artificial intelligence, it raises the question of whether engineered constraint topologies could yield stable, richly differentiated closure-events with perspective-like organization. In ethics and civilization theory, it suggests that coherence preservation across coupled closure ecologies may be a deeper foundation for stability than any externally imposed norm.

These are not additions required for the core claim to stand. The core thesis is complete: existence is closure-eventhood, closure yields experiential instances, and experiential instances are exhaustive reality as they appear in undivided admissibility. What remains open is the articulation of the full relational grammar of closure—how instances link, stabilize, and cohere at scale. That development is not a departure from the present account. It is its natural extension.

Glossary of Key Terms

Admissibility: The unavoidable condition under which any differentiation can appear at all; not a separate domain behind appearance.

Undivided admissibility: The claim that no absolute partition can be invoked as ontological; any partition must itself appear as differentiation.

Constraint tightness: How selectively constraints restrict what can close; higher tightness yields higher resolution (sharper determinacy).

Constraint complexity: How many interacting constraints participate jointly in closure; higher complexity supports higher information density (richer differentiation).

Constraint pole: A locally dense constraint topology that strongly indexes the organization of a closure-event (e.g., an organism in coupled closure).

Coupling: Mutual constraint between systems (organism-environment, organism-organism) that co-specifies closure conditions and stabilizes shared invariants.

Closure: The condition of eventhood: coherent differentiation resolving as a single determinate whole (not a separate dynamical force).

Closure web: The total relational structure of closure-events within undivided admissibility, including compatibility constraints among events.

Global compatibility: The requirement that a local closure does not entail contradiction relative to the admissible closure web.

Morphism: An admissible continuation relation between experiential instances; a constraint-preserving transition that can compose into histories.

Invariant (objecthood): A pattern of differentiation preserved across morphism chains; "objects" are invariants rather than substances.

Fixed point (objectivity): The stable shared-world backbone that reproduces under coupled closure across perspectives; objectivity as coupled-closure stability.

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Appendix A — Formal Definitions (Minimal Core)

A.1 Undivided Admissibility (UA)

This appendix presents the minimal conceptual primitives required to state the closure ontology without remainder. The definitions are intentionally spare. They do not assume objects, observers, spacetime, or causal laws as ontological primitives.

Definition A.1 (Admissibility). Admissibility is the minimal condition under which differentiation can occur at all. It is not a set of entities, nor a container in which entities reside. It is the domain of possible differentiation as such—where "domain" is shorthand for a condition of possibility, not a background arena.

Definition A.2 (Undividedness). Admissibility is undivided if there exists no absolute ontological partition of admissibility into independent compartments. All partitions, separations, or distinctions are internal differentiations within the same admissible whole.

Consequence A.3 (No Elsewhere). If admissibility is undivided, then there exists no coherent notion of an ontological "elsewhere" external to appearance. Any purported elsewhere would either be inadmissible (hence nonexistent) or admissible (hence internal to the same domain as appearance).

A.2 Differentiation

Definition A.4 (Differentiation). A differentiation is any internally articulated distinction (feature, relation, structure) that can appear within admissibility. Differentiations need not be simple, compressible, or predictable.

Differentiation here is not "division of substance," but the emergence of articulated structure as present.

A.3 Coherence

Definition A.5 (Coherence). A differentiation is coherent iff its constituent distinctions are mutually compatible such that they can be jointly maintained as a single candidate event within undivided admissibility.

Coherence does not mean order or simplicity. It means non-contradictory joint instantiability.

Definition A.6 (Incoherence). A differentiation is incoherent iff its constituent distinctions are mutually incompatible such that no single whole can instantiate them without contradiction.

Lemma A.7 (Incoherence Cannot Exist as Event). In an undivided admissible domain, absolute incoherence cannot persist as an event because there is no partition that could isolate contradiction from global resolution.

A.4 Closure

Definition A.8 (Closure). Closure is the condition under which a coherent differentiation becomes a determinate actual event, rather than remaining merely admissible.

Closure is not a force or cause behind appearance. It is the structural fact of resolution into definiteness.

A.5 Experiential Instance

Definition A.9 (Experiential Instance). An experiential instance is a closure-event: a coherent differentiation that has closed as a determinate whole and appears as such.

Principle A.10 (Exhaustiveness). An experiential instance is reality for that event exhaustively, with no ontological remainder “behind” it.

Appendix B — Morphism Formalization

B.1 The Closure Category

Let E denote the collection of experiential instances.

Definition B.1 (Objects). Objects of E are experiential instances.

Definition B.2 (Morphisms). A morphism f: E_i -> E_j is an admissible continuation relation: a constraint-compatible transition by which closure may resolve from E_i into E_j without contradiction.

Definition B.2a (Preservation / Invariant-Carrying). Let O denote a designated substructure (pattern, role, or object-invariant) within an instance E_i. A morphism f: E_i -> E_j preserves O iff there exists a corresponding substructure O' within E_j such that O' plays the same structural role in E_j as O does in E_i (i.e., O is carried forward under admissible continuation).

This is not causal "pushing." It is the grammar of allowed succession.

B.2 Identity and Composition

Axiom B.3 (Identity). For each instance E, there exists an identity morphism id_E: E -> E representing trivial continuation (no alteration of the closure-role structure).

Axiom B.4 (Composition). If f: E_i -> E_j and g: E_j -> E_k, then there exists a composite morphism g o f: E_i -> E_k representing the admissible continuation across multiple closure steps.

Axiom B.5 (Associativity). Composition is associative whenever defined.

B.3 Time as Path Structure

Definition B.6 (History / Path). A history is a composable chain of morphisms.

Principle B.7 (Derived Time). Time is the partial order / path structure induced by admissible continuation relations. "Before" and "after" are internal to morphism structure, not external coordinates.

B.4 Persistence, Memory, and Self as Preserved Structure

Definition B.8 (Perspective Continuity). A perspective persists across E_i -> E_j when the morphism preserves the closure-role organization associated with that perspective.

Definition B.9 (Memory). Memory is not a hidden store; it is the preservation of constraints or invariants that restrict admissible continuations, thereby binding later closure-events to earlier ones.

B.5 Worked Example (Toy Closure Graph)

Consider four experiential instances E0, E1, E2, E3 with admissible morphisms representing constraint-preserving continuation. Let O be an object-invariant (e.g., a "cup on a table") preserved across some continuations but not others.

```
E0 --f--> E1 --g--> E2
 \--h--> E3
```

Here f and g compose (g ∘ f): E0 -> E2, forming a history. If O is preserved under f and g, then O is an invariant across the path E0 -> E2, and therefore counts as a persisting “object” for that history. If h fails to preserve O (e.g., the cup breaks or leaves the scene), then O is not an invariant along E0 -> E3. On this account, “time” is nothing over and above the existence of such composable paths, and “objecthood” is the stability of invariants under those paths.

This toy graph is intentionally simple: it shows that the category language is not decorative. It encodes (i) admissible succession, (ii) compositional structure (histories), and (iii) invariants (objecthood) in one unified grammar.

Appendix C — Global Closure Consistency Principle

C.1 Closure Web and Compatibility

Let W denote the closure web: the total relational structure of closure-events within undivided admissibility.

Definition C.1 (Global Compatibility). A local closure-event E is globally compatible iff its differentiation does not entail contradiction relative to the admissible closure web W.

Global compatibility is not “everything causally affects everything.” It is the requirement that eventhood itself cannot violate undivided consistency.

C.2 The Global Closure Consistency Principle

Principle C.2 (Global Closure Consistency). A coherent differentiation can close as an experiential instance only if its closure is globally compatible with the undivided admissible whole.

Equivalently: no closure may actualize as an event if its actualization would force contradiction at the level of admissibility.

C.3 Key Corollaries

Corollary C.3 (No Ontologically Private Worlds). Perspective-local closure does not imply ontological isolation. Even “inner” events are closure-events within one admissible whole.

Corollary C.4 (Conservatism of the Universe). The stability and lawlike regularity of physical reality arise because globally incompatible closures are excluded by the conditions of eventhood itself.

Corollary C.5 (Shared World Constraint). Intersubjective objectivity is not a miracle. It is an expression of global compatibility under coupled constraint conditions.

Appendix D — The (R,I) State Space and Neurophenomenology

D.1 Two Independent Dimensions

Let E be an experiential instance.

Definition D.1 (Resolution R(E)). Resolution is the degree of determinacy with which the instance closes. It is determined primarily by constraint tightness.

Definition D.2 (Information Density I(E)). Information density is the degree of differentiated richness sustained within the instance. It is determined primarily by constraint complexity.

Principle D.3 (Independence). R(E) and I(E) are independent axes.

D.2 Regimes as Modes of Consciousness

Modes of consciousness are describable as regions in (R,I) space:

- Low R, Low I: collapse/dimming (deep sleep, anesthesia)
- Low R, High I: vivid indeterminacy (dreaming, psychedelic flooding)
- High R, Low I: crisp narrowing (hyperfocus, sparse clarity)
- High R, High I: lucid richness (advanced waking perception)

D.3 Biological Complexity and Richness

Principle D.4 (Complexity -> Density). Higher organizational complexity enables higher constraint complexity, thereby increasing I(E).

This does not imply that biology generates experience. It implies biology can dominate closure shaping by supporting high-density coherent differentiation.

D.4 Neuroscience Link (Non-Reductive)

Neural mechanisms modulate closure-regimes by tuning constraint tightness -> R(E) and constraint complexity/integration -> I(E).

Neuroscience explains systematic changes in closure structure without requiring an ontological “production” of experience behind appearance.

Appendix E — Object Invariants and Emergent World Structure

E.1 Objecthood as Invariance

Definition E.1 (Invariant). A structure O is an invariant across a morphism f: E_i -> E_j if O is preserved under admissible continuation sufficiently to maintain its identity-role within experience.

Definition E.2 (Object). An object is an invariant pattern of differentiation preserved across a chain of morphisms. Objecthood is therefore derivative: persistence-by-preservation, not substance.

E.2 Laws as Compression of Stable Invariants

Definition E.3 (Law). A law is a compression of stable invariance structure across a wide region of morphism space. It describes reliable continuation regularities under repeated constraint conditions.

Laws do not govern closure from outside; they summarize what closure reliably does.

E.3 Probability as Closure Distribution

Definition E.4 (Probability). Probability describes the distribution of admissible closures and admissible morphisms under a given constraint field. It is not ignorance of hidden states behind appearance.

E.4 Objectivity as Coupled Closure Fixed Point

Definition E.5 (Coupled Closure Stability). A shared world structure is objective when invariants persist not merely across one morphism chain, but across many coupled chains constrained to remain mutually compatible.

Principle E.6 (Objectivity). Objectivity is the stable fixed point of coupled closure invariants within undivided admissibility: the world is what remains stable across perspectives under shared coupling constraints.

Appendix F — Biological Dominance Lemma

This appendix states explicitly the principle introduced in the main text: that biological organization can dominate the shaping of an experiential instance without serving as its ontological origin.

F.1 Dominance as Constraint Centrality

Definition F.1 (Constraint Pole). A constraint pole is a locally dense organization of constraints that strongly determines how a coupled system can close.

Definition F.2 (Dominance). A constraint pole dominates a closure-event when its constraint tightness and constraint complexity outweigh competing constraints such that the internal organization of the experiential instance is indexed to that pole.

Dominance is not spatial containment and not metaphysical priority. It is an internal asymmetry in constraint contribution.

F.2 Biological Dominance Lemma

Lemma F.3 (Biological Dominance). In coupled organism-environment closure, the organism typically functions as a dominant constraint pole, yielding an experiential instance that is centered, oriented, and structured according to the organism's constraint topology.

F.3 Dominance Does Not Imply Ontological Origin

Corollary F.4 (Non-Origin). Biological dominance does not entail that experiential instantiation is generated inside biology. The experiential instance is the closure-event of the coupled system as a whole; biology is the primary organizer of the event's internal geometry.

F.4 Interiority as Constraint-Centrality

Corollary F.5 (Interiority). The sense that experience is "inside" is a phenomenology of constraint-centrality: closure is organized around a dense internal pole, producing egocentric orientation. This is not evidence of an inner realm separate from the world; it is the way world-structured closure resolves when dominated by biological constraints.

F.5 Empirical Compatibility

Corollary F.6 (Neuroscience Compatibility). Neural modulation reliably shifts closure regimes by tuning constraint tightness (resolution) and constraint complexity (information density). This explains systematic correlations between brain dynamics and experience without positing experience as an output produced behind appearance.