

Reconstructing Deteriorating Systems

From top-down repair to civic provenance, temporal authorship and federated institutional learning

Michael J. Burdette-Deakin

28 July 2026

The task is not to rescue a deteriorating system by issuing better instructions from its summit. It is to reconstruct how propositions become records, how records acquire authority, how authority travels, and how citizens and institutions can challenge that process before deterioration hardens into failure.

Abstract

Modern institutional deterioration is rarely produced by one defective decision in isolation. It develops through the repeated movement of weakly sourced propositions across systems that continue to classify, record, transmit and act, even as their contact with evidential reality degrades. Once an assertion enters an official record, later bodies may treat inherited repetition as corroboration, procedural adoption as proof and institutional persistence as legitimacy. Top-down reform struggles because it arrives after these habits have become embedded in law, workflow, culture, incentives and public expectation.

This paper sets out a basis for reconstructing deteriorating systems from below. It combines strict temporal reconstruction, typed evidence, explicit authorship, controlled classification, backward causal grammar, independent case sovereignty and multi-case rendering. It then extends the same architecture into civic education. The central proposition is that durable reconstruction requires a population able to reason inside systems of record: to distinguish sequence from causation, repetition from corroboration, recording from proof, correction from erasure and outcome from formation. Reconstruction therefore has two linked functions. The forensic function exposes how deterioration propagated. The educational function reduces the future supply of people and institutions capable of reproducing the same errors unexamined.

1. Deterioration is not the same as collapse

A deteriorating system may remain busy, lawful in appearance and procedurally productive. It may continue to issue decisions, move files, make payments, exercise coercive powers and generate performance statistics. Its deterioration lies not necessarily in inactivity, but in the weakening of the route between evidence, classification, decision and correction.

This distinction matters. The language of failure can imply a settled end-state: a service has stopped, an institution has collapsed or a legal mechanism has ceased to function. Deterioration is more difficult to see because the machinery still moves. Indeed, continued operation may conceal the defect. Each later act creates more records, and those records may inherit the same originating proposition without independently testing it.

A system can therefore be operationally active while epistemically degraded. It can act with increasing confidence while becoming less able to explain why its actions remain supportable. Reconstruction must be capable of entering before terminal collapse, identifying where contact with reality has weakened and preserving the route through which deterioration became cumulative.

2. Why top-down repair repeatedly underperforms

Large institutions possess momentum. Their records, classifications, decision routes, professional habits and jurisdictional boundaries continue to operate even after a defect has been identified. A new policy may alter the language used at the summit while leaving the inherited record-state intact below. A review may acknowledge part of a problem while preserving the classifications through which it continues to be read. A regulator may direct correction but return the matter to the body whose record generated the defect.

Top-down intervention meets three forms of resistance. First, institutional memory is compressed into terminal records that conceal formation. Second, responsibility is distributed across bodies, allowing each to see only its own procedural segment. Third, the public often lacks a shared operational language for identifying the precise defect. People may recognise unfairness, misinformation or contradiction while remaining unable to state whether the failure lies in source, chronology, authorship, classification, repetition, jurisdiction or causal inference.

The visible reform and the operational system then diverge. Institutions can comply with a new instruction while continuing to rely on an old proposition. They can correct a local record while leaving downstream copies unchanged. They can close a complaint without reconstructing the chain that produced it. Reconstruction therefore cannot begin and end with a replacement conclusion. It must restore the route by which authority was formed.

3. The unit of reconstruction: the record-state in time

A deteriorating system should be reconstructed as a sequence of dated record-states rather than as a retrospective narrative. Each node asks what was known, recorded, classified and available at that time. Later knowledge must not be projected backwards. This discipline prevents the reconstruction from beginning with a causal conclusion and then selecting only those events that support it.

The chronology must exist before its classifications and causal relations are authored. The developmental and forensic sequence is:

Stage	Operation	Capacity produced
Stage One	Preserve significant events, authorship, order and the material available at the time.	Resistance to mis-recording through participation in record formation.
Stage Two	Classify functions and attach typed evidence without flattening unlike sources.	Ability to distinguish assertion, observation, evidence, repetition and correction.
Stage Three	Author and test backward relations connecting later questions to earlier states.	Ability to reason about causality, provenance and institutional consequence.

This order is methodological rather than cosmetic. If relation precedes reconstruction, the author risks embedding theory into chronology. If classification precedes preservation, evidence is selected through the very frame that should be tested. The record must be allowed to exist before its meaning is progressively resolved.

4. Separation of authorities

A trustworthy reconstruction system must prevent authority from silently migrating between layers. The evidence does not author the interpretation. The author does not become the adjudicator. The renderer does not become the editor. The registry does not become the owner of the cases it contains. The downstream institution remains responsible for what it adopts.

- Primary material: documents, messages, records, images, transactions and direct observations.
- Authored temporal state: a dated reconstruction preserving what existed at each point.

- Authored relational grammar: explicit links stating why an earlier state is relevant to a later question.
- Structural validation: deterministic checks for missing targets, unavailable fields, grammar violations and inconsistent identifiers.
- Canonical output: fixed, reviewable artefacts carrying authored meaning.
- Rendering and review: read-only inspection of one or more registered cases.
- Operator interpretation: a human finding stated in the operator's own voice.
- Released finding: a governed act for which the releasing body remains accountable.

The separation of authoring and rendering is therefore constitutional, not merely technical. The authoring system constructs, validates and releases a case package. The rendering system consumes that package without acquiring editing authority. It may render one case or several cases simultaneously, enabling cross-case inspection while preserving each graph's evidential and semantic sovereignty.

5. From isolated deterioration to systemic pattern

A single case can establish a detailed causal continuum. Systemic reconstruction begins when multiple independently authored cases can be rendered together without being merged into one master narrative. A common reviewer environment can expose recurrence, shared institutions, repeated grammar states, convergent actors and divergent outcomes, while every observation remains traceable to the underlying case.

This federated model is preferable to central aggregation for three reasons. First, it preserves authorship: the registry does not silently rewrite source cases to conform to an emerging pattern. Second, it preserves jurisdiction: cases can remain bound to different legal and institutional environments. Third, it preserves contestability: a cross-case finding can be challenged by descending into the probative record of each contributing graph.

The pattern emerges from separately governed reconstructions. It is not imposed upon them.

6. Visual grammar as navigational diagnosis

Long causal records exceed ordinary working memory. Reconstruction therefore benefits from a visual grammar that enables the reader to recognise recurrence, convergence, contamination persistence, actor continuity and reality contact before reopening every document.

The node taxonomy, cumulative footer and backward-jump CHIP/ID grammar perform different diagnostic functions. A node marker describes what is happening at the current node. A backward-jump chip describes the function and substrate of the target state. Ordered chip positions distinguish the visible target-state from the supporting and sideways substrates beneath it. Field-state markers show whether an antecedent distortion remains operational or has met a verifiable contradiction.

These elements are not dispositive. They are navigational and diagnostic. Their purpose is to reduce cognitive load and improve traversal fidelity. The controlling sequence remains:

visual classification -> navigational connection -> descent into the probative record -> verification against the source

7. Civic grammar as preventive infrastructure

Forensic reconstruction operates after deterioration has generated records. Durable reconstruction must also address the cognitive environment in which weak propositions are received, repeated and acted upon. This is the role of civic grammar.

The educational pathway does not begin by teaching children the full machinery of institutional failure. It begins with their own experience of change. A learner records what happened, what was tried, what changed, what helped, what can now be done and whose account is being preserved. The learner gradually acquires stable distinctions that later become provenance, typed evidence, append-only correction and causal grammar.

The central civic distinctions are simple enough to become common language:

- **Sequence is not causation.**
- **Repetition is not corroboration.**
- **Recording is not proof.**
- **Persistence is not equal responsibility.**
- **Correction is not erasure.**
- **Outcome is not formation.**

A citizen equipped with these distinctions is not merely more sceptical. The citizen can disagree precisely. Instead of rejecting a conclusion in general terms, the person can identify whether the defect lies in chronology, source, evidence type, authorship, classification, inherited repetition or the asserted causal relation.

8. Misinformation and the defective base proposition

Rapid public disorder often depends upon a proposition that acquires force before its provenance is examined. The proposition may contain a false identity, an unsupported causal attribution, a misleading classification or a fabricated institutional act. Network repetition then creates apparent corroboration. Emotional salience compresses the time available for inspection. Political and media actors may respond to the repeated proposition as though repetition had improved its evidential quality.

A population trained in civic provenance would create more distributed points of resistance. At each transmission point, more people would be capable of asking: Who authored this? What is the source? Is this an independent confirmation or the same assertion travelling through another account? What remains unknown? Does the proposed response follow from the available record?

This does not guarantee prevention. It changes the probability structure. A defective base proposition meets more friction before it becomes socially load-bearing. In relation to any specific event, including Southport, a claim of avoidability would still require its own reconstruction of source communications, timing, transmission, corrections and mobilisation. The general mechanism is supportable; the event-specific conclusion must remain probative.

9. Reconstruction is generational, not immediate

A national reconstruction programme would not preserve the present system unchanged and simply make it work better. Nor would it produce immediate rescue. Institutional momentum, corruption, fragmented authority and misinformation cannot be neutralised by one central deployment.

The viable pathway is cumulative:

Step	Action	Purpose
1	Teach temporal authorship	Introduce chronology, evidence, authorship and correction through the learner's own development.
2	Create domain profiles	Develop distinct educational, civic, administrative, professional and commercial grammars without importing inappropriate meanings between them.
3	Enable sovereign authoring	Allow persons, communities and institutions to construct bounded, versioned reconstructions under declared authority.
4	Validate before release	Use deterministic checks without allowing validation to become interpretation.
5	Register without appropriation	Place independent graphs into federated registries while preserving case identity and authorship.
6	Render across cases	Expose recurrence and convergence through multi-case review without flattening jurisdiction or evidence.
7	Govern findings	Require operators and downstream bodies to state what they adopt and remain responsible for it.

10. Safeguards against reconstructing deterioration in a new form

A provenance architecture can itself become dangerous if it is centralised, compulsory, opaque or converted into a universal ranking system. The same system that preserves causality can be used for surveillance, exclusion, permanent stigma or manipulative classification.

- Subject control: people must be able to inspect, export and contest records concerning them.
- Purpose limitation: an educational graph must not silently become a behavioural, risk or insurance profile.

- Selective disclosure: recipients receive only the profile and evidence necessary for the declared purpose.
- Typed authorship: fact, reflection, assessment, automated inference and third-party observation remain distinguishable.
- Versioned grammar: definitions and taxonomies must be published, stable and historically resolvable.
- Correction without erasure: errors are amended through append-only provenance rather than silent rewriting.
- No universal score: multidimensional provenance must not collapse into one measure of human worth.
- Independent audit: high-stakes profiles and cross-case findings require external validation and bias review.

11. What successful reconstruction would look like

A successfully reconstructed system would not be one in which disagreement disappears. It would be one in which disagreement becomes inspectable. Institutions would be able to state which record they relied upon, where it came from, which classification controlled, what contrary material existed, what changed after correction and why the present decision remains supportable.

Citizens would not need to become forensic specialists. They would share enough causal and evidential grammar to recognise when a claim has lost contact with its source. Authors could preserve bounded cases. Reviewers could inspect several cases together. Operators could form systemic findings without rewriting the cases from which those findings arose.

The ultimate change is constitutional in the broad sense: authority becomes more difficult to detach from provenance.

Conclusion

Deteriorating systems are not reconstructed by replacing one elite account with another. They are reconstructed by restoring the route between proposition, record, classification, action and consequence. That route must be visible in time, attached to evidence, explicit in authorship and contestable in its causal claims.

The forensic architecture provides the means to reconstruct inherited deterioration. The educational architecture provides the means to reduce its reproduction. The authoring system preserves sovereign cases; the rendering system can inspect one or many without acquiring authorship; the registry enables pattern recognition without central appropriation; and civic grammar prepares people to test propositions before misinformation or institutional repetition turns them into operational reality.

This is not an immediate programme for saving a country as it presently exists. It is a generational basis for rebuilding the relationship among citizens, records and authority. Its measure of success would not be the elimination of error, but the creation of a society in which error cannot travel so far, acquire so much authority or produce so much consequence without leaving an inspectable path.

Source basis

- Burdette-Deakin, Michael J. Beyond Certificates: A Three-Stage Educational Pathway. 27 July 2026.
- Burdette-Deakin, Michael J. One System, Multiple Classes of Use. Version dated 21 July 2026.

- Burdette-Deakin, Michael J. Provenance Graphs as Civic, Educational, Economic, Defence and International Infrastructure. 19 July 2026.
- Burdette-Deakin, Michael J. MP-FRS Architectural Ledger. Working architectural memory, created 26 July 2026.
- Burdette-Deakin, Michael J. Temporal Graph - Taxonomy and CHIP/ID Grammar Guide. 2026.

Note: The Southport discussion is methodological. The source papers support the general proposition concerning defective base propositions, provenance failure and civic grammar; they do not themselves contain a complete event-specific reconstruction of the Southport communications and mobilisation chain.