

Orphaned Patterns

An Abductive Search Program of Resonance Monism — Working Paper No. 2: Method, Five Candidates, One Open Research Trail

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Foundations of the system in Working Paper No. 1 (Outline of a Theory of the Perceptive Ground, PhilArchive 2026) and in Der Punkt und die Welle / The Point and the Wave (2026)

Abstract

This working paper presents a falsification-disciplined search program derived from resonance monism, a monist framework whose single axiom posits a non-spatial, non-temporal ground to which perception is intrinsic (Working Paper No. 1). The program searches the accumulated knowledge of several disciplines for orphaned patterns: well-documented regularities that lack a satisfying explanation and become readable under the premise. The premise functions strictly as a search image, not as evidence; a candidate is admitted only if the premise performs work a rival account does not — resolving an acknowledged riddle, licensing a testable prediction, or unifying previously unconnected findings. Mere compatibility is explicitly insufficient, and the strongest rival explanation is carried along in every case. Five candidates are examined: Wigner's unreasonable effectiveness of mathematics; the non-quantizability of gravity and space; the entanglement–space–gravity triad; matter and energy as states of space (the Clifford–Kelvin–Einstein–Wheeler lineage, including a possible pass through the fermion obstacle via non-smooth spatial structure); and the blind spot of introspection. One candidate — synchronicity — is examined and rejected, with the grounds for rejection kept on record. One open research trail is marked: a Gödel-type impossibility structure behind the quantization of space. All results are coherence gains under an accepted axiom, not proofs; falsification routes are stated throughout.

1. Point of Departure and Epistemic Status

Resonance monism asserts, in a single sentence: there exists a fundamental, non-spatial and non-temporal ground to which perception is essentially identical; the physical world is its extension outward, the field of experience its extension inward. The grounding of this system is not the subject of this paper; it is set out in Working Paper No. 1 and in the book [15]. The subject here is a consequence of a methodological kind: if the premise holds, then its signature must lie everywhere in reality, independently of the system — even where no explanation yet exists. Such places we call orphaned patterns: documented regularities that count as open within their respective field and for which the premise offers a reading.

The epistemic status is thus that of abduction, of inference to the best explanation. The premise does not produce the patterns, it makes them visible — observation is theory-laden, and a search image directs the gaze. But precisely here lies the well-known danger: a search image without discipline finds confirmation everywhere. The program meets this danger with an admission rule that renders confirmation worthless and counts only performance.

2. Method: the Iron Rule and the Assessment Grid

The iron rule runs: a candidate is admitted only if the premise accomplishes at least one of three things that a competing explanation does not — first, to resolve or mitigate an acknowledged open riddle of the field; second, to license a testable prediction or retrodiction; third, to bring two previously unconnected findings under one description. Mere compatibility — the pattern also fits the premise — is expressly not a ground for admission. For every candidate the strongest competing explanation is carried along; as long as it fully

suffices, the candidate remains subordinate. A pattern that looks equally good under every theory is worthless for the test. Rejected candidates remain on record with the grounds for their rejection: the list of examined and rejected patterns is as important as the list of admitted ones, because only it shows that the search image does not swallow everything.

Each candidate passes through six fields: field and source; the pattern soberly described; its status within the discipline; the conventional explanation in its strongest form; the reading under the premise; the demonstration of performance. If the sixth field is missing, the candidate is rejected, not parked.

3. Candidate 1: The Unreasonable Effectiveness of Mathematics (Wigner)

The pattern: mathematical structures developed purely from inner logic — often long before any application and built without reference to the world — subsequently describe nature with extreme precision; the number π appears in the Gaussian distribution where nothing circular is present, and Hilbert space, arising from roots foreign to quantum theory, becomes the exact framework of quantum mechanics [1]. Status in the field: open since 1960; Hamming examined four partial explanations and found them, by his own judgment, insufficient [2]. The strongest opposing position, mathematical Platonism, displaces the riddle: it leaves open why the physical world should conform to a separate realm of forms — two realms, one unexplained bridge.

Reading under the premise: physical world (extension outward) and mathematical order (the form-side of the ground) are two forms of expression of the same One; they fit together because they were never two. Demonstration of performance: precisely the bridge at which the standard explanations fail is replaced by a single-root identity; the antecedent fit becomes expectable rather than mysterious. Labeling, strict: a coherence gain under an already accepted axiom, not an independent proof; related first-person ontologies (objective idealism, panpsychism) can accomplish something similar; the sober counter-reading (formalism plus selection) remains open. On the demarcation from the strongest opposing position, expressly: Wigner himself named two miracles — that nature follows mathematical laws, and that the human mind is able to find them. Platonism with selection leaves both bridges open: the one from world to forms and the one from mind to forms. Resonance monism closes both with a single identity — world and mind are the outer and inner sides of the same ground, whose form-side is mathematics. A framework that reduces two miracles to one axiom accomplishes more than one that lets them stand; precisely this reduction is the progress claimed here, no more.

4. Candidate 2: The Non-Quantizability of Gravity and Space

The pattern: the three forces of the Standard Model are quantized; gravity has resisted every quantization for about a century — and it differs categorically: according to general relativity it is not a force within spacetime but the curvature of spacetime itself. The conventional strongest version: the problem is extraordinarily hard but solvable in principle; it remains the null hypothesis.

Reading under the premise: the ground's outward extension — understood throughout as spacetime, not as space in isolation from time — is what is colloquially called space. The three forces are forms within the extension and therefore quantizable; gravity is the shape of the extension itself — and that which enables cannot be grasped with the means of the enabled. Demonstration of performance as a risky prediction: the premise says not only that quantization has so far failed, but why — and that a complete quantization of space would be a category error. This is falsifiable: an accepted quantum gravity that quantizes spacetime itself would refute the prediction. Two reservations, on the record: first, absence of success proves nothing (it may indicate mere difficulty); second, the bridge from the image to the compelling technical ground is

missing — to build it would be work of mathematical translation, not of interpretation itself. A search address for it is marked in Section 8.

Sharpening and demarcation against the most obvious objection: Candidate 3 admits programs that weave space out of entanglement [10], [11] — is that not precisely the reconstruction of space from non-spatial data that is here declared impossible? No, and the distinction is precise: under the premise, entanglement is not an internal form of the extension but the shining-through of its undivided inner side. To understand space as the outer side of the inner unity is what the premise expects; forbidden is only the complete reconstruction of the extension from forms that themselves already lie within it. Hence the sharpened, risky version of the prediction, in two halves with their own loss condition each: what is expected is not that no discrete structures will be found, but — the negative half — that no fundamental quantum gravity of the force-law type — graviton exchange as the base level — will be accepted, and — the positive half — that the viable formulation will instead be of a thermodynamic-informational nature (cf. Candidate 3). The loss condition of the negative half follows directly; that of the positive half on its own: should the quantum gravity eventually accepted turn out to be neither of the force-law type nor thermodynamic-informational in nature, the positive half alone is lost. The strongest test case must be named expressly: loop quantum gravity quantizes areas and volumes discretely and thereby claims exactly what is here contested. Should it prevail as a complete, accepted quantum gravity, this candidate is refuted. That is the loss condition, and it is not a distant one. It must also be noted that this negative prediction is not without precedent in the field: Jacobson, from his thermodynamic derivation of the Einstein equation, himself draws the conclusion that a canonical quantization of that equation may be as inappropriate as quantizing the wave equation of sound in air [12] — one does not quantize an equation of state, one looks for the level beneath it. The candidate advanced here gives this finding a ground: the extension is not a level beneath something, but that which enables itself; hence there is nothing left beneath it to quantize.

Honesty about this bet requires weighting its two halves. The positive half — that the viable formulation will be thermodynamic-informational — is not very risky: it names a well-populated, active research direction, and whoever bets on it bets on the obvious and gains little by being right. By far the greater part of the risk lies in the negative half: that no fundamental quantum gravity of the force-law type, with graviton exchange as the base level, will be accepted. There the prediction loses entirely, and there alone would the loss be costly.

5. Candidate 3: Entanglement, Space, and Gravity as One Ground in Three Faces

The pattern: entangled systems show correlations without signal transmission; at the same time, evidence accumulates that the connectedness of space itself arises from entanglement — space as a woven entanglement pattern [10], [11]. The field thereby has a how without a why: that entanglement weaves space is itself a wonder without a ground. Conventional explanation, strongest form: there is none — the fact is described, not grounded; this gap is precisely what counts as the open riddle. Reading under the premise: two entangled particles are two expressions of the same ground, which in the extension inward were never separate; the spatial distance is an outer side, in the ground there is no distance. Entanglement is not a signal through space but the shining-through of the undivided inner side through the divided outer side. Thus three riddles join into one root: entanglement as translucent inner unity, space as its outer side, gravity as the shape of that outer side (Candidate 2).

Testable structural claim (rigidity test): if the three are the same seen from three sides, they may not be independently variable — every complete description of two would have to compel the third. Coupled variation is, in physics, the fingerprint of hidden identity (electricity and magnetism in Maxwell; pressure and velocity in the Bernoulli relation, coupled by a conserved quantity). Two links of the chain are already

historically welded: space and time since 1905, spacetime and gravity since 1915. Open is only the third seam — spacetime and entanglement. Form-type hypothesis: the third seam, if it holds, will appear as a relation of state and conservation, not as a force law; for this speak the strict coupling of entanglement entropy to areas [13] and the derivability of the Einstein equation as a thermodynamic equation of state [12]. Both outcomes are valuable: confirmed rigidity would make the single-root thesis into demonstrated structure; proven independence of two links would refute it for physics. A meta-observation in passing: if the world is the outer side of a ground, honest research without the premise must in time strike upon every seam of the unity — convergence of the field with the map is then expectation, not anomaly. More sharply put, the hypothesis runs: what is expected is a relation of the type of the first law of thermodynamics — the change in the entanglement entropy of a region proportional to the change in a geometric quantity (area), with the Einstein equation as the consistency condition of this relation [12], [13]. Negatively turned, this yields a second risky prediction: a fundamental quantum gravity of the force-law type, with graviton exchange as the base level, is not expected along this route — the successful formulation will be of a thermodynamic-informational nature.

6. Candidate 4: Matter and Energy as States of Space

The pattern consists of two ungrounded basic facts: the convertibility of matter and energy into each other, for which physics knows the exchange rate but no why — and Einstein's marble-wood asymmetry: the left side of his equation is geometry, the right side matter, two categories in one equation whose unification Einstein sought and did not find. The dream-line of the resolution is old: Clifford proposed in 1870 that matter is nothing but traveling hills of curved space [3]; Kelvin thought of atoms as stable vortices of a medium [4]; Einstein and Infeld described matter, in effect, as the extreme condensation of the field [5]; Wheeler formulated the program of geometrodynamics — geons, mass without mass, physics as geometry [6], [7]. The strongest opposing version: quantum field theory does not need the reduction and is empirically superbly confirmed.

Reading under the premise — here derivation, not addition: if space is the extension of the ground outward, then everything physical must be a mode of this extension. Matter is space condensed into structure (the solid mode of the extension), fields are courses of spatial form (the flowing mode). Demonstration of performance: mass-energy convertibility becomes expectable — two states of one medium are convertible into each other like ice and water; and the marble-wood problem dissolves by identity — the wood is condensed marble, matter curves space as the self-interaction of a medium, not as the interaction of two categories. The hardness of this derivation should be named exactly: it is conditionally strict. Under the axiom there is nothing physical outside the extension; matter as non-space would be a contradiction within the framework, not an option. Strict is the implication — open remains only the axiom, and that is declared. Here too the programme concedes the competition: a neutral monism that posits space as ground-stuff without adopting the full perceptivity postulate could achieve the same coherence gain.

The historical cliff and its possible pass: Wheeler's program failed nameably on the fermions — half-integer spin could not be won from smooth geometry. But the diagnosis must be made more precise: not geometry failed, but smooth geometry. Three down-payments support a multi-state thesis of space. First, mathematics already requires for fermions an additional structure of the manifold beyond the smooth metric (spin structure). Second, in the Einstein–Cartan extension, torsion — the twisting of space — couples exactly to spin [8]. Third, and centrally: Friedman and Sorkin showed in 1980 that geons with topologically nontrivial spatial structure can carry half-integer angular momentum — states with a sign change under rotation by 360 degrees [9]. Additionally, the Alcubierre metric, as an exact solution of the Einstein equations, demonstrates that space admits localized, mobile configurations of itself [14] — under the known

reservation of exotic negative energy. Assessment: the cliff is not leveled, but mapped; the candidate remains a why-offer with a coherence gain, not a result. Overall picture in one sentence: physics knows one thing — the extension — in modes: space as itself, time as its clocking, gravity as its shape, entanglement as its translucent inner unity, fields as its courses, matter as its condensation.

7. Candidate 5: The Blind Spot of Introspection

The pattern: introspection research has shown since the 1970s that people have access to the results of their thinking, not to its processes; asked for reasons, they generate plausible confabulations [16]. The finding has an old line of witnesses: the Brihadaranyaka Upanishad states that one cannot see the seer of seeing nor think the thinker of thinking [17]; Wittgenstein notes, in the West, that the eye does not occur within the visual field [18]. Status: the finding is uncontested, its deeper grounding is not. Conventional explanation, strongest form: self-model theories — a system that models itself cannot at the same time carry the act of modeling as content; the blind spot is functionally expectable, and the cognitive success is explained evolutionarily.

Reading under the premise: the perceiving ground is seeing itself, not a thing seen; that it does not occur within the image is then no additional assumption, but a consequence. Demonstration of performance, precisely bounded: what is compared is the conjunction of three findings — successful cognition, constructive blind spot, real inner side. The self-model theory explains the first two at the price of deflating the third; Kant's transcendental I bears the unseen seer but leaves the fit of thought and world (Candidate 1) open and pays with two realms; Platonism explains neither the fit nor the blind spot. The premise grounds all three links with a single positing, whereby the blind spot falls out as a theorem. Labeling, strict: a coherence gain under an accepted axiom, no new testability; the deflationary counter-reading remains fully open. The same qualification applies here: a neutral monism without the full commitment of resonance monism could derive the blind spot just as well. Noteworthy is the methodological consequence: if the direct path to the inner side is constructively closed, then cognition via structural findings — as in this program — becomes not a stopgap but the only possible way.

8. Open Research Trail: an Impossibility Structure of the Gödel Type

This trail is the most speculative part of the paper and is deliberately carried as a marginal note with a search address, not as a result. Candidate 2 lacks the compelling ground of its prediction; here is marked where that ground would lie, if it exists. The strongest class of proof in mathematics is the impossibility proof by self-contradiction (squaring the circle, the quintic, the halting problem): it refutes the endeavor itself. The deepest self-reference theorem is Gödel's incompleteness — a sufficiently rich, self-referential system cannot completely grasp itself out of itself. Structural hypothesis: to quantize space would mean to reconstruct the extension completely out of its own internal forms — the constellation of the whole that is to be described from its parts. Connectable to a hard precedent: Cubitt, Pérez-García, and Wolf proved in 2015 the undecidability of the spectral gap in quantum many-body systems [19] — undecidability of the Gödel–Turing type demonstrably occurs in physically formulated questions. A precedent of orphaned tools: Galois's group theory was not intended for the quintic.

Distance marking, binding: analogy is not proof — what would have to be shown rigorously is that the quantization of space fulfills Gödel's formal preconditions, which has not yet succeeded for any physical question; the structure may fail to fit at the decisive point, and even in the case of success the execution would demand work of the highest rank. The value accordingly remains bounded: not a proof sketch, but a hypothesis about the location of the proof.

9. Examined and Rejected: Synchronicity (first rejection run)

The iron rule requires that what is rejected remain on record; the first rejection concerns, of all things, the candidate that most flatters the premise. Pattern: subjectively meaningful clusterings of coincidences (Jung: synchronicity). Status in the field: unlike Candidates 1 through 4, not an acknowledged open riddle — the professional discussion holds the phenomenon to be explained. Strongest conventional explanation: base rates of large event sets (with billions of micro-events per life, rare coincidences are regularly due), selective attention and memory (hits are kept, misses forgotten), and the pattern-recognition propensity of perception. This explanation is fully sufficient.

Reading under the premise: possible — coincidences as a surface expression of an order by weight. Demonstration of performance: absent in all three rubrics. No discrimination (every reported clustering is explained exactly as well by selection effects), no prediction (subjective meaningfulness is not prospectively definable — afterward one can interpret, beforehand one can wager nothing), no connection of the previously unconnected. This is mere compatibility — by the rule of this program, not a ground for admission. Result: REJECTED. Clarification: the rejection does not claim that meaningful coincidences cannot exist; it establishes that here the premise explains nothing that the sober explanation does not equally explain. That the most flattering candidate is the first to fall is intended hardness: a search program proves its rule on the candidate it would most have liked to admit.

10. Further Candidate Fields (Outlook)

In preparation are examinations by the same grid: the hard problem of consciousness under the two-sides reading (feeling as the inner view of processing); the convergence of evolution and the threshold of self-organization under the law of correspondence; the cross-cultural simultaneity of the presence-mysticism of the Axial Age as a possible convergent completion; and the documented astonishment of the field at the emergent abilities of large language models under the sediment thesis (language as the congealed precipitate of cognition, whose condensation raises order rather than mere statistics). Each field is examined singly; rejections are recorded. The operationalization of the resonance condition itself is declared an open research task in Working Paper No. 1; were it to succeed, a test instrument would result for whether concrete physical or information-processing systems show orphaned patterns in the sense of this program.

11. Concrete Questions to the Field

From the candidates arise five precise research questions, whose treatment is open to specialists. First, rigidity: can entanglement structure and spatial geometry be varied independently of each other, or does the complete fixing of two links of the chain (spacetime, gravity, entanglement) compel the third without remaining freedom? Second, form-type: does the sought third seam have the shape of a first-law relation — entropy change proportional to area change, the Einstein equation as consistency condition — and can it be shown that force-law approaches miss this structure in principle? Third, Gödel trail: does the reconstruction of space from its internal structures fulfill the formal preconditions of a self-reference impossibility (sufficient expressive power, encodability), and can this be tested on a toy model? Fourth, fermion pass: can the Friedman–Sorkin construction of half-integer spin from nontrivial topology [9], possibly with torsion [8], be extended to a realistic particle spectrum — or where exactly does it break? Fifth, self-reference signature: do the mathematics of self-reference (recursion, fixed points, self-similarity) occur preferentially in self-organizing systems at the thresholds where self-modeling sets in — and can they there be distinguished from mere complexity? Each of these questions is posed such that even a negative answer informs the program.

12. Status and Invitation

On the ranking of the candidates among themselves, expressly: Candidate 3 carries a testable structural claim together with a form-type prediction, Candidate 2 a risky falsifiable impossibility prediction; Candidate 1, Candidate 4, and Candidate 5 are coherence gains under an accepted axiom, without testability of their own; Candidate 5 additionally provides the grounding of this program's methodology. This gradation is intended and part of the method — not every find carries equally far, and the paper does not claim so. Nothing in this paper is a proof of resonance monism, and nothing is offered as one. The claim is that of a productive research program: a framework that generates testable questions from an axiom — the rigidity question of the three faces, the form-type hypothesis of the third seam, the Gödel trail of the quantization of space — and that declares its own falsification routes. The author is a philosopher, not a physicist or mathematician; the translation of the marked trails into rigorous form is expressly advertised as open work. Hints, objections, and refutations are equally welcome and will be recorded in subsequent versions — including, and especially, the rejections.

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