Identity Without Substance

Solving the Hard Problem Through Organizational Ontology

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Abstract

The hard problem of consciousness is often taken to reveal an unbridgeable gap between physical processes and subjective experience. Standard responses either attempt to reduce experience to physical structure, posit experience as fundamental, or adopt dual-aspect or neutral monist frameworks in which both are expressions of an underlying substance. This paper develops an alternative approach grounded in Relational Coherence Ontology (RCO), arguing that the perceived gap arises from a mischaracterization of both structure and experience.

The central claim is that experience is identical, under specific organizational conditions, to certain forms of relational structure. This identity does not rely on a shared underlying substance, as in neutral monism, nor does it reduce experience to physical processes. Instead, it is grounded in the organization of constraint-coherent systems capable of sustaining first-person structure. The apparent explanatory gap arises because third-person and first-person descriptions operate at different levels of access, not because they refer to different ontological domains. By replacing substance-based identity with organization-based identity, this account dissolves the need for a bridging explanation and reframes the hard problem as a conceptual artifact.

1. The Hard Problem in Its Strongest Form

1.1 Why the Problem Feels Impossible

The hard problem of consciousness is widely regarded as one of the most difficult challenges in contemporary philosophy of mind. In its strongest formulation, the problem asks why and how subjective experience—what it is like to see red, feel pain, or think—should accompany physical or informational processes at all (Chalmers, 1995). While scientific explanations increasingly account for the neural and functional mechanisms underlying perception, cognition, and behavior, these explanations appear insufficient to address the qualitative character of experience itself.

The difficulty arises because structural and mechanistic descriptions seem conceptually incapable of yielding phenomenality. No matter how detailed an account of neural computation or dynamical organization becomes, it appears unable to explain why such processes should be accompanied by experience rather than unfolding "in the dark" (Nagel, 1974). This intuition is often expressed in the claim that no amount of mechanistic explanation can capture what it is like to undergo an experience. The perceived explanatory insufficiency is therefore not merely empirical but conceptual, grounded in an apparent mismatch between third-person accounts of structure and first-person accounts of lived awareness.

1.2 The Explanatory Gap

Joseph Levine (1983) articulated this tension as the "explanatory gap," referring to the apparent inability of physical explanations to account for qualitative experience. According to Levine, even a complete account of the physical processes underlying consciousness would fail to explain why those processes should give rise to phenomenality. This formulation sharpened earlier concerns about reductionism by emphasizing that the gap persists even if all relevant functional and causal relations are fully understood.

Functional explanations appear insufficient because they address what systems do rather than what experiences are like. A complete functional account of pain, for example, might explain its causal role in behavior and cognition while leaving unanswered why these processes feel painful (Chalmers, 1995). The persistence of the explanatory gap has led many philosophers to conclude that consciousness cannot be fully captured by standard physicalist accounts and may require a fundamentally different explanatory framework.

2. Standard Responses and Their Limits

2.1 Physicalism

One of the most influential responses to the hard problem has been physicalism, which seeks to explain consciousness in terms of physical processes or properties. Reductive physicalist approaches attempt to identify conscious experience with neural states or computational functions, while nonreductive variants treat consciousness as an emergent feature of complex physical systems (Kim, 1998). Despite significant advances in neuroscience and cognitive science, however, many philosophers argue that physicalism fails to account for phenomenality.

The central concern is that reductive accounts appear to conflate functional explanation with experiential explanation. Even if consciousness is systematically correlated with neural processes, this does not explain why those processes should be accompanied by subjective awareness (Levine, 1983; Chalmers, 1995). As a result, physicalism is often criticized for leaving the core intuition behind the hard problem unresolved.

2.2 Panpsychism

Panpsychism offers a contrasting strategy by attempting to dissolve the explanatory gap rather than bridge it. According to panpsychist views, experience—or at least proto-experience—is a fundamental feature of reality, present in some form at all levels of nature (Goff, 2017). By positing experience as ubiquitous, panpsychism avoids the need to explain how consciousness emerges from non-experiential processes.

However, this approach faces significant challenges. Chief among them is the combination problem: how simple experiential elements could combine to form unified conscious subjects (Chalmers, 2016). Additionally, critics argue that panpsychism inflates the ontology of experience without providing a clear account of why or how experience should be attributed to fundamental entities. While it removes the emergence gap, it does so at the cost of attributing experience far more widely than many find plausible.

2.3 Dual-Aspect and Neutral Monism

Dual-aspect and neutral monist approaches attempt to avoid both reductionism and panpsychism by proposing that the mental and the physical are two aspects of a single underlying reality (Nagel, 1986; Strawson, 2006). On this view, consciousness is neither reducible to physical processes nor ontologically distinct from them.

Instead, both are understood as different ways of describing the same fundamental entity.

This approach has notable strengths. By rejecting ontological dualism while preserving the reality of experience, it offers a promising framework for addressing the hard problem. However, dual-aspect and neutral monist theories typically rely on the idea of a shared underlying substance or neutral base from which both aspects arise. This reliance introduces metaphysical commitments that remain controversial and difficult to specify.

The framework developed in this paper departs from these approaches at precisely this point. Similar dual-aspect or neutral monist views suggest that the same underlying reality can be understood through different descriptive frameworks without implying ontological duplication (Nagel, 1986; Strawson, 2006). Within Relational Coherence Ontology (RCO), however, this identity is not grounded in a shared substance but in organizational conditions. Rather than positing a neutral substrate underlying both mind and matter, RCO argues that experience is identical, under specific conditions, to certain forms of relational organization. This shift replaces substance-based identity with organization-based identity and reframes the hard problem accordingly.

3. The RCO Break: Identity Without Substance

3.1 The Critical Move

The central move of Relational Coherence Ontology (RCO) is the rejection of any shared underlying substance as the basis for explaining the relationship between physical processes and conscious experience. Traditional dual-aspect and neutral monist approaches attempt to resolve the hard problem by positing a common ontological ground—often described as a neutral substance—from which both mental and physical aspects arise (Nagel, 1986; Strawson, 2006). While such views avoid the pitfalls of reductive physicalism, they retain a commitment to an underlying “something” that carries both aspects.

RCO departs from this framework by rejecting the need for any such shared substrate. There is no neutral base, no underlying stuff, and no intrinsic properties that serve as the foundation of reality. Instead, reality consists entirely of recursively generated relational organization, without ontological grounding in either matter or mind (Ladyman & Ross, 2007).

This move also entails rejecting proto-experiential accounts of consciousness. The idea that experience must exist in some minimal or latent form at the base level—common to panpsychist frameworks—is treated as an unnecessary ontological

inflation (Goff, 2017). Within RCO, the base layer is entirely non-experiential. Consciousness is not present in any form at the origin and does not require a hidden experiential seed to emerge.

3.2 Organizational Identity

In place of substance-based identity, RCO advances a model of organizational identity. According to this view, experience is not something produced by structure, nor is it a fundamental feature of reality. Rather, experience is identical, under specific conditions, to certain forms of relational organization.

This identity does not imply reduction in the traditional sense. It does not claim that experience can be fully captured by third-person descriptions, nor that it can be eliminated in favor of physical or functional accounts. Instead, it proposes that when systems achieve particular configurations—characterized by integration, recursive self-reference, and dynamic coherence—they instantiate first-person structure. Under these conditions, the system is not merely accompanied by experience; it is experience in its first-person aspect (Thompson, 2007; Tononi, 2008).

Importantly, this identity does not rely on a shared substance underlying both the mental and the physical. Rather, it is grounded in organizational conditions. What is described in third-person terms as relational structure is, under certain conditions, describable in first-person terms as lived experience. The identity is therefore not ontological in the sense of shared "stuff," but structural in the sense of shared organization.

3.3 Why This Is Different

This framework differs fundamentally from existing approaches to the hard problem. First, it is not a reductive account. It does not attempt to explain experience in terms of more basic physical constituents or eliminate it as an illusion. Instead, it preserves the reality of experience while denying that it must be derived from something more fundamental (Levine, 1983).

Second, it is not a dual-aspect or neutral monist view. Although it shares with these approaches the idea that a single reality can be described in multiple ways, it rejects the notion of a shared underlying substance. There is no neutral base that manifests as both mind and matter. Instead, there is only relational organization, which admits of different descriptive modes depending on its structure.

Third, it is not a form of panpsychism. Experience is not distributed across all levels of reality, nor is it present in rudimentary form at the base level. Rather, it

appears only when specific organizational thresholds are reached. Consciousness is therefore conditional, not ubiquitous.

Taken together, these distinctions mark a decisive break from existing frameworks. By replacing substance-based ontology with organization-based identity, RCO offers a fundamentally different approach to the relationship between structure and experience.

4. Why the Hard Problem Arises

4.1 Perspective Mismatch

The persistence of the hard problem can be understood as arising from a mismatch between two distinct modes of access to reality: third-person and first-person perspectives. Third-person accounts describe systems in terms of structure, function, and relational dynamics. First-person accounts, by contrast, describe those same systems in terms of lived experience.

These perspectives are not interchangeable. Third-person descriptions provide objective, externally accessible accounts of systems, while first-person descriptions are intrinsically subjective and internally accessible. As a result, no amount of third-person information appears sufficient to capture the qualitative character of experience (Nagel, 1974). This mismatch creates the impression that something essential is missing from structural explanations.

However, within the RCO framework, this gap reflects not an ontological division but a difference in epistemic access. The same underlying organization is being described from two distinct standpoints, each with its own constraints and limitations.

4.2 Illegitimate Demand

The hard problem is further reinforced by an illegitimate explanatory demand: the expectation that experience must be derived from non-experiential processes through a form of transformation. This demand presupposes that experience and structure belong to fundamentally different ontological categories, such that one must be generated from the other.

Within RCO, this assumption is rejected. If experience is identical, under specific conditions, to certain forms of organization, then there is no transformation to explain. The demand for a mechanism that converts non-experience into experience is therefore misplaced. It arises from a category error—treating experience as a product rather than as a mode of organization (Ryle, 1949).

Once this assumption is removed, the need for a bridging explanation disappears. The question is no longer how experience is produced, but under what conditions relational organization supports first-person structure.

4.3 The Illusion of Explanatory Failure

The explanatory gap, and the broader sense that consciousness resists explanation, can thus be understood as an illusion generated by misapplied explanatory expectations. When a phenomenon is incorrectly framed as requiring a transformation between distinct ontological categories, the absence of such a transformation appears as a failure of explanation.

In reality, no such failure has occurred. The apparent gap arises because the explanatory framework itself is misaligned with the nature of the phenomenon. Structural explanations are not incomplete; they are simply being asked to do something they are not designed to do—namely, to produce a first-person description from a third-person account (Chalmers, 1995; Levine, 1983).

From the RCO perspective, the hard problem dissolves once these conceptual errors are recognized. There is no missing mechanism, no hidden layer, and no unexplained transition. There is only a shift in how a single organized system can be described once it reaches the appropriate conditions.

5. The Identity Claim Fully Developed

5.1 Conditions for Identity

The identity claim developed in this paper holds that experience is identical, under specific conditions, to certain forms of relational organization. This claim does not rest on metaphysical assertion alone but is grounded in identifiable organizational features that distinguish conscious systems from non-conscious ones. Among these, integration, recursive modeling, and dynamic coherence are central.

Integration refers to the unification of informational and causal processes into a coherent whole such that the system cannot be decomposed into independent subsystems without loss of function (Tononi, 2008). Conscious systems exhibit tightly interdependent dynamics in which distributed processes contribute to a single, unified organization. Recursive modeling involves the system's capacity to represent and regulate its own internal states in relation to its environment, enabling forms of self-reference essential for adaptive regulation (Thompson, 2007). Dynamic coherence describes the temporal stability of these processes across

changing conditions, allowing the system to maintain continuity while adapting to perturbations (Deacon, 2011).

When these organizational features converge, the system exhibits a regime in which first-person structure becomes possible. Under these conditions, experience is not generated as an additional property; rather, the system's organization constitutes experience in its first-person aspect. The identity claim therefore locates consciousness not in any particular substance or substrate but in the organization of constraint-coherent relational systems.

5.2 No Ontological Doubling

A major advantage of the identity framework is that it avoids ontological doubling. Traditional responses to the hard problem often posit two distinct domains—physical and mental—and then attempt to explain their relationship. Even dual-aspect and neutral monist accounts, while rejecting dualism, frequently retain the notion of a shared underlying substance manifesting in different forms (Nagel, 1986; Strawson, 2006).

By contrast, RCO maintains that there is only one system described in two ways. Third-person accounts characterize relational organization in structural and functional terms, whereas first-person accounts characterize the same organization in experiential terms. These descriptions differ not because they refer to separate entities but because they reflect different modes of access to the same underlying organization (Nagel, 1974).

This perspective eliminates the need to posit parallel ontological layers. Experience is neither reducible to structure nor separate from it; it is the first-person expression of certain organized systems. As such, the distinction between mental and physical reflects a difference in descriptive frameworks rather than a difference in ontological categories.

5.3 No "Bridging Law" Needed

Because RCO rejects ontological dualism and substance-based metaphysics, it also rejects the need for a bridging law connecting non-experiential processes to experience. The demand for such a law arises only if experience is treated as something produced from fundamentally different elements. However, if experience is identical, under specific conditions, to relational organization, then no transformation occurs and no bridging explanation is required.

The perceived need for a bridging law reflects what Ryle (1949) described as a category mistake: treating experience as an object that must be generated rather

than as a mode of organization. Once this assumption is removed, the explanatory gap dissolves. Structural explanations do not fail; they are simply misinterpreted when expected to produce a first-person account from purely third-person terms (Chalmers, 1995; Levine, 1983).

Within this framework, the hard problem is not solved by identifying a missing causal mechanism but by recognizing that the expectation of such a mechanism is misplaced. Nothing is being converted, and therefore nothing requires bridging.

6. Comparison to Neutral Monism

6.1 Agreement

RCO shares important common ground with dual-aspect and neutral monist approaches. Like these views, it rejects ontological dualism and affirms that mental and physical descriptions refer to the same underlying reality (Nagel, 1986; Strawson, 2006). Both frameworks acknowledge that first-person and third-person perspectives provide complementary but irreducible modes of access to the world.

This agreement reflects a shared recognition that attempts to reduce one perspective to the other have historically failed. Neutral monism's emphasis on a unified ontology offers a compelling alternative to both reductive physicalism and substance dualism.

6.2 Key Difference

Despite these similarities, a decisive difference separates RCO from neutral monism. Neutral monist theories typically posit a shared underlying substance or neutral base from which both mental and physical aspects arise. Even when this base is described in abstract or structural terms, it functions as an ontological ground.

RCO rejects this assumption. There is no shared substance underlying experience and structure. Instead, reality consists entirely of relational organization without intrinsic foundation (Ladyman & Ross, 2007). Consciousness is not an aspect of a deeper neutral substrate but a mode of organization that arises under specific conditions.

This shift replaces substance-based identity with organization-based identity. Rather than grounding mental and physical descriptions in a common ontological base, RCO grounds their unity in shared organization.

6.3 Why This Matters

The rejection of shared substance has significant implications. First, it removes the need for metaphysical grounding altogether. Without an underlying substrate, there is no hidden ontological layer requiring explanation. Second, it avoids the ambiguities associated with specifying the nature of a neutral base, a longstanding challenge for neutral monist theories.

Most importantly, this move strengthens the dissolution of the hard problem. By eliminating the assumption of a shared substance, RCO prevents the reintroduction of a metaphysical gap at a deeper level. Consciousness does not depend on any underlying foundation; it arises solely from the organization of relational processes.

In this way, RCO extends the insights of neutral monism while advancing a more radical conclusion: there is no underlying "something" from which both mind and matter derive. There is only organization, and under specific conditions, that organization is experience.

7. Implications for the Hard Problem

The account developed in this paper has direct implications for how the hard problem of consciousness is understood. If experience is identical, under specific organizational conditions, to certain forms of relational structure, then there is no need to explain experience as a product of non-experiential processes. The demand for such an explanation arises only under the assumption that experience must be generated from something fundamentally different from itself. Once this assumption is removed, the need for a productive or transformative account dissolves.

In this framework, there is no emergence gap in the traditional sense. The perceived gap between physical processes and conscious experience reflects a conceptual mischaracterization rather than an ontological discontinuity (Levine, 1983; Chalmers, 1995). Third-person descriptions of structure and first-person descriptions of experience do not refer to separate domains but to different modes of access to the same underlying organization (Nagel, 1974). The apparent inability to derive one from the other is therefore not a failure of explanation but a consequence of attempting to translate between distinct descriptive frameworks.

Similarly, the account eliminates the need to posit any hidden layer of reality, whether in the form of a fundamental mental substance, a neutral base, or distributed proto-experience. Such proposals typically arise as attempts to bridge the perceived gap by introducing an intermediate ontological level. However, if no transformation between categories is required, then no such layer is needed. The

introduction of additional ontology reflects a response to a problem that, on this view, is conceptually generated rather than metaphysically grounded.

The hard problem dissolves, therefore, not because a new explanatory mechanism has been identified, but because the demand for such a mechanism is misplaced. There was never a transformation from non-experience to experience that required explanation. Instead, there is a shift in how relational organization is described once it reaches the conditions necessary to support first-person structure.

8. Conclusion

The hard problem of consciousness has often been taken to reveal a fundamental limitation in our understanding of the relationship between physical processes and subjective experience. Standard responses have sought to address this limitation by introducing new forms of ontology—whether by reducing experience to physical structure, positing it as a fundamental feature of reality, or grounding it in a neutral underlying substance (Chalmers, 1995; Strawson, 2006).

This paper has argued that such approaches are unnecessary. The apparent difficulty of the hard problem arises from a mistaken assumption: that experience must be produced from something that is not experiential. Once this assumption is rejected, the problem itself is transformed. There is no need to add new ontological categories or to posit hidden layers of reality. Instead, consciousness can be understood as a mode of organization that becomes possible under specific conditions.

Within the framework of No-Ground Ontology, reality consists of relational structure without intrinsic foundation. Consciousness is not an additional feature of this structure, nor is it derived from a deeper substrate. It is identical, under appropriate conditions, to certain forms of organization when described from the first-person perspective.

The final formulation is therefore:

Experience is not an extra feature of reality.
It is what certain organizations of reality are like from within.

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