

Place, Path, Rewrite

Toward a Unified Ontology of Stabilized Meaning: Fusing a Homotopical Theory of Place with a Rewrite-Theoretic Account of Semantic Stabilization

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Abstract

Two working papers produced independently within the same research programme — “Place Before Object” (PBO) and “Semantic Panarchy” (SP) — converge on a shared but previously unstated claim: that what ordinary usage treats as a fixed, self-identical thing (an object, a lexicon term, a category) is in fact a secondary, temporarily stabilized node within a prior, more primitive generative process. PBO establishes this claim ontologically, triangulating |Xam San spatial epistemology, Lakoff and Johnson’s embodied cognition, and Homotopy Type Theory (HoTT) to argue that place and path are more primitive than object and proposition, and that identity is formally the existence of a path. SP establishes a structurally identical claim at the level of organizational and civilizational semantics, arguing — via Peter Rowlands and Bernard Diaz’s Universal Rewrite System (URS) and C. S. Holling’s panarchy theory of nested adaptive cycles — that a lexicon term is not a fixed definition but the temporarily conserved output of a recursive Create/Conserve rewrite process operating at multiple nested scales. Both papers flag, but do not resolve, the relationship between them: PBO explicitly names the connection to the author’s Semantic Panarchy work as “a further hypothesis, to be developed in a separate paper.” This paper is that separate paper. It proposes a single fused framework, the Rewrite Ontology of Place, in which PBO supplies the static, formal ontology (place, path, coherence-as-path) and SP supplies the missing generative mechanism and multi-scale temporal dynamics (Create/Conserve rewriting; the $r \rightarrow K \rightarrow \Omega \rightarrow \alpha$ panarchy cycle) by which a path becomes stabilized into what a place-primitive system had, until that point, no need to call an object. Consistent with the ecological-rationality standard of Gigerenzer and the track-record standard of Taleb applied throughout the two source papers, the fusion is offered as a candidate research programme whose value lies in the specificity of the predictions it generates, not as a proof.

1. Introduction: Two Papers, One Open Seam

“Place Before Object” (Konstapel, 2026c) formulates the hypothesis that place, not object, is the primitive unit of meaning-construction, triangulated from three independently-evolved traditions: |Xam San testimony in the Bleek–Lloyd archive, in which “my place” / “our place” anchors kinship and narrative; Lakoff and Johnson’s embodied cognition, in which abstract reasoning is grounded in spatial image-schemas such as source-path-goal; and Homotopy Type Theory, in which a type is a space, a term is a point, and identity is a path between points. The paper’s central formal move is to state a candidate primitive not as a single element (a point, an object) but as an ordered pair of places together with the possibility of a path between them — and to note, in its closing section, that “any connection between the place/path pattern developed here and quaternionic or Cayley–Dickson algebraic structure is a further hypothesis, to be developed in a separate paper once the present, narrower claim has been tested on its own terms.”

“Semantic Panarchy: Towards a Rewrite Theory of Meaning in Complex Adaptive Systems” (Konstapel, 2026a) begins from an entirely different empirical starting point — Pien Walraven’s empirical research on co-evolutionary Business–IT alignment and the Common Lexicon for Education — and argues that the scope of Walraven’s theory can be enlarged: educational terminology is one local semantic subsystem embedded within a much larger hierarchy of nested semantic systems. Drawing on Rowlands and Diaz’s Universal Rewrite System, in which a system rewrites its own symbol-set via exactly two primitive operations, Create and Conserve, whenever a diagonal self-transition remains unresolved, and on C. S. Holling’s panarchy theory of adaptive cycles (Holling, 2001; Gunderson & Holling, 2002), SP proposes that every organizational lexicon is a local,

temporarily stabilized projection of a universal semantic rewrite process, not an autonomous artifact. Its own conclusion states the same open seam from the other side: Semantic Panarchy is offered “as a candidate bridge between Walraven’s empirical theory of co-evolutionary alignment and Rowlands’ formal theory of recursive structure formation.”

Read side by side, the two papers make the same claim about two different scales using two different vocabularies, and each explicitly defers the question of whether they are, in fact, the same claim. This paper takes up that deferred question directly. Its method is the one both source papers already commit to: structural convergence across independently-developed systems, evaluated by ecological-rationality and track-record criteria (Gigerenzer, 2007; Taleb, 2012) rather than by a single decisive test.

2. Locating the Seam: What Each Paper Is Missing

PBO’s argument is deliberately static. It establishes that place and path are more primitive than object, and that in HoTT identity is formally the existence of a path — but it does not say what generates a path, nor what turns a path, once it exists, into something that subsequently behaves like a fixed object. The paper is explicit about this limitation: its Section 3 offers the schematic reformulation “not as an established equivalence... but as a hypothesis to be developed,” and its Section 4 sketches a historical sequence — San epistemology, Greek abstraction to object and category, Cartesian coordinate, Newtonian point-mass, Maxwellian field, propositional logic — explicitly flagged as “a hypothesis about where to look, not... an established historiographical result,” with no formal mechanism proposed for the transitions between stages.

SP’s argument supplies exactly this kind of mechanism, but at a different scale and without connecting it back to a general ontology of place. The Create/Conserve rewrite pair from URS is a formal generative process: Create introduces a new distinction into the system’s symbol-set when an unresolved self-transition demands one; Conserve fixes a distinction once introduced, so that it can subsequently be treated, provisionally, as stable. Holling’s panarchy cycle ($r \rightarrow K \rightarrow \Omega \rightarrow \alpha$) supplies the further claim that conservation is never permanent: systems that have entered a long conservation (K) phase become increasingly efficient and increasingly brittle, until a release (Ω) phase permits reorganization (α) around a new set of distinctions. SP applies this to organizational lexicons; it does not, in its current form, claim that Create/Conserve rewriting is the general mechanism by which places give rise to paths and paths stabilize into objects at every scale from cognition to civilization — that is precisely the connection PBO’s closing section flags as unmade.

The seam, stated plainly: PBO has an ontology (place, path, coherence-as-path) without a mechanism. SP has a mechanism (Create, Conserve, panarchic phase dynamics) without a general ontology beyond the organizational-lexicon case. Fusing them costs neither paper anything it already claimed; it only requires stating, as a further hypothesis, that the mechanism SP describes for lexicons is the same mechanism that, at other scales, produces the place-to-object transition PBO describes but leaves unmechanized.

3. The Rewrite Ontology of Place

The fused hypothesis can be stated compactly. A place is a local domain of possible distinctions — formally, a HoTT type or space; empirically, a San “our place,” a bodily location in Lakoff and Johnson’s sense, or a bounded organizational context in Walraven’s sense. A path is a proposed connection between two points within or across places — formally, an element of a HoTT identity type; mechanistically, the output of a URS Create operation, introduced precisely when an unresolved self-transition (a felt inadequacy of the existing symbol-set) demands a new distinction. An object — a term, a category, a proposition, a point treated as fixed — is not a further primitive but a conserved path: a path that has been fixed by a URS Conserve operation and can, from that point on, be treated

by the system as though it had always been a self-identical thing, its path-history no longer visible from the outside.

This yields a direct correspondence between the two papers' vocabularies, summarized in Table 1.

Structural role	Place Before Object (PBO)	Semantic Panarchy (SP)	Fused role
Primitive unit	place (San "my/our place"; HoTT type/space)	local semantic subsystem / organizational context	place = local stabilization domain
Generative act	path (source-path-goal; HoTT identity type)	Create (URS rewrite rule)	path-proposal = Create
Stabilizing act	existence of a path secures coherence	Conserve (URS rewrite rule)	path-fixation = Conserve
What is generated	the object / point, as secondary node	the lexicon term, as temporarily stabilized	"object" = a conserved path
Multi-scale dynamics	historical arc, sketched but not formalized (§4 PBO)	Holling panarchy phases ($r \rightarrow K \rightarrow \Omega \rightarrow \alpha$); nested sensorium	occlusion of place = extended K-phase conservation

Table 1. Structural correspondence between Place Before Object and Semantic Panarchy under the fused Rewrite Ontology of Place.

On this reading, PBO's central claim — that “a path is more primitive than a static relation, and truth or sameness is... a property of a path that successfully connects two places” — is not a separate thesis from SP's claim that “a Common Lexicon... is the temporary stabilization of an ongoing, scale-general rewrite process.” They are the same thesis stated at two different levels of formal precision: PBO supplies the geometry (what a stabilized path looks like, formally, once it exists — a point, indistinguishable from an object); SP supplies the dynamics (how a path comes to be proposed, and how and why it comes to be fixed, and for how long).

Univalence — HoTT's axiom that equivalent types may be treated as identical — acquires, under this fusion, a direct dynamical reading: univalence is what Conserve does to a Create-generated path. Two things become “the same”, in the strong sense that licenses substituting one for the other without further justification, exactly when the rewrite system has conserved a path between them and stopped tracking the difference. Sameness, under the fused ontology, is not a timeless logical fact but the record of a completed conservation event — which is also, independently, SP's claim about how organizational terms come to feel settled rather than negotiated.

4. Temporal Dynamics: Panarchy and the Occlusion of Place

PBO's Section 4 sketches, without formalizing, a historical sequence in which Western knowledge systems progressively substituted the object, the coordinate, and the proposition for the place. Under the fused ontology this sequence receives a candidate formal mechanism: it is a single, very long K-phase. In Holling's adaptive-cycle terms, a rapid-growth (r) phase of proliferating new distinctions (Create-dominant) is followed by a conservation (K) phase in which the most efficient of those distinctions are locked in, connections between them are optimized, and the system becomes correspondingly efficient at using the conserved objects and correspondingly poor at generating or even perceiving new ones (Conserve-dominant, Create-suppressed). The candidate claim is that the sequence PBO sketches — Greek category, Cartesian coordinate, Newtonian point-mass, Maxwellian field, propositional logic — is not five separate substitutions but five successive rounds of conservation within a single extended K-phase of Western formal knowledge, each round further suppressing the visibility of the place and path that generated the object being conserved, exactly as a

long-K-phase ecosystem becomes progressively less able to “see” the disturbance regime that once renewed it (Gunderson & Holling, 2002).

This reframing generates a specific, falsifiable-in-the-ecological-rationality-sense prediction that PBO alone could not generate: object-primitive formal systems should show the brittleness signature of advanced K-phase systems — high internal efficiency, low tolerance for anomaly, and a release (Ω) event, when it comes, that is comparatively sudden rather than gradual — while place-primitive systems, lacking a comparable conservation history, should not show this signature. The history of twentieth-century foundational crises in mathematics and physics (set-theoretic paradox, the measurement problem, Voevodsky’s own turn to univalent foundations after discovering an error load in conventionally-verified proofs) is at minimum consistent with a release event following a long conservation phase in exactly the object-primitive systems PBO identifies as the end-point of its historical arc; a systematic test of this pattern against the historical record is identified in Section 6 as necessary further work, not claimed here as established.

The nested-sensorium perspective developed in SP (Konstapel, 2026b) supplies the multi-scale complement: the same place→path→conserved-object pattern recurs at every layer of a nested perceptual and organizational hierarchy, from an individual’s bodily image-schemas through organizational lexicons to civilizational category systems, each layer’s conserved objects serving as the “places” within which the next layer up proposes its own paths. This is consistent with, and gives a mechanism for, PBO’s own observation that structural convergence should be sought “in additional independently-evolved knowledge systems” at multiple scales, not only in the three traditions the original paper used.

5. San Epistemology as a Low-Conservation Case

The fused ontology suggests a specific, testable reading of the San material that neither source paper stated on its own. If object-primitive systems are those that have undergone extended K-phase conservation, and if San spatial epistemology instead runs place → orientation → relation → event → meaning — kinship and narrative continually regenerated from place rather than fixed once and archived — then San epistemology is not merely a different starting point from the Western object-primitive sequence; it is a case that, at civilizational scale, has not undergone the same extended conservation trajectory. This is a structural claim about rewrite-cycle history, not a claim of simplicity or a romantic contrast: a system can fail to enter a long K-phase for many reasons, and nothing in the fused ontology implies that remaining place-primitive is costless or that conservation is avoidable in general. It does imply a specific comparative research question — whether other documented instances of low-conservation, place-anchored knowledge systems (other hunter-gatherer epistemologies, the kind of comparative material Barnard (1992) surveys across Khoisan-speaking peoples) show the same signature: high path-visibility (narrators can typically state which place and which relation grounds a given piece of knowledge), and correspondingly lower object-reification (fewer terms treated as self-identical independent of the relation that produced them).

6. Testable Predictions and Further Work

Consistent with the Gigerenzer/Taleb standard both source papers commit to, the fused framework is evaluated here by the specificity of the predictions it licenses beyond what either paper alone could generate, and by whether it survives contact with further independent cases — not by a single confirming or falsifying experiment.

- Prediction 1 (organizational): Common Lexicon efforts that succeed in Walraven’s sense — producing durable shared understanding rather than a document that lapses — should, under the fused reading, be identifiable as successful re-openings of a local Create phase within a domain that had become object-primitive (over-conserved, brittle definitions), rather than as successful new rounds of definition-fixing. This predicts that lexicon interventions framed as “agree on better definitions” should underperform interventions framed as “make explicit the

place and relation each term is anchored to,” a prediction directly testable against existing and future Common Lexicon case material.

- Prediction 2 (historical): the specific historiographical transitions PBO leaves as an open item — particularly the shift from projective, viewpoint-dependent geometry to coordinate geometry — should, on inspection of primary sources, show the K-phase signature of accelerating internal consistency and declining tolerance for viewpoint-dependence in the period immediately preceding the transition, rather than a gradual, evenly-paced change. This is a historically checkable claim, not yet checked here.
- Prediction 3 (formal): if Conserve is genuinely the mechanism underlying HoTT’s univalence, then domains in which URS-style rewrite dynamics can be independently instrumented (Hans Konstapel’s own coupled-oscillator implementation of the URS create/conservate engine, and its Kuramoto-type synchronization threshold) should show a measurable transition — a synchronization or phase-locking threshold — at the point where a set of proposed paths becomes treated by the system as a single conserved identity, offering a route to an operational, non-metaphorical test of the place-path-object correspondence proposed here.

Three further items, inherited directly from the two source papers’ own open-items lists, remain necessary before the fused framework can be considered more than a promising synthesis: locating the specific historical mechanism by which place was dropped as a primitive (PBO, open item 1); testing the place–path–coherence pattern against at least one further independently-evolved knowledge system beyond San, Lakoff/Johnson, and HoTT (PBO, open item 2); and empirically testing Semantic Panarchy’s Create/Conserve claims against further organizational case material beyond Walraven’s Common Lexicon (SP’s own stated evidentiary gap). This paper adds a fourth: testing whether the panarchy phase signature actually appears at the specific historical transitions named in Section 4, using primary sources in the history of mathematics and philosophy rather than the schematic sequence offered here.

7. Status of the Hypothesis

This paper is a second-order synthesis: it fuses two working papers that were each, on their own terms, explicitly provisional. Nothing in the fusion increases the empirical support behind either source paper’s individual claims; what it adds is theoretical economy — a single mechanism (Create/Conserve rewriting under panarchic phase dynamics) doing the explanatory work that PBO needed but did not supply, and a single general ontology (place, path, conserved-path-as-object) giving SP’s organizational claim a non-arbitrary reason to generalize beyond lexicons. Under an ecological-rationality standard, this kind of economy is itself evidentially relevant — a framework that resolves two independently-flagged open problems with one additional hypothesis, rather than two unrelated ones, is the more parsimonious candidate — but it is not a substitute for the further historical and empirical work identified in Section 6, and the paper does not claim otherwise.

8. Conclusion

“Place Before Object” and “Semantic Panarchy” were developed from unrelated empirical starting points — San ethnography and type theory on one side, organizational lexicon research and nilpotent rewrite mechanics on the other — and each independently arrived at the claim that an apparently fixed unit of meaning is really a stabilized node in a prior generative process. This paper makes explicit what both papers’ own conclusions gestured toward: that Create and Conserve, the two primitive operations of Rowlands and Diaz’s Universal Rewrite System, are a candidate mechanism for exactly the place-to-path-to-object transition that Place Before Object’s formal ontology describes but does not generate, and that Holling’s panarchy cycle supplies the missing temporal account of Place Before Object’s own historical arc. The result, the Rewrite Ontology of Place, is offered as a research programme rather than a settled theory: a small number of sharply specified predictions (Section 6) now stand in place of the general resemblance the two source papers previously left as an acknowledged but unexamined open question.

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Open Items Carried Forward

- Locate the specific historiographical mechanism by which “place” was dropped as a primitive in the transition from projective to coordinate geometry, and test whether it shows the K-phase brittleness signature predicted in Section 4 — direct engagement with primary sources required.
- Test the place–path–coherence pattern, and the Create/Conserve mechanism proposed to generate it, against at least one further independently-evolved knowledge system beyond San epistemology, Lakoff/Johnson, HoTT, and Walraven’s Common Lexicon.
- Instrument the URS create/conservate oscillator model against an empirical synchronization threshold (Prediction 3, Section 6) as a non-metaphorical test of the fused framework, rather than relying solely on structural analogy.
- Treat any further connection to the author’s quaternionic / Cayley–Dickson programme as its own, separately flagged hypothesis, to be tested only after Predictions 1–3 above have been examined on their own terms.