

Living Research Reader

Answerability across boundaries of ownership, time, representation, and system.

JULY 2026 EDITION

Current guide - not a compilation of complete paper bodies

Status authority: papers/research-status.yaml | Source branch: codex/research-corpus-upgrade

Receipts preserve claims for later inspection, reliance, dispute, correction, and remedy. They do not create world truth. Cohomology remains the formal language for modeled gluing and obstruction; it does not by itself establish capture, coverage, persistence, authority, grounding, or recourse.

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1. The program now

Res Agentica studies how consequential machine action remains answerable across boundaries of ownership, time, representation, and system.

Bulla is a receipting regime for durable memory and contestation. It records who claimed what, under which authority, scope, evidence, reliance, and recourse, giving later parties a common object to inspect, dispute, correct, and act upon.

The receipt is not the event. A signature is not grounding. Inclusion under a root is not independent persistence. Verification is not authority. A record becomes institutionally useful when its assumptions remain explicit and a challenger can reach a remedy.

Three independent questions

FORMAL COHERENCE	Do modeled local claims glue into a coherent global account?
EMPIRICAL PREDICTION	Does a declared signal predict real execution outcomes on independently authored evidence?
PORTABLE ANSWERABILITY	Can later parties inspect authority, evidence, reliance, challenge, and recourse after the act?

2. What changed, and why

2026-03-07 / Detection thesis opened

The program proposed that local-to-global disclosure deficits might diagnose consequential composition failure.

2026-07-08 / Execution kill test failed

Execution-derived labels did not support the coherence fee as a runtime-failure predictor, including fee-zero breaches.

2026-07-14 / Research reset adopted

The predictor claim and false corollaries were withdrawn while scoped formal, disclosure, and benchmark artifacts were preserved.

2026-07-15 / Accountability descent became the operative research question

Coverage, persistence, authority binding, non-equivocation, and remedy were separated from formal gluing.

2026-07-17 / Portable answerability hardened

Bulla and Glyph were aligned around persistent receipts, witnessing, reliance, challenge, and executable recourse.

The boundary that survives

The negative execution result does not delete the formal layer. The sheaf condition remains a precise test of local compatibility and gluing under a declared model. Tarski Coherence remains a formally verified result. What ended was the unsupported move from formal obstruction to a general runtime-failure oracle.

The operational continuation therefore adds mechanisms the formal middle never supplied by itself: event capture, coverage, independent retention, authority binding, reliance, non-equivocation, challenge, and remedy.

3. Current priority program

01 / Tarski Coherence

Which degree-1 Hodge-Tarski claims survive outside vector-space settings?

A formally verified characterization separates the false general conjecture from the exact graph-theoretic result that survives.

Status: priority | external-review | formally-verified | v1

Falsifier: A countermodel to a manuscript theorem under its stated hypotheses, or a mismatch between a headline statement and the clean Lean build.

Canonical record

02 / Compositional Accountability

When does locally recorded accountability descend to one challenge-time account across owners?

A preregistered candidate characterization couples occurrence coverage, persistence, authority binding, non-equivocation, and reachable remedy.

Status: priority | active-draft | conjectural | draft-2026-07

Falsifier: A definitional proof, a renamed missing-log example, a generic synchronization theorem, receipt concatenation, or ownership of the coupled characterization by prior work terminates or demotes the lane.

Canonical record

03 / BABEL v2

Do structural signals predict execution failure on independently authored workflows?

The predictive claim is open and may proceed only through the frozen partner and held-out evaluation gates.

Status: priority | active-draft | conjectural | v2-draft

Falsifier: Failure to improve held-out AUROC by 0.05 with a positive bootstrap interval, or failure of the partner gates, ends the predictive claim.

Canonical record

4. Operational consequence

The current operational sequence is deliberately not the Proofs dependency graph.

01	Action	A consequential act occurs within a declared or contested authority boundary.
02	Occurrence record	A receipt binds the claimed act to identifiers, hashes, scope, evidence, and recourse fields.
03	Independent persistence	Coverage and retention are evaluated separately from the actor or host that emitted the record.
04	Authority and bounds	The principal, delegated powers, conditions, and prohibited transitions remain inspectable.
05	Reliance	A relying party records the evidence and terms under which it chose to act on the claim.
06	Challenge	A later party can contest occurrence, authenticity, authority, scope, grounding, or compliance.
07	Remedy	A reachable procedure can correct, reverse, compensate, revoke, or otherwise provide recourse.

Convention disclosure and structural diagnostics can inform this sequence. Grounding and independent witnessing remain separate. Stronger receipts improve inspectability and contestability, not the truth of the underlying world claim.

5. Supporting results

Column-Matroid Backbone

Under the stated construction, the deficit is the corank of observable columns and admits the disclosed pairwise formula.

supporting | technical-report | formally-verified | v1

Signed-Incidence Structure

The scoped total-unimodularity and rank results are formally verified under their stated hypotheses.

supporting | technical-report | formally-verified | v1

A Witness Logic for Semantic Composition

Lean verifies numerical uniqueness over the abstract carrier; identification with concrete systems remains review-dependent.

supporting | technical-report | formally-verified | v2

SCPI

A scoped formal core is machine-checked; perimeter statements and concrete identifications remain conditional.

supporting | technical-report | formally-verified | v1

Bridge

The reported identification/specification gap holds only on the disclosed study families.

supporting | technical-report | empirically-demonstrated | v1

Seam

Manifests, witnesses, and fraud-proof tooling are implemented without claiming universal safety or recourse.

supporting | technical-report | empirically-demonstrated | v1

Bitcoin After Money

A constitutional argument derives four requirements; it is neither an empirical result nor a formally verified theorem.

supporting | technical-report | conjectural | v8

Coherence Cliff

A regime-change result is retained only for the disclosed protocol and baselines.

supporting | technical-report | empirically-demonstrated | v1

Local Interface Descriptions Do Not Compose

The constructed demonstration is reproducible but does not estimate population prevalence.

supporting | technical-report | empirically-demonstrated | v1

The Stitching Defect

The scoped gluing identity and reproduction protocol remain a supporting technical result.

supporting | technical-report | empirically-demonstrated | v1

The Composition Tax

Results are limited to the disclosed proxy, schemas, trials, and frozen baselines.

supporting | technical-report | empirically-demonstrated | v1

Local Validity Does Not Compose

Constructed and empirical cases demonstrate the possibility without estimating its prevalence.

supporting | technical-report | empirically-demonstrated | v1

6. Decision ledger

Historical artifacts remain citable. The ledger states what changed and what, if anything, still survives.

WORK	DECISION	WHAT SURVIVES
BABEL v1	Internal and annotation-derived labels did not establish prediction of real execution failure.	Frozen benchmark artifact; Evaluation and replication protocol; Scoped reported benchmark results
The Coherence Fee gateway essay	Execution-derived labels showed weak discrimination and included consequential fee-zero breaches.	Disclosure and omission interpretation; Scoped algebraic identities after audit
The Coherence Fee Paper I	Corollary 3.2 is false and the execution-prediction interpretation failed its empirical gate.	Audited component-count identities; Scoped rank-deficit construction
The Witness Gram Paper III	The published basis-count corollary is false and the corrected result has narrower hypotheses.	Audited rank identities; Corrected repair statement
Witness Geometry Beyond Scalar Fee	The operational-sparsity claim failed and exact results require the correction note.	Corrected exact repair-basis results
Coherence Types	A higher-order counterexample falsified type soundness and the proposed static fragment did not repair it.	Counterexample and negative design guidance
The Linear Communication Bottleneck Conjecture	The spectral-gap route did not survive audit.	Exact Haar marginals; Adjacent-edge pairwise independence
The Physical Coherence Fee	The reset prohibits a fourth public family before a preregistered separating gate passes.	Historical speculative proposal
Interpretability Frontier	The scoped experiment did not justify treating interpretability as the program capstone, and the reset forbids a fourth active family.	Scoped reported experiment; Representation-sensitive design lesson

7. Method and reading routes

Status has three independent axes

Lifecycle locates the publication. Evidence status describes support for the headline claim. Program role tells a reader how to use the artifact now. Supersession is a lineage decision, not a kind of evidence.

Reader routes

Formalist: Tarski Coherence, Composition Doctrine, SCPI, then the formal dependency graph.

Systems and accountability: Seam, Compositional Accountability, then the Bulla and Glyph receipt architecture.

Standard implementer: Glyph architecture and calibration, with canonical claims linked back to Res Agentica.

Skeptical historian: the lineage timeline, decision dossiers, falsification evidence, and immutable omnibus editions.

Three maps

Formal dependency asks what must be defined or proved first. Intellectual lineage asks why the program moved.

Operational consequence asks what makes an action answerable. Cross-links are useful; collapsing the maps is not.

8. Open gates

Tarski Coherence

A countermodel to a manuscript theorem under its stated hypotheses, or a mismatch between a headline statement and the clean Lean build.

External review: packet prepared

Compositional Accountability

A definitional proof, a renamed missing-log example, a generic synchronization theorem, receipt concatenation, or ownership of the coupled characterization by prior work terminates or demotes the lane.

External review: packet prepared

BABEL v2

Failure to improve held-out AUROC by 0.05 with a positive bootstrap interval, or failure of the partner gates, ends the predictive claim.

External review: not requested

No new lane becomes a public paper family without a dated preregistration, a separating target, and an explicit stop condition.

Edition note

This Living Research Reader is a current orientation document, not a substitute for complete papers or frozen historical editions. Publication identity, status, lineage, and decisions are generated from `papers/research-status.yaml`. Complete sources remain linked from each canonical paper record.

Historical Technical Spine omnibuses are preserved under dated URLs and fingerprinted in `papers/edition-manifest.json`. They chronicle what the program said at publication time; the current Reader explains what the program claims now.

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