Record-Based Subjectivity

Identity, Difference, and Continuity in Informational Experience

Federico Batori

Working paper draft — ontological/foundational version; no new physical dynamics claimed

Abstract

Many debates in philosophy of mind and quantum foundations rely on notions such as observer, subject, agent, experience, self, and continuity, yet these notions are often left ontologically underspecified. This paper proposes a record-based ontology of subjectivity. A subject is not treated as a persisting substance, a bodily container, or a primitive metaphysical ego, but as a record-integrated continuity of experiential configurations. A subject-state should not be read as an instantaneous frame, but as a finite temporally integrated configuration whose identity depends on inherited and newly integrated records.

On this view, a subject-state is constituted by structured records: memories, perceptual integrations, expectations, constraints, and self-relating informational relations that determine admissible continuations. Identity is not primitive persistence through time; it is continuity of record-structure. Difference is not mere physical variation; it becomes subjectively relevant when integrated into the record-configuration that constitutes experience. This framework clarifies several familiar problems: personal identity, duplication, fission, the arrow of subjective time, observerhood in quantum foundations, and the relation between physical records and definite experience.

The proposal does not require a new physical theory and does not claim that consciousness causes quantum collapse. It is an ontological framework for thinking about subjects as record-chains. In that role, it can serve as a bridge between operational record-based approaches to quantum definiteness and more speculative formal programs in which subjects are modeled as coherent chains of informational states.

1. Introduction

Philosophy of mind and quantum foundations share a recurring problem: they both need observers, subjects, agents, or experiences, but they often avoid saying precisely what these are. In philosophy of mind, personal identity is debated in terms of psychological continuity, bodily persistence, memory, narrative, fission, duplication, and survival. In quantum foundations, observers appear as agents, systems, measuring devices, records, or branch-relative copies. In both domains, the central question is often displaced rather than answered: What makes a subject the subject it is? The usual answers are unstable.

The body cannot be sufficient, because bodily continuity may persist through radical memory loss, unconsciousness, or psychological fragmentation. A metaphysical ego is obscure and explanatorily idle. A mere sequence of mental contents is too loose unless we explain what binds the sequence. A physical system may instantiate experience, but the physical system is not yet an ontology of subjectivity. This paper proposes a simple alternative: A subject is a record-integrated continuity of

experiential configurations. The key term is record. A record is not merely a written trace, a measurement outcome, or a memory in the ordinary sense.

It is any stabilized informational structure that can constrain later states, support recognition, preserve a distinction, or participate in the continuity of a configuration. Memories are records, but not all records are explicit memories. Perceptual integrations, bodily maps, affective dispositions, expectations, sensorimotor constraints, and self-modeling structures may all function as records. On this view, a subject is not a thing behind experience. It is the organized continuity of record-bearing experience itself. This proposal is intended as an ontological framework, not as a complete neuroscience, psychology, or physics. It clarifies the conceptual grammar of subjectivity.

In particular, it provides answers to four questions: Identity: what makes a subject-state the same or different? Continuity: what links one experiential moment to the next? Duplication: what happens when the same subject-configuration is multiply realized? Definiteness: when does a physical or informational difference become a difference for a subject? The paper develops the record-based view and shows how it can function as a bridge between philosophy of mind and quantum foundations.

2. The Core Thesis

The core thesis is:

Record-Based Subjectivity Thesis. A subject-state is constituted by an integrated configuration of records, and a subject is the continuity of such configurations under admissible record-preserving updates.

This thesis has three components. First, subjectivity is configurational. A subject-state is not a simple point-like ego or an instantaneous informational snapshot. It is an organized, finitely temporally integrated structure. What matters is not isolated information, but the way information is integrated into a coherent experiential configuration. Second, subjectivity is record-based. A subject-state contains stabilized differences that constrain future updates. These may include memories, perceptions, bodily orientations, expectations, habits, affective tones, and implicit models of the world. Without records, there is no continuity.

There may be isolated experience, but not a subject with a history. Third, subjectivity is continuational. A subject is not identical to a timeless configuration. It is the structured succession of configurations, each inheriting, modifying, and extending the record-structure of prior configurations. This gives a minimal schema: $S = (C0 \rightarrow C1 \rightarrow C2 \rightarrow \ldots)$ where each C is a record-integrated experiential configuration, and each transition preserves enough record-structure to count as an admissible continuation. This schema avoids two extremes.

It avoids substance metaphysics: there is no need to posit an ego-substance that persists behind experience. But it also avoids mere fragmentation: the subject is not an arbitrary sequence of disconnected moments. Continuity is provided by records. A subject is therefore neither a substance nor a stream in the vague sense. It is a record-chain.

3. What Is a Record?

The word “record” is often associated with external measurement: a mark on a screen, a pointer reading, a stored bit, a trace in an apparatus. That is too narrow for the present purpose. A record is any stabilized informational difference that can perform at least one of the following roles: constrain later updates; support recognition or comparison; preserve a distinction across time; contribute to the continuity of a configuration; participate in the individuation of a subject-state. This definition includes explicit memory but is not limited to it.

A subject may lose explicit memory while retaining bodily orientation, affective continuity, linguistic habits, motor patterns, perceptual expectations, or implicit self-models. These are not always memories in the ordinary autobiographical sense, but they are records in the structural sense. A record must also be distinguished from mere information. Not every physical difference is a record for a subject. A difference becomes a record for a configuration only when it is integrated into that configuration in a way that can constrain its continuation. Thus: Information becomes subject-relevant when it becomes record-integrated. This distinction matters.

A physical system may contain innumerable differences that never enter a subject’s experiential organization. They may exist physically, but they do not individuate the subjectstate unless they become part of its record-structure. The record-based view therefore separates three notions: Physical difference: a difference exists in the physical world. Recorded difference: a difference is stabilized in some system. Subject-constituting difference: a difference is integrated into the record-configuration of a subject-state. Only the third directly individuates subjectivity.

4. Identity as Record-Continuity

On the record-based view, personal identity is not primitive. It is not a metaphysical thread running through time. It is the stability of record-continuity across experiential configurations. This does not mean that identity is an illusion in the crude sense. The subject is real, but its reality is structural. It exists as a continuity of record-integrated configurations, not as an additional entity behind them. The ordinary sense of self arises because each configuration inherits records from previous configurations. I remember yesterday, recognize my body, preserve expectations, retain language, continue projects, and interpret myself as the same person.

These inherited records generate the sense of diachronic identity. But the identity is not absolute. It is graded, structured, and vulnerable. Memory loss, trauma, sleep, anesthesia, dissociation, neurodegeneration, and psychological fragmentation all reveal that personal identity depends on record-continuity rather than on an indivisible ego. The view can be stated as follows: A subject persists insofar as later configurations preserve and integrate the recordstructure of earlier configurations. This is close to psychological-continuity theories of personal identity, but the record-based formulation is broader. It does not privilege autobiographical memory alone.

It includes embodied, affective, perceptual, dispositional, and implicit records. It also has an important consequence: Identity without record-continuity is empty; record-continuity without primitive identity is enough. That is, if all the subject-constituting records continue, nothing further is required to ground subjective continuity. Conversely, if those records are destroyed or radically disconnected, the claim that “the same subject” persists becomes metaphysically thin.

5. Difference as Record-Integration

If identity is record-continuity, then difference is record-differentiation. A physical difference does not automatically generate a new subject-state. A difference becomes subjectively relevant when it enters the record-configuration that constitutes the subject. This is why the same external event may be subjectively irrelevant, weakly relevant, or identity-transforming depending on how it is integrated. For example, a microscopic physical fluctuation in the room may have no subject-constituting role. A perceived sound may enter the subject's awareness and become part of the current experiential configuration. A traumatic event may reorganize the subject's future record-chain.

These are not equivalent merely because all involve physical differences. The record-based view therefore proposes: A new subject-state arises when a new record-integrated difference modifies the configuration. This is not a claim about dramatic psychological change. Even ordinary perception involves microdifferentiation: new information is integrated, the configuration updates, and a successor state arises. The subject persists because the update preserves enough prior record-structure; the subject changes because a new difference has been integrated. This gives a simple model of experiential becoming: experience proceeds by record-preserving differentiation.

The subject is neither frozen nor dissolved. Each moment is new because it includes new recordintegrated differences. Each moment is continuous because it inherits the record-structure that made the previous moment intelligible.

6. Duplication and the A=A Problem

Duplication thought experiments expose the importance of record-based individuation. The duplication problem is treated more fully in a separate paper on informational identity and Everettian observer-counting. Here it appears only as a consequence of record-based subject individuation. Imagine two physical systems implementing exactly the same subject-constituting configuration. They have the same memories, expectations, perceptual structure, affective state, bodily map, and internal records. Are there two subjects or one? At the level of physical realizers, there are two systems.

At the level of subject-configuration, there is one structure multiply realized. The record-based view therefore distinguishes physical multiplicity from subject multiplicity.

The principle is:

No subject-multiplicity without subject-constituting record-difference. This is not the claim that two physical copies are the same physical object. They are not. It is the claim that physical duplication alone does not generate subjectively distinct configurations. If the subjectstate is fully constituted by record-structure, then two identical implementations realize the same subject-state until their records diverge. Once divergence occurs, subject multiplicity is real. If one copy sees a red light and the other sees a blue light, their record-configurations differ. They become distinct subject-states.

Before divergence: $C = C$.

After divergence: $C_{red} \neq C_{blue}$.

The importance of this point is not limited to science-fiction duplication. It applies to fission, teleportation, branching-world interpretations, simulations, and any theory that treats subjectivity as multiply realizable. If a theory counts subjects by physical tokens alone, it must explain why tokenhood is subjectindividuating. If it counts subjects by informational configuration, then identical configurations do not multiply subjectivity until they differentiate.

7. The Arrow of Subjective Time

The record-based view also clarifies the subjective arrow of time. Physics often describes fundamental equations as time-symmetric, while experience is radically asymmetric. We remember the past, not the future. We experience becoming as accumulation. We interpret ourselves as moving from what is recorded toward what is not yet recorded. On the present view, this asymmetry is built into subjectivity: A subject is a record-chain, and records accumulate asymmetrically. This does not replace thermodynamic explanations of the arrow of time. Rather, it describes the subjective correlate of temporal asymmetry.

A subject can experience a past because past differences are integrated into records. A subject cannot experience the future in the same way because future differences have not yet been integrated. The subjective present is therefore not a point moving through time. It is the current record-integrated configuration, understood not as a mathematical instant but as a finite temporally integrated state. The past is what has been integrated into that configuration. The future is the space of admissible continuations not yet record-determined.

This yields a structural account of subjective temporality:

• prior records constrain current experience.

• current experience integrates new differences.

• future configurations inherit the updated record-structure.

The felt arrow of time is the lived asymmetry between inherited records and open continuations.

8. Experience Without a Metaphysical Ego

A common fear is that rejecting a primitive ego eliminates subjectivity. The record-based view denies this. Subjectivity does not require a metaphysical owner behind experience. It requires an integrated experiential configuration with internal perspective, record-continuity, and admissible continuation. The subject is not the owner of that structure; it is that structure in its experiential mode. This view also avoids reducing consciousness to a mere narrative fiction. The self-narrative may be partly constructed, revised, or distorted, but the underlying record-configuration is not fictional. Experiences occur. Records constrain them.

Continuity is lived, even if its metaphysical interpretation is often mistaken. Thus: The ego may be narrative; the record-chain is real. The subject is not an illusion. What may be illusory is the idea that subjectivity requires an additional substance, soul, or primitive identity-fact beyond record-integrated continuity. This gives a middle position: against ego-substance theories, subjectivity is structural; against eliminativism, the structure is genuinely experiential; against crude narrative theories, continuity is not merely a story but a record-based constraint.

9. Observerhood in Quantum Foundations

Quantum foundations frequently invokes observers, agents, systems, measurements, records, branches, or perspectives. Yet the relation among these terms is often unclear. The record-based view can help by distinguishing several layers: Physical system: a physical entity capable of interactions. Recording system: a system in which differences can be stabilized. Agent: a system capable of using records to guide updates or actions. Subject-state: a record-integrated experiential configuration. Subject-chain: a continuity of subject-states under record-preserving updates. These layers should not be collapsed. A detector may be a recording system without being a subject.

An artificial or biological system may be an agent in some operational sense without necessarily having rich subjectivity. A subject-state requires not merely record storage, but experiential integration. This framework also clarifies the relation between measurement and experience. A measurement may produce a physical record. That record may become publicly objective if redundantly encoded and accessible. It becomes subjectively definite for a given subject only when integrated into that subject's record-configuration.

Thus: Measurement is not identical to subjectivity, but subjectivity requires record-integrated measurement-like differences. • • • This avoids both extremes: the observer is not a magical collapse trigger; the observer is not an undefined placeholder. The observer, when understood as a subject, is a record-chain.

10. Quantum Definiteness and Record-Based Subjectivity

The record-based account of subjectivity is especially relevant to quantum definiteness. In quantum mechanics, the transition from formal alternatives to definite outcomes is often described in terms of collapse, decoherence, branching, or relational states. But when the question concerns experience, the key issue is not merely whether a physical record exists somewhere. The key issue is whether a difference has become part of the subject's record-configuration. A quantum alternative becomes definite for a subject when it is integrated as a subject-constituting record. This does not imply that consciousness causes collapse. It means that subject-relative definiteness is record-relative.

The physical production of records may be fully governed by standard dynamics. The subject's experience becomes definite when one of those records is integrated into the subject-chain. This creates a bridge between physical and experiential language: physical correlation creates possible record structure; decoherence stabilizes differences; environmental redundancy supports objectivity; subject integration yields experiential definiteness. The record-based subject is therefore not outside physics. It is the experiential layer of record integration.

11. Relation to Personal Identity Theories

The record-based view is close to psychological-continuity theories, especially those associated with memory, character, intention, and connectedness. But it modifies them in several ways. First, it treats memory as one type of record, not the whole basis of identity. Subject-continuity may persist through implicit, embodied, affective, or perceptual records even where explicit memory fails. Second, it emphasizes configuration rather than linear narrative. A subject is not merely a story told

about a life. It is the integrated structure that makes such storytelling possible. Third, it handles duplication more sharply.

If subjecthood is record-configuration, then two identical configurations do not become subjectively distinct until record divergence. Psychological continuity alone may explain survival relations, but record-based individuation addresses when distinct subjectstates exist at all. • • • • • • Fourth, it is compatible with physicalism without reducing subjectivity to physical tokenhood. A subject may be physically realized, but its individuation is structural: what matters is the record-integrated configuration realized by the physical system. This makes the view neither dualist nor crudely materialist. It is structural physicalism about subjectivity.

12. Relation to Functionalism and Non-Functionalism

The record-based view is naturally compatible with functionalist and informational theories of mind. It treats subjectivity as constituted by organized roles, relations, records, and update constraints rather than by a special substance. However, the view need not be tied to a simplistic computational functionalism. Records need not be digital symbols in an ordinary computer. They may be embodied, dynamical, affective, neural, quantum, biological, or hybrid structures. What matters is not the medium, but the role of stabilized difference in constituting experiential continuity. A non-functionalist physicalist may reject this.

They may claim that subjectivity is individuated by intrinsic physical properties not captured by record-structure. That position is not refuted here. But it carries a burden: If two subject-states are identical in all record-based experiential respects, what intrinsic physical difference makes them distinct as subjects? If the answer is merely that they are located in different physical tokens, then subject-individuation has been grounded in external tokenhood rather than experiential structure. If the answer appeals to a deeper physical property, then that property must be shown to matter for subjectivity rather than merely for realization.

Thus the record-based view does not defeat all alternatives. It clarifies the cost of rejecting structural individuation.

13. Objection: Records Presuppose Subjects

A serious objection is that the view may be circular. It defines subjects in terms of records, but records seem to require subjects who remember, interpret, or use them. The answer is to distinguish records in the broad structural sense from conscious memories in the narrow sense. A record need not be interpreted by a subject in order to exist. A tree ring, a fossil, a detector mark, a neural trace, or a stored bit can preserve a difference without being conscious. Subjectivity arises not from the mere existence of records, but from their integration into an experiential configuration.

Records are prior in the structural sense; subjectivity emerges when records become integrated in the right way. Thus: Records do not presuppose subjects; subjectivity presupposes integrated records. This avoids circularity. The theory begins with stabilized differences, not with fully formed subjects. Subjects are higher-order continuities of record integration.

14. Objection: This Is Too Broad

Another objection is that the term "record" may be too broad. If every stabilized difference is a record, then the theory risks triviality. The response is that not every record is subject-constituting. The framework distinguishes levels: stabilized physical records; operational records used by systems; integrated records constituting subject-states. A scratch on a rock is a record in the broad physical sense. A detector reading is a record in an operational sense. A memory or perceptual integration is a record in the subject-constituting sense. The theory does not collapse these levels; it uses the general concept of record to explain their continuity.

The important claim is not that all records are conscious. It is that conscious subjects are structured by a special class of integrated records.

15. Objection: What Counts as Integration?

The hardest question is what counts as integration. If a record is present in a brain, system, or environment, when is it integrated into a subject-state? This paper does not offer a full empirical criterion. But it proposes a conceptual one: A record is integrated into a subject-state when it contributes to the configuration's admissible continuations as an experiential constraint. This means that the record is not merely stored somewhere. It affects what the configuration can recognize, expect, remember, perceive, or become. Integration is therefore defined by role within the subject-chain.

In future formal work, this idea can be sharpened using notions such as coherence, update constraints, predictive continuity, accessibility, retention thresholds, and contradiction penalties. But the ontological point can be stated before the formal machinery: integration is difference becoming constitutive for continuation.

16. Toward a Formal Record-Chain Model

The record-based ontology naturally suggests a formal model. Let a subject be represented as a chain: S = (R0 → R1 → R2 →...) where each R is a record-state and each transition preserves enough structure to count as an admissible continuation. A transition is admissible if it satisfies conditions such as: preservation of non-contradictory inherited records; integration of new differences without destroying coherence; continuity of predictive and self-relating structure; retention of enough prior structure to support identity-through-update. This formalization is not developed fully here. The present paper supplies the ontological foundation for such a model.

A later technical framework may add measures of coherence, complexity, typicality, and admissibility. The important point is that the subject is no longer a primitive observer inserted into physics. It is a structured record-chain whose continuity conditions can, in principle, be modeled.

17. What This Paper Does Not Claim

This paper does not claim to solve the hard problem of consciousness. It does not provide a neuroscientific theory of awareness. It does not modify quantum mechanics. It does not claim that consciousness causes physical collapse. It does not assert that all record-bearing systems are conscious. It claims only that subjectivity can be ontologically modeled as record-integrated

continuity. This claim is modest but useful. It provides a framework for discussing identity, duplication, subjective time, observerhood, and quantum definiteness without relying on a primitive ego or an undefined observer.

The proposal should be judged by whether it clarifies these problems, not by whether it immediately produces new physical predictions.

18. Conclusion

A subject is not a substance hidden behind experience. It is not merely a body, a brain, a narrative, or a point of view floating outside physics. A subject is a record-integrated continuity of experiential configurations. This view gives a unified account of identity, difference, duplication, time, and observerhood. Identity is record-continuity. Difference is record-integration. Duplication does not multiply subjects without record-divergence. Subjective time is the asymmetry of inherited records and open continuations. Quantum definiteness, when considered from the experiential side, is the integration of physical differences into subject-constituting record structures.

The central formula is: A subject persists by preserving records and changes by integrating differences. This framework does not replace physics or psychology. It supplies an ontological grammar for the subject. In doing so, it prepares the ground for more formal models in which subjects are represented as record-chains constrained by coherence, admissibility, and difference-preserving continuity.

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Author note

This paper is part of a broader project on record-based subjectivity and quantum definiteness. It is an ontological/foundational argument and does not propose a modification of quantum mechanics.

A brief AI-use note: AI tools were used for drafting assistance, critical review, and editing; the author takes responsibility for all claims, sources, and final wording.