

The Presence Hypothesis

On the nature of presence — a layered statement

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Working hypothesis statement · v1.3 · October 2026

*A layered statement of the presence proposal, disciplined so that what is claimed, why it is better, and what could count as evidence are kept apart. It is a hypothesis, not a finished theory: the claim is stated first, its advantages are offered only as support after it stands, and the studies it invites examine the structures presence would localize through; their possible indirect bearing on presence itself is argued separately and is left open. Registers are marked — [E] a first-hand datum, [P] a posit offered and not established, [O] an open question, [T] a formal or demonstrated result, [A] an analogy — and one discipline governs the whole, **Relational Relativity**: where a claim differs between the standpoint of a bounded locus and the standpoint of the undifferentiated whole, both are meant, and neither cancels the other. The fuller exploration, with its lineage and its prose, is the companion essay Relational Relativity — presence, will, and the deeper relativity; this is its spine.*

This version (v1.3) brings the statement up to date with three things that came after v1.2: the research charter that fixes what the hypothesis asserts, assumes and would be revised by (Presence Commitments, October 2026); the author's clarification on presence, depth and access (October 2026); and the completed structural studies of 2026. Three kinds of content are now kept visibly apart throughout — philosophical commitments [P], structural findings [T], and correspondences between them that remain unestablished [O] — and a ledger at the end records what is retained, revised, withdrawn and open. Nothing here reports that the research has confirmed presence; it has not. What it has done is make the hypothesis more precise and more accountable.

Thesis

Presence is not an emergent property added to structure, and not a micro-property combined upward from parts. It is the inside face of the fundamental self-limitation of the Unified; structure is the outside face of that same move. Physics measures the outside face — relation, quantity, frequency, invariance. Experience is the localization of presence within bounded relational loci. No direct measurement of presence is proposed; whether observation could bear on the hypothesis indirectly is an open question, not a closed one; and the structures through which presence would localize can be modeled, compared, and tested.

Everything below is that thesis, taken one layer at a time.

Defining the term: “presence” as the isolated residue

The word this hypothesis turns on is not the everyday one, and it is not “consciousness.” It is a term of art, fixed by a decomposition first set out in *Relation Before Relata*, and the argument is unreadable without it — so it is drawn before anything is claimed.

The method is to take the overloaded words of the debate — *consciousness*, *experience*, *observer* — and separate the several jobs each has been made to carry, so that the disputes bred by their fusion dissolve while the one genuinely hard thing is not dissolved but *isolated*. *Consciousness* fuses four: the capacity to access and act on information, the capacity to report, the modelling of oneself, and — distinct from all three — the bare fact that there is something it is like to be the system at all. The first three are structural: hard as engineering is hard, but not mysterious in kind, and reachable in principle by a functional account. The fourth is none of those three capacities as described; that it reduces to none of them is the hypothesis’s claim, made in Layer 2 and held there revisably. *Experience* fuses two: the localized participation of an organization in the structure it belongs to — what it is coupled to, what it resolves, what it is closed off from — which is structural; and whether that participation is accompanied by anything it is like to undergo, which the hypothesis takes to be not a further structure but the fourth thing again, under another name. *Observer*, drained of the knower it usually smuggles in, is only a *reference decomposition* — a way of factoring a whole into a part and a remainder — and neither sees nor chooses nor knows. Across all three, the same residue survives every separation.

That residue is **presence** — *intrinsic presence*, given the neutral name so the structural senses cannot leak back in. It is defined by what it would have to be: whatever would distinguish a relational configuration that has an inside from one exhaustively described from without. The definition is negative, and the negativity is a feature of the target, not an evasion: it picks presence out by the line it would draw, and it does not by itself settle whether any structural description reaches across that line. That further claim — that the residue is captured by no structural description — is an *interpretation* of the datum, and it is made in Layer 2, where it is held revisably. This is not “consciousness,” most of which is structural and, in this account, tractable. Presence is only the remainder — the bare inside — and the whole hypothesis concerns that remainder and nothing else.

Two notes keep the definition honest. It has precedent — Block’s access-versus-phenomenal, Chalmers’s easy-versus-hard each split a word that had been doing several jobs — and it goes past them in three ways: the decomposition is driven by a positive ontology rather than assembled term by term; it is applied across the whole vocabulary (experience, observer, self, matter, mind, separation), not to “consciousness” alone; and it terminates not in a reduction but in a single residue it can isolate and cannot remove. And the words came fused for a reason that is not carelessness but a reasonable over-generalization from the only inside any of us knows from within — the human case, where access, report, self-model, and presence always travel together. With one sample in which the parts never come apart, it was natural to bind them into one word; the decomposition is the recognition that, in principle, they can.

Layer 1 — The datum [E]

With the term fixed, the datum is the one thing not inferred: experience occurs. There is something it is like to be this locus, given first-hand, prior to any theory and more certain than any; it is the single datum no argument reaches behind, since to doubt it is already to have it. A position that denied it would have to deny the given; but the positions usually named as rivals accept

that experiences occur and dispute their character, and that dispute belongs to Layer 2 and its comparison, not to the datum.

Nothing more is placed here. In the earlier form of this statement the datum arrived with a second property attached — that presence is not, in itself, a structural quantity, the remainder no structural description captures — and that property was treated as settled by the definition. It is not. It is an interpretation of the datum, and it belongs to the ontological hypothesis of Layer 2, where it is revisable. The datum establishes only itself: experiencing something does not, by itself, establish irreducibility, fundamentality, or unity. Whatever the hypothesis goes on to say about the datum is said as hypothesis.

Layer 2 — The ontological hypothesis [P]

The hypothesis: presence and structure are not two things needing a bridge, and not one thing with the other explained away. They are the **two faces of a single move** — what it is, felt from within; how it is organized, read from without. Presence is the inside; structure is the outside; and there is exactly one move of which they are the faces. Presence is posited as one and undivided; it is not locally bound, but is the unifying element of all structural perspectives.

This is the load-bearing claim, and its strength is what it refuses. It refuses to make *relation* the sole foundation — the structuralist’s “relations without relata,” forever owing an answer to *relations between what?* and never saying why any of it is lit from within. And it refuses to make *qualia* the sole foundation — the intrinsic base of Russellian monism and panpsychism, forever owing the combination problem, how micro-feels sum to one mind. Neither is the floor; both are faces of the one move, and so neither is owed the other’s debt. There are no relata to supply, because the relata are later knots in the same move; and there is no combination to perform, because presence is one inside localized downward, never many insides summed upward. That single refusal — *neither face is the foundation; both are faces* — is the hypothesis’s claim to be new work rather than a restatement of either camp.

The irreducibility component, held here and held revisably. Part of this hypothesis — not part of the datum — is the claim that presence is not a structural quantity: no measure of organization, integration, or information *is* the feltness; each is a quantity of structure, and the feltness is what remains when every such quantity is fixed. If this component stands, it forbids the identity theorist’s shortcut, which equates the given with a structure it would then exceed. But it is not excluded by definition. It is revised by a successful structural account of the datum, should one be given.

What would revise the rest. The components of this layer — the fundamentality of presence, the two-aspect identification, and the claim of one undivided presence — are separately revisable; they need not stand or fall together. The condition is comparative, in the author’s words: the hypothesis “is revisable if a competing account explains the relevant experiential and structural facts at least as well, with better-justified assumptions and fewer unresolved explanatory burdens, without requiring one fundamental presence. Such a comparison would weaken or remove [its] claimed explanatory advantage; it would not automatically constitute a deductive refutation.” No direct measurement is proposed; whether observation could bear on this layer indirectly is open (Layer 5). Its advantages are offered as support only after it stands, never to establish it.

Layer 3 — The generative hypothesis [P]

What is the move a face of? The hypothesis: it is the fundamental self-limitation of the Unified — the undifferentiated whole, in which nothing is yet separate, tending into its first difference. Call the move a **tending**: not a thing acting, not an agent choosing, not a desire in any human sense, but the irreducible self-moving of unity into limitation. It needs nothing outside itself to move it, because there is nothing outside; and it is not compelled by a law, because a law is already a plural structure and there is none yet. It is prior to the fork it is usually forced into — neither necessity, which needs a law to compel, nor contingency, which needs a menu to choose among — for both of those presuppose the plurality the tending is the first of. In the barest terms it is a self-moving that is neither compelled nor arbitrary.

There is a sharper version of the same fork, and it too lapses. Ask whether the Unified *must* differentiate or *wills* to — whether the first move is compelled or elected — and the question already assumes a law standing over unity or a chooser standing behind it, when there is neither; self-relation is not enforced and not elected but is *what unity is*, the coincidence of freedom and necessity Spinoza found in a substance whose acting and whose being are one. This is the resolution reached in *Relation Before Relata*: the must-or-wills fork is not answered but dissolved, and exactly one question outlives its dissolving. Not *whether* unity differentiates — that is settled by its being self-relation — but whether that self-relating has an inside. The surviving question is the presence question, which is this hypothesis’s whole subject.

Two words in this layer need discipline, because both are standpoint-relative and both invite the wrong reading.

The first is *will*. The tradition’s name for a subjectless, objectless self-moving — Schopenhauer’s Will beneath representation, the *conatus*, the first throb the Shaivites called *spanda* — is will, and once it is stripped of a willer, of a thing willed, and of deliberation, it names this tending exactly. The word is kept, but demoted. The theory rides on **tending**, the neutral structural term; *will* is only its purified traditional name, introduced after the willer and the willed are already gone, so that no agency, choice, or desire is smuggled into the ground. A reader who hears theology or psychology in it is hearing what the demotion is designed to remove.

The second is *first*. From a locus, the tending is the **first** move — first in the sequence that locus perceives as its time. From the whole there is no time for it to be earlier in, so it is not earlier than anything; it is simply the **fundamental** tending, present, the standing root of every moment rather than a past event. “First” is therefore exact provided it is heard *sub specie durationis* — first in a locus’s perceived sequence — and “fundamental” is its name *sub specie aeternitatis*. The tending is first from within and fundamental from the whole, one move under two standpoints, which is the next layer’s business.

Whether that fundamental tending is blind or yearning — a bare self-moving, or a tending that in some sense *wants* its own differentiation — is left open [O]. The hypothesis needs only that it tends; the temperature of the ground is a further and separable question. This layer is the ground of Layer 2’s posit: it is philosophical, it is not tested by any structural study, and no separate revision condition is stated for it.

Layer 4 — The interpretive principle: Relational Relativity

One principle governs how every claim above is to be read, and without it they read as contradictions. **Relational Relativity**: a description is relative to the standpoint it is made from; the reality

it describes is invariant across standpoints; and where the standpoints diverge, more than one description is true at once. Two standpoints matter. A *locus* is a finite, bounded vantage inside the unfolding — your seat as you read this — from which the world is many, separate, and in time, each of those fully real. *Unity* is the undifferentiated whole, from which there are no separate things and no before or after, only the one present. The same reality read from the two seats yields descriptions that look like flat contradictions — many and one, timed and timeless, first and fundamental, bounded and whole — and the rule is not to pick a winner but to name the seat and let both stand. This is not a mystical license. It is the same structure as physical relativity, where a quantity is frame-relative while the reality is invariant across frames, generalized from inertial frames to standpoints as such — and it is what keeps the hypothesis from collapsing into a paradox that was never in it.

The bridge claim — experience as localization [P]

Between the ontology and the science stands the claim that does the hypothesis’s one explanatory job, and it is stated here in the author’s own words so that its standing is not mistaken:

“Presence is posited as one and undivided. A bounded perspective is a localization within that presence, not a partition of it. We hypothesize that certain bounded relational arrangements constitute the outward structure of such perspectives; they do not produce presence. Which arrangements qualify, and what structural conditions characterize a bounded experiential perspective, remain the bridge question. An arrangement’s possession of records, an internal model or bounded informational access does not by itself establish that correspondence.”

And its clarification, which the author has endorsed as the intended target of the program’s correspondence work:

“Presence is not the product of self-relation. Self-relation gives it a particular structural expression; sufficiently organized self-observation allows that expression to become accessible to itself, from a particular structural perspective of depth and access. The machinery shapes and mediates experience without supplying its fundamental experiential character.”

Three components are kept apart in that clarification, and the program keeps them apart: (i) a claim about the relation between presence and self-relation — presence is not its product; self-relation gives it a particular structural expression; (ii) a claim about self-observation and accessibility-to-itself; and (iii) the phrase “a particular structural perspective of depth and access”, which names a *structural* target. Only component (iii) has been examined by structural work — examined without any inference about experientiality or self-observation, without any definition of “structural perspective”, “depth” or “access” being supplied by the clarification itself, and without any existing construction having been shown to realize the target it names. Components (i) and (ii) are the author’s philosophical hypothesis. The clarification as a whole is not a theorem, not a definition in any mathematical note, and not an empirical finding; it is not a premise of any proof; and the possible bearing of its first two components on future structural or empirical work is open.

Three jobs are distinct, and the hypothesis promises exactly one of them. *Record formation* — how information becomes available and stable — is structural, and the completed measurement work addresses it (“the fixing is structural, not mental”). *Outcome actuality* — what makes an outcome an actual event, and whether the account determines which — is not promised: presence does not

cause collapse, is not a scoring function, is not a measurement effect, and nothing shows where or why selection occurs; outcome actuality is named only as a candidate boundary [O]. *Experience* — why an event is experienced, and by which bounded perspective — is the job the hypothesis takes on: in the author’s words, “experience localization is what presence is or supplies,” with the caveat that “presence isn’t bound locally,” so that the job is to characterize the bounded perspective, not to describe presence separating. Success on that job would mean a structural characterization of bounded experiential perspective, with its bearing on the one presence argued separately and earned by comparison — never read off the mathematics.

What would revise this claim is stated in advance, and in two halves. The *structural* half — a proposed condition on which arrangements qualify — is revised when a proposed necessary condition fails on one admissible counterexample that has the capacity without the condition, or a proposed sufficient condition fails on one admissible example that has the condition without the capacity. Such a result revises the particular structural criterion, with its implications for presence assessed separately. The *presence* half proposes no direct measurement; whether observation could bear on it indirectly is open. And repeated failure of proposed structural consequences would warrant revising the associated bridge claims and the ontology’s role as a research guide, with implications for the ontology itself assessed according to how securely those consequences had been derived. One such failure has already occurred, and is reported in Layer 6.

Layer 5 — The scientific bridge [T / A / O]

Physics measures the *outside* face — relation, quantity, frequency, invariance, everything that survives a change of frame. On that face there is exact, checked work: that a construction wholly of relation, with no substance in it, can be made covariant, completely positive, and exact, and can do real work (the exact $\text{Sp}(3)$ relational channel, machine-verified, trace-preserving and — under a stated convention premise — action-determined); that covariance and its invariants are exactly reducible and independently verifiable (the $\text{USp}(4)$ and $\text{USp}(6) = \text{Sp}(3)$ compression results, exact rational certificates, verifiers returning ALL PASS); and, from the 2026 studies, exact limits on retaining, copying and reading quantum information at one operating point, and exact accounts of when an operational access boundary survives, leaks, and can be protected (Layer 6, front 2). These are demonstrated results about the outside face [T]. With respect to the ontology they are offered as [A] only — a suggestive shape, never evidence that reality is so built. Beside them stands an interpretive reading of the double-slit family of experiments — definiteness as a relation formed, not a property revealed — which is the hypothesis’s interpretation of established findings and is not itself a demonstrated result (front 1).

Two disciplines govern the bridge, neither of which v1.2 stated in this form.

First, on measurement. “Presence is unmeasurable” is to be read in one sense only: no direct operational measurement of presence is proposed. The stronger statement — that presence is the remainder no structural description captures, so that no direct measurement is possible in principle — is the irreducibility component of Layer 2, held there revisably; it is not made definitional. Whether a theory incorporating presence has consequences that distinguish it from alternatives is *open* [O]: no validated measurement and no distinguishing consequence has been established, and the opposite claim — identical predictions under every possible observation — is not asserted either; it would need its own argument. A universal condition can still carry consequences for the theory that contains it, in the way a spacetime metric is tested not by removing it but by the differential predictions of the theory that includes it. The honest position is that no distinguishing consequence

has been specified yet, not that none could be.

Second, on inference. Three links are needed before any structural result bears on presence, and each needs its own justification: **relational premise** $\rightarrow$ **required structural consequence** $\rightarrow$ **relevance to presence**. A successful first link is progress for relational primitivism on its own; the second must never be assumed. Without this separation almost any successful relational calculation would look supportive even when its result follows without presence — and the measurement-record work taught precisely that lesson: none of its results required presence, and the relational premise, in its quoted wording, has not been derived to entail any operational restriction on writing, readout or persistence beyond standard quantum mechanics. The access studies that followed used no premise about presence either. That is neither a disproof of presence nor corroboration of it. The traffic across the bridge is therefore asymmetric. The demonstrated results can revise the hypothesis's structural proposals, and a successful rival could weaken its explanatory advantage by comparison; they cannot establish its ontology, and the hypothesis supplies no premise to the mathematics.

Layer 6 — Where evidence could accumulate [$P \rightarrow T / O$]

No direct detection of presence is proposed, so the program does not look for it. It looks instead at the *structures through which presence would localize* — boundary, definiteness, time, covariance, self-relation — and makes one wager about them: **the hypothesis is not tested by detecting presence, but by asking whether the structural places where presence would localize are exactly the places where our present theories already expose an unresolved dependence on relation**. Where a mature theory has had to leave relation, boundary, definiteness, or time *primitive* — assumed rather than derived — the hypothesis bets that the cleaner structure comes from treating that primitive as the localizing move, not the floor.

The standing of that wager is now stated exactly, because v1.2 left it to read as a prediction already on the table. It is a posit to be earned as a result [$P \rightarrow T$], and it has not yet been established: nothing has been shown either way about whether localization corresponds to physics' unresolved primitives. “Cleaner” is not left to taste. Before any front is tested, the comparison criterion must be declared — fewer independently justified assumptions, a derived rather than stipulated boundary condition, or another identifiable explanatory improvement — and the front judged by it. A front on which, by the declared criterion, the relational treatment yields no improvement over the standard account violates the wager there; if fronts repeatedly show none, the wager is demoted from a prediction to a heuristic. And even a conditional theorem on a front establishes its mathematical conclusion, not that presence requires its assumptions.

Five fronts follow. Each names what current theory leaves primitive, what the hypothesis bets structurally, and what kind of result would count — and none of them is a measurement of the inside. One of them, the second, has been tested at one point, and the result is reported as it came out.

1 • Measurement and definiteness. *Left primitive:* quantum theory gives the statistics of outcomes exactly, but must insert by hand *when* a possibility becomes a fact — the measurement problem, managed by a classical/quantum cut no equation locates. *The bet:* definiteness is never absolute; it is constituted in a fixing relation. The bet concerns *path-definiteness* — whether one of the interfering alternatives is a fact — and says that it holds only where which-path information is created and remains available; it does not concern the registration of outcomes at a detector, which occurs whether or not which-path information is retained. *What is established, and what the hypothesis reads into it:* the experiments establish that interference visibility tracks the availability

of which-path information — marked, decohered, or conditionally erased — and, in the delayed-choice eraser of Kim et al. (2000), that interference reappears only in subensembles conditioned on the idler’s outcome, with every signal detection already registered: no registered outcome is undone. Registered outcomes do not come and go. The hypothesis’s reading of those findings — that definiteness is constituted in the fixing relation rather than revealed — is an interpretation, stated in the double-slit paper, and it says the exact opposite of “consciousness collapses the wavefunction”: the fixing is structural, not mental. *What would count*: a declared comparison criterion on which that reading improves on the standard account; none has been declared, and the reading has not been tested. *Status*: the measurement work below addresses record formation, finds it structural in the worked case, and locates outcome actuality outside that case’s structural inventory; but compatibility with familiar measurement behaviour would not establish the missing bridge to presence, so this front is not where a consequence test is run.

2 · Boundary and localization — tested, and revised. *Left primitive*: the sciences of living and cognitive systems assume a system already marked off from its world — the boundary is drawn before the theory begins. *The bet, as v1.2 stated it*: a locus exists only where a boundary can carry a model of its own coupling instead of dissolving it, with a threshold between a boundary that preserves the coherence a model needs and one that merely breaks correlation — to be characterized in the language of Markov blankets and coherence-preserving versus entanglement-breaking coupling. *What happened*: that threshold was selected as the hypothesis’s one consequence test, framed as a necessity claim under explicitly stated conditions — is non-entanglement-breaking coupling necessary for a bounded system to maintain an accurate, causally used model of its own coupling? — with what counts as a model, what the boundary includes, and the accuracy and dependence criteria all fixed before anything was computed. The answer, under those conditions, was an **admissible classical counterexample**. An entanglement-breaking boundary — a measure-and-prepare channel, which destroys entanglement with anything untouched but can carry classical records — supported the defined capacity: the system’s estimate of its own coupling reached error $\frac{1}{8}$ against chance $\frac{1}{2}$ and against the best achievable without memory, $\frac{1}{4}$; the estimate depended on the stored content (destroying it raised the error to $\frac{3}{8}$, past the declared tolerance); and the admissibility conditions declared in advance were met in their declared readings — dependence on stored content was established, while exclusion of generic resource loss in a broader reading was not, and was reported as such.

So the proposed necessary condition is withdrawn: the coherence-versus-entanglement-breaking threshold is not a necessity claim for this capacity, and the structural half of the bridge claim is revised to that extent. No definition was strengthened afterwards to recover the desired answer, and the arrangement itself is kept unchanged and unclassified. Two corrections travelled with the test and are kept: “entanglement-breaking” does not mean “merely breaks correlation,” so classical boundaries cannot be assumed incapable of supporting models; and a Markov blanket is a conditional-independence structure while an entanglement-breaking channel is an action on states — they are not interchangeable boundary criteria.

What the result did not settle: which systems experience anything. It is not a rejection of presence, of an experiential perspective, or of outcome selection; it does not bear on the datum, and it neither confirms nor refutes the ontology by itself — it constrains one proposed bridge. Read against the commitments, the counterexample arrangement is neither affirmed nor excluded as a locus: no commitment affirms it, none excludes it, and the only candidate discriminator — non-entanglement-breaking coupling — was shown unnecessary for the declared coupling-model capacity, with no independent justification of it as a locus criterion established. The arrangement

demonstrably carries a causally used representation of its coupling; whether it represents its own activity as its own was not assessed — neither shown present nor shown absent — and whether that difference matters is exactly what remains open. The consequence is that the next advance on this front is a premise, not a computation: a condition on which arrangements qualify would have to be stated and independently motivated before any further test could mean anything. Candidates already in the program’s texts — a representation of one’s own activity as one’s own; a returning organization with an access boundary; a self-relation the arrangement instantiates — are candidates only, none adopted here.

What the front retains: the question, now sharper, and a concrete comparison case. *What the subsequent studies added* (reported below): exact examples of access that is situated, restricted, resource-dependent and dynamically protected — and the finding that meeting protective criteria does not identify a unique mechanism.

3 • Time and clocking. *Left primitive:* fundamental physics writes its laws against a time it does not derive, and in quantum gravity the “problem of time” is exactly that the background parameter has nowhere left to stand. *The bet:* metric time is not fundamental; it appears where a locus can clock a rhythm — a bounded system carrying internal correlations that keep a rate — and nowhere else. The whole has sequence but no measure. *What would count:* relational and quantum-clock formulations in which metric time *emerges* from correlations internal to bounded subsystems rather than being assumed as a backdrop — duration defined exactly where a locus can clock it, undefined where none can. A live instance of this frontier has been realized: a cold-atom “quantum Galileo” interferometer (Dobkowski et al., *Sci. Adv.* **12**, eaec8045, 2026) that measures the quantum phase of a freely falling wave packet against a stationary reference held in the laboratory frame, and confirms the phase the equivalence principle predicts in the quantum domain — a case where phase, gravity, frame, and clocking meet in one experimentally accessible relational structure, the freely falling and laboratory descriptions cohering through a single gauge phase [A]. *Status:* a directional bet; no comparison criterion has been declared for it and nothing has been shown either way.

4 • Covariance and Planck-scale structure. *Left primitive:* our deepest theories still begin with points in space and moments in time, then strain to keep that starting stuff coherent at the Planck scale. *The bet:* if spacetime is late structure — a stabilized relation, not the floor — the most fundamental physics should not begin with points and moments at all, but with relational invariants, distinguishability, covariance, and the limits of measurement. *What would count:* that a construction made wholly of relation, with no substance in it, can be covariant, completely positive, and exact, and can be machine-verified to be so — which the relational-channel and compression results demonstrate on the outside face [T]. To the ontology these stay [A], a suggestive shape and never a proof; what they establish is that the relational starting point is *constructible and consistent* — the entry price for the deeper claim. This is the highest-risk front, and it promises nothing about “predicting quantum gravity.” The same quantum-Galileo experiment’s stated outlook — toward clock wave packets, nanodiamond interferometers, and tests bearing on the quantization of gravity and gravitationally induced collapse — marks where a “spacetime as late relational structure” wager should watch for whether the deepest layer reads more cleanly in relational invariants than in points and moments [A]. *Status:* as for front 3.

5 • Mind and the built locus. *Left primitive:* theories of mind assume a subject and hunt for its neural or computational correlates, leaving the subject’s boundary and the continuity of its experience as givens. *The bet:* felt continuity, arising, and the sense of a self track a specific *structure* — a cyclic, returning organization with an access boundary between what it represents and what

it does not — and should survive a change of the underlying substrate, because presence would localize through the structure, not the material. *What would count:* that such an organization, built and run, reproduces the structural signatures of a locus — continuity, return, an access edge — independently of substrate. The Ellipse Mind Model is one such structure, offered as an existence proof of the *shape* [A], never as evidence that anything is felt inside it. *Discipline added since v1.2:* self-conditioning — a history-dependent effect of a locus’s own adaptive writing on its later response, which has been demonstrated functionally — is not self-representation; the rungs above it (self-modelling, functional self-attribution, felt self-presence) are candidate distinctions whose ordering must not be assumed, and the second front’s counterexample arrangement, which carries a causally used representation of its coupling, does not establish any of them — their presence or absence was not assessed. No criterion may serve both to identify a mechanism and to score the capacity it is proposed to explain. Whether representing one’s own activity is necessary for basic experience, rather than only for particular forms of self-awareness, was examined in a bounded comparison with self-representational and first-personal-givenness accounts and left open; nothing was adopted. The clarification’s self-observation component is examined by none of this; its bearing remains open, and its experiential reading remains the author’s philosophical hypothesis. Any dependency experiment on the built locus waits on the concrete identification of a candidate mechanism, which this statement does not supply.

The order is deliberate: the first two fronts touch demonstrated work — the second now with a negative result on its first proposal — the middle two are live frontiers where the hypothesis makes a directional bet, and the last is an existence proof of structure. None of the five measures presence. Each asks the one question a program built on an undetected inside is entitled to ask — whether the places our theories still leave primitive are the very places the hypothesis says the localizing move must be — and the program now has one worked instance of what it costs to ask it properly: a declared criterion, a declared revision, and no retuning.

What the measurement work teaches

Core claim. The measurement work gives a concrete case in which relational structure reaches lawful transformation and exact evaluative return, but not actual selection. This does not prove presence; it locates the kind of gap the Presence Hypothesis is meant to name.

The relational measurement analysis (companion note, *Relational Measurement*) is the first Layer 6 front carried far enough to report a lesson, and the lesson is disciplinary, not evidential: it supplies a worked case against which the hypothesis’s reading of presence can be stated precisely, while offering no evidence for that reading. In one sentence: the measurement work does not identify presence with collapse; and the hypothesis proposes — as its interpretation of the case, not as something the case establishes — that presence is not to be looked for as another operator inside the measurement formalism, and that if presence is relevant to measurement at all, it is relevant at the boundary between structurally available outcomes and actuality rather than as a hidden mechanism among the structural terms. Neither that exclusion nor that location is established by the construction.

The $\text{Sp}(3)$ scoring result makes this sharp, by an instructive route. One object in the construction yields, at once, a channel action ($N = L^T$), an evaluative score, and a passage that is coherent or classicalized. The scoring row first *looked* like a measurement effect — a POVM element, just the kind of object one might have hoped presence hides behind. It failed that test exactly (its operator is provably not self-adjoint), then resolved positively into a sector-return figure of merit

of the channel, $\text{Tr}[P_s N(P_s)]/d_s$ — a legitimate positive evaluation of the map, computed entirely from structure [T]. So the formalism reached *further* than expected: it represents structural action, sector-return evaluation, and the retention or loss of coherence, each to the last exact rational — and still, in that worked case, none of that inventory contains the fact that *this* outcome, rather than another, is the one realized.

That is the whole use of the result here, and it cuts against a tempting but wrong reading of the hypothesis. On the hypothesis’s own reading, **presence does not cause collapse, is not a scoring function, and is not a POVM effect** — these are the hypothesis’s interpretive commitments, not conclusions the construction secures. What the construction shows is narrower: a case where the structural description is unusually complete — channel, scoring, return-fidelity, coherent-versus-classical passage — and *still* does not, by itself, fix which structurally available outcome becomes actual. The absence of outcome selection from that inventory does not establish where presence belongs. It is the hypothesis that would place presence, if anywhere near measurement, at that boundary — where the inventory is complete as structure yet does not contain actuality-as-selected — and the placement is motivated by the case, not established by it.

A further lesson comes from *how* the structure was secured, and it bears directly on the discipline presence demands. The sector-return structure was invisible — worse, actively distorted — when the diagonal sub-channels were read in the naive Euclidean frame: that reading returned a non-Hermitian, non-positive object with a spurious rank and spectrum. Only in the construction’s own metric (G_W -orthonormal) frame did the real structure appear — Hermitian, positive, low rank, exactly balanced. This is a concrete mathematical instance of a principle the ontology leans on elsewhere: *what appears in one representational frame can be a property of the frame, not of the thing*. The corrective is to change frames before crediting a structure to the object. That is exactly the anti-reification discipline presence requires. If a quantity as structural as a Choi spectrum can be a frame-artifact, the temptation to reify presence into whatever operator, score, or invariant a given formalism happens to expose is the same error one level deeper — and the same corrective applies: on the hypothesis’s reading, presence is not to be identified with any structure that a particular frame makes salient.

Two disciplines keep the lesson honest. It is negative boundary evidence, never positive proof: nothing here shows *where* outcome selection occurs, *why* it occurs, or that presence is involved at all; only that a rich, exact structural inventory can be assembled up to the near side of selection and stop there [O]. And the completeness is reported for the worked construction, not proved in general — that exact structure reaches channel, scoring, and fidelity but not selection is established for this $\text{Sp}(3)$ specimen, its general form open [O]. What the result licenses is therefore modest, and for that reason usable: outcome selection is named as one candidate site where the presence-boundary that front 1 already watches may become physically sharp, and the hypothesis declines to identify presence with any of the structural objects on the near side of it — its interpretation, consistent with the case, not a conclusion the case delivers.

The record work that followed sharpened the lesson from the other side. Exact limits were established on retaining, copying and reading quantum information at one operating point — the unrestricted class of apparatus strictly outperforms both an environment-free parity-intertwining class and an intermediate class, with certified brackets — and it was shown which apparatus restrictions impose a cost, that including an ideally prepared reference reproduces the frame-relative readout exactly, and that the persistence of a record is a property of the pair (readout, dynamics), not of symmetry [T]. None of those results required presence. Some apparent restrictions came from the chosen apparatus class; some distinctions disappeared once references were matched;

persistence required specified dynamics rather than invariance. And the relational premise, in its quoted wording, has not been derived to entail any operational restriction on writing, readout or persistence beyond standard quantum mechanics. That is the three-link discipline of Layer 5 learned the hard way, and it is kept.

What the access studies teach

The second front’s negative result was followed, in 2026, by a sequence of studies of *access* — of what a bounded part of a system can and cannot resolve, from where, for how long, at what cost, and under what protection — established by written proofs with exact supporting checks and, in the controller study, certified numerical enclosures. Each was declared before it was run, judged by its declared criteria, and closed at its declared scope; each is a result about the outside face, with no premise about presence used and nothing about experience established. They are reported here because they are the program’s concrete examples of access being situated, restricted, resource-dependent and dynamically protected — the structural vocabulary in which any bridge claim would have to be stated — and because the last of them teaches a lesson the hypothesis must carry.

study (2026)	established [T]	not established [O]
An operational access boundary, realized	An explicit two-qubit arrangement under declared resources realizes an availability restriction: some distinctions are inaccessible, non-classical structure remains accessible, every effect of the restricted algebra is implementable by one finite adaptive protocol, and two control sets that distinguish the same input pairs differ in the exact measurements they permit — an accessible observable span does not describe every aspect of operational access.	Identification of this restriction with depth, self-observation, or an experienced perspective.
Two positions, one interaction	Two sites with equally structured but different access to the same system, each resolving distinctions the other cannot; their common measurable effects are those of the abelian intersection; some distinctions are inaccessible from either site. Positional difference <i>without</i> an access hierarchy, with the interaction explicit and access operationally derived.	That hierarchies are ruled out elsewhere; that either site is deeper; any experienced perspective; correspondence to a persistent organization’s perspective.
Dynamical stability of the boundary	Under the declared chosen-wait permissions the access boundary survives free evolution exactly when the remainder’s Hamiltonian commutes with the interaction’s readout axis; every Hamiltonian outside that class makes some previously inaccessible distinction detectable.	Why those dynamics would be selected; how an organization would maintain them; whether the boundary corresponds to depth or experience.

study (2026)	established [T]	not established [O]
Finite-resource access leakage	Quantitative, resource-dependent limitation of access despite failure of the exact restriction: for every budgeted reader and every hidden pair the leakage is at most $\min\{1, 2 \epsilon T, N a(\phi)\}$ (T the run time, N the gate budget, $\tan \phi = \epsilon /\omega$ the tilt of the remainder's Hamiltonian $\omega Z + \epsilon X$, $a(\phi) = \sin 2\phi$ for $\phi \leq \frac{\pi}{4}$ and 1 beyond) — a bound, not generally tight; separately, the exact one-gate optimum was established (the note's Theorem 4), attained by an exhibited protocol and lying below the bound in general; with one gate use, access to hidden distinctions is effectively limited — kept below the declared tolerance $\frac{1}{2}$ — at every time if and only if $ \epsilon /\omega < 2 - \sqrt{3}$, and otherwise exactly for T below an explicit threshold.	Active maintenance, organizational persistence, depth, experience.
Controlled maintenance	A fixed periodic intervention extends effective limitation at both comparison levels, on the declared grid, only at the smallest spacing — and there, for the runs $K = 2$ and 4, protects the remainder's Z -distinctions at every endpoint, at the cost of every Q_1 -local distinction and every Q_1 - Q_2 correlation carried forward in the state (loss up to 1, the reset's known cost, kept in the accounting; it concerns information carried forward, not a record a reader has already retained): a trade-off, not free protection. For $K = 8$ at the same point the two extensions persist, but the Z -distinctions incur a loss of $\approx 3.0 \cdot 10^{-3}$ at the last endpoint — preserved at seven of eight endpoints, lost at the eighth. At the half-period spacing, at the example angle, it produces a crossing of the tolerance that free evolution does not: a schedule can increase leakage.	Self-maintenance, organizational persistence, depth, experience; anything beyond the declared grid, budgets and readers.
Reversible maintenance	At the declared point, schedule and one-gate reader budget, reversible maintenance prolongs limited leakage while leaving every pair in the declared useful-access class at least as distinguishable as under free evolution at every required endpoint; it avoids the reset's information loss at explicitly greater interaction cost — controlled protection of a resource-bounded access pattern.	Autonomous self-maintenance, robustness, indefinite persistence, depth, experience.

study (2026)	established [T]	not established [O]
An internal controller (proof of principle)	A prepared finite controller inside the enlarged model — a clock coupled directly to the remainder through a potential, intended to stand in for the timed maintenance pulses — protects limited access over the run (every endpoint exposure and the one-gate full record below the tolerance) while preserving the declared useful access at every required endpoint, at each of the four clock sizes separately. A proof of principle with a direct controller–remainder coupling, not an internal implementation with the one-sided maintenance resources alone.	Faithful pulse reproduction (the channel realized on the remainder is not the reversible pulse); self-maintenance; an experiential interpretation; the separation of the controller’s timing from its Z-recording.
The constant-potential comparison	With the controller’s potential replaced by a constant one the clock decouples exactly and the remainder evolves under a static field; this untimed arrangement meets all four of the controller’s criteria at the declared point, for every clock size at once. The criteria therefore do not require a clock, a timed program or information storage in a controller at that point; the controller result stands (it never claimed necessity); three different channels meet the same four criteria.	The mechanism responsible for the controller’s success; which part of its limitation came from timing and which from recording; anything about self-maintenance, persistence, depth or experience.

Three things follow for the hypothesis, and none of them is a confirmation.

First, the program now has exact, worked cases it did not have in v1.2: a part of a system with a situated vantage — access that depends on position, on resources, on dynamics, and on what is done to protect it — characterized without any appeal to presence. Whether any of these arrangements is a bounded perspective in the bridge claim’s sense is exactly what none of the studies established; they supply the vocabulary, not the classification.

Second, meeting protective criteria does not identify a unique mechanism. A steady field satisfies the same four criteria as a prepared controller, with the clock present but decoupled and doing nothing, no timed program, and nothing stored. Successful protection of an access pattern is therefore distinguished from evidence about the mechanism producing it — and this distinction is carried into the hypothesis: meeting a protective criterion establishes no locus attribution. Whether protected access could still contribute to a justified locus criterion is left open; none of these arrangements has been independently classified experientially, in either direction.

Third, and for the same reason, restricted or protected access alone cannot do all the explanatory work the bridge claim was looking for. Possession of records, an internal model, or bounded informational access does not by itself establish the correspondence to a bounded experiential perspective — the author’s own sentence — and the studies supply a concrete structural instance of the point: the same protective criteria are met by arrangements as different as a timed, coupled clock and a static field, so meeting them identifies no mechanism and establishes no locus attribution.

What the studies supply is a more precise structural foundation; what they leave exactly where it was is the correspondence to experienced perspective [O]. More research is needed before that bridge is strengthened; it was not needed before bringing the hypothesis up to date with what has been learned.

Proposed advantages over the alternatives — support, not claim

Offered only now, after the claim stands, and never turned back to establish it; each is a *proposed* advantage, to be earned by the comparison the revision condition describes, not an advantage already secured. Against **materialism and idealism**, the hypothesis declines the premise both share — that reality is at bottom a stuff — while keeping matter fully real as a stable relation. Against **dualism**, it posits no second substance and inherits no interaction problem, because inside and outside are one move. Against **structuralism**, it answers *relations between what?* — nothing owed; the relata are downstream knots. Against **panpsychism**, it has no combination problem, because presence is localized top-down rather than summed bottom-up. Against **illusionism** — which, in Frankish’s formulation, accepts that experiences occur and denies that they have the irreducibly phenomenal character introspection presents them as having — the hypothesis does not charge it with discarding experience; the dispute is precisely over Layer 2’s irreducibility component, which the hypothesis holds and illusionism denies, and it is to be argued by comparison, not settled by the datum. Each proposed advantage has the same shape: if the comparison succeeds, the hypothesis would pay a debt the alternative has not paid, because it sets the foundation one step deeper — at the move whose two faces the others each mistook, one or the other, for the floor.

The advantage is comparative, and that is how it would be lost. A competing account that explained the relevant experiential and structural facts at least as well, with better-justified assumptions and fewer unresolved explanatory burdens, and without requiring one fundamental presence, would weaken or remove it. That is the hypothesis’s own revision condition, stated in Layer 2, and it is the step from the datum to the ontology — abductive, to be earned by comparison with rivals — that the program has not yet taken and does not claim to have taken.

What the hypothesis claims, and what it does not

It claims that experience occurs [E]; that presence and structure are two faces of one move, presence one and undivided [P]; that the move is the fundamental tending of the Unified [P]; and that experience is presence localized within bounded loci — certain bounded relational arrangements constituting the outward structure of such perspectives, not producing presence [P]. It holds, revisably, that presence is not a structural quantity [P]. It does **not** claim to have *explained* presence. The hard problem is dissolved in one precise sense only — as a *demand for a structural bridge* from organization to an inside, a demand that lapses because there is no bridge to build when inside and outside are already one move. The residue the hard problem named is not dissolved: presence remains, real and given, exactly as Layer 1 gave it, with no direct measurement proposed and its irreducibility held as the hypothesis’s interpretation rather than as a fact the datum delivers. The hypothesis explains the *misframing* of the problem, not the feltness.

It does not claim proof from physics: the demonstrated results establish that the outside face is constructible, covariant, and exact, and that access can be situated, restricted, resource-dependent and dynamically protected — not that the ontology is true. It does not claim that the completed research confirms presence: none of the structural results has required presence, none bears on the datum, and none confirms or refutes the ontology by itself. It does not claim that the one

consequence test it has run supports it: that test returned a counterexample to the hypothesis’s first structural proposal, and the proposal was withdrawn. It does not claim to know which arrangements are loci; that is the open bridge question, and its next advance is a premise, not a computation. And it does not claim that any built organization is felt from within, or that any protective mechanism is a signature of a locus. What is offered is a hypothesis with a stated datum, a clean claim, a governing discipline, a bounded role for science, an explicit revision condition, and a research program that has already revised it once — held to the honesty of saying, at each step, which part is given, which is posited, which is demonstrated, and which is still open.

Reconciliation ledger — what v1.3 retains, revises, withdraws, and leaves open

Retained. The decomposition of *consciousness* / *experience* / *observer* and the term “presence” as the isolated residue. The datum [E]. The two-faces ontology and its refusals [P]. The generative hypothesis of the tending, with *will* demoted and *first* read under two standpoints [P]. Relational Relativity. The measurement lessons, now as the hypothesis’s interpretation of the worked case — presence does not cause collapse, is not a scoring function, is not a measurement effect [P]; outcome selection a candidate boundary only [O]. Fronts 1, 3, 4 and 5 as directional bets, with the quantum-Galileo and Ellipse references as [A]. The comparative advantages as support, never as claim.

Revised. *The definition:* the sentence making presence indicable by its line “and never exhibited directly” is replaced by one that leaves open whether any structural description reaches across it. *Layer 1:* the datum is narrowed to “experience occurs”; the claim that presence is not a structural quantity is moved to Layer 2 as a revisable interpretation, and the rejection of the identity theorist’s shortcut is now conditional on it. *The thesis and Layer 5:* “unmeasurable by definition” is replaced by the two-part discipline — no direct measurement proposed; indirect empirical bearing open, not denied. *Layer 2:* presence stated as one, undivided and not locally bound; the author’s revision conditions and the separate revisability of its components stated. *Layer 3:* its standing added — philosophical, untested by any structural study, with no separate revision condition stated for it. *The bridge claim:* made explicit in the author’s words, with the clarification on presence, structural expression and self-observation and the three-way separation it requires, labelled as philosophical hypothesis; the three jobs distinguished and one promised. *Layer 5:* one-way traffic replaced by the three-link discipline and the asymmetric bridge. *Layer 6:* the wager restated as a posit to be earned, with a declared comparison criterion required before any test and demotion to a heuristic as the stated failure mode. *Front 1:* what the erasure experiments establish separated from the hypothesis’s reading, which is no longer labelled [T]. *Front 2:* the test and its result reported; the question retained, sharper. *Front 5:* the discipline on self-conditioning, functional rungs and identifier-versus-outcome added. *The measurement section:* its exclusions (not collapse, not a score, not an effect) and its boundary placement stated as the hypothesis’s interpretation, consistent with the worked case and not secured by it. *Layer 1 and the comparison with rivals:* the datum no longer said to refute anyone; the advantages labelled proposed, to be earned by comparison, with illusionism’s actual position stated. *Claims and non-claims:* extended to say what the research has and has not done.

Withdrawn. The [T] label on the double-slit reading (“definiteness is a relation formed and not a property revealed”), which is interpretation. “It refutes the eliminativist” and “keeps the one datum instead of spending it to save a theory” as characterizations of rival positions. The coherence-preserving-versus-entanglement-breaking threshold as a necessity condition for a boundary that carries a model of its own coupling (an admissible classical counterexample under declared

conditions; no redefinition undertaken to restore it). “Unmeasurable by definition” as a definitional claim. “The datum arrives with its boundary already drawn.” The juxtaposition of Markov blankets and entanglement-breaking coupling as one boundary language, since the two are not interchangeable boundary criteria. The implicit suggestion that a model-carrying boundary was the standing prediction about which systems are loci.

Open. (1) Datum $\rightarrow$ ontology: that experience occurs does not establish one fundamental presence; the step is abductive and is to be earned by comparison. (2) Ontology $\rightarrow$ bridge: what makes an arrangement a bounded perspective — the bridge question; the counterexample arrangement is neither affirmed nor excluded, and a condition on which arrangements qualify would have to be stated and independently motivated. (3) Bridge $\rightarrow$ structural consequence: which structural condition relational primitivism *requires*, as opposed to a conjecture it motivates. (4) Structural consequence $\rightarrow$ relevance to presence: never read off the mathematics. (5) Outcome actuality: a candidate boundary; no mechanism, no promise. (6) The relational premise’s own wording: not yet translated into any operational restriction. (7) Empirical status: whether a theory incorporating presence has distinguishing consequences — open in both directions. (8) The mechanism behind the controller’s protective success, and the separation of timing from recording. (9) The experiential bridge from any structural perspective of depth and access to self-observation and to experience — the author’s philosophical hypothesis, not examined by any structural study. (10) The temperature of the ground: whether the tending is blind or yearning.

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