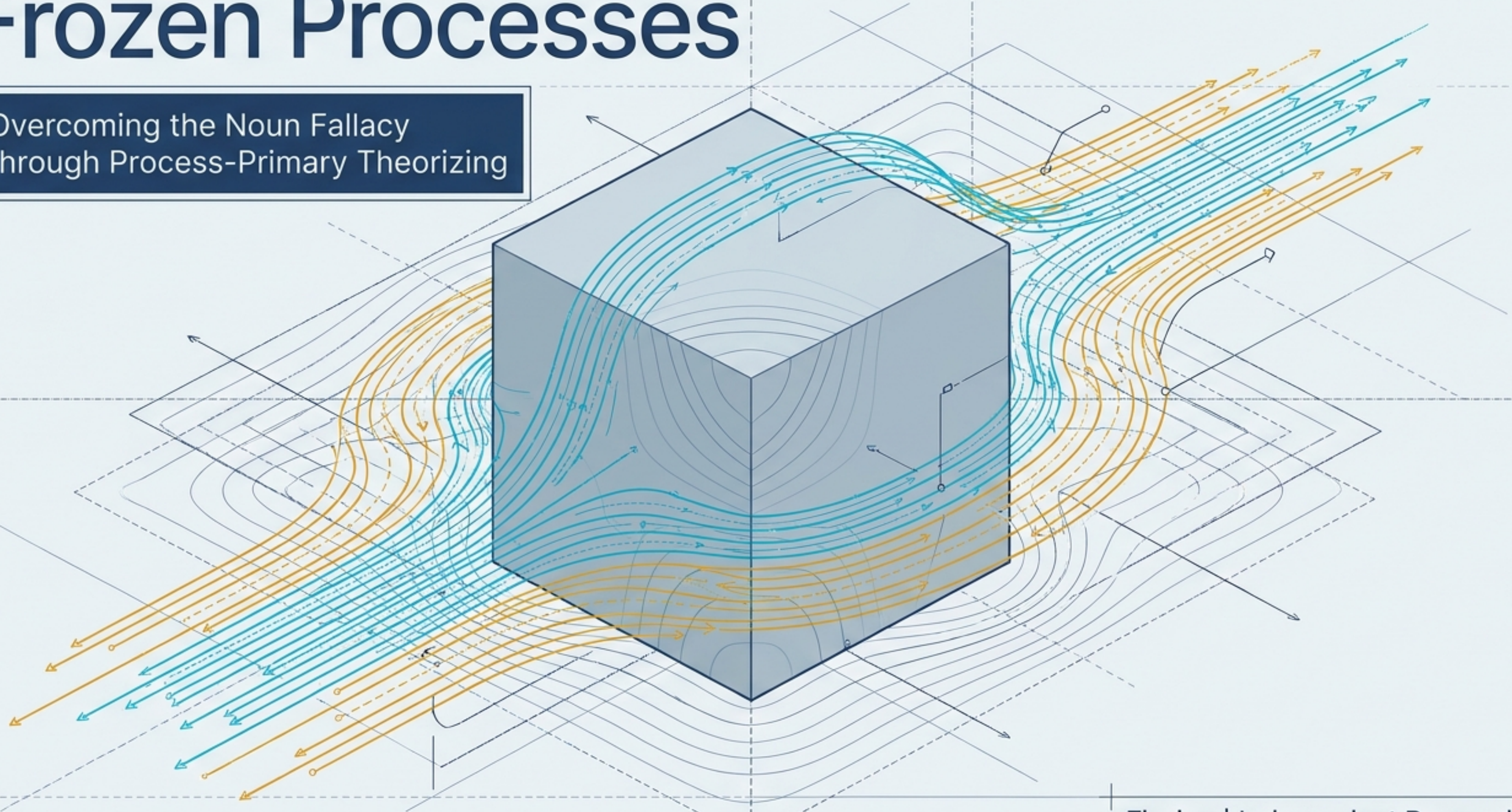


# Frozen Processes

Overcoming the Noun Fallacy  
through Process-Primary Theorizing



# The Stability That Was Never There

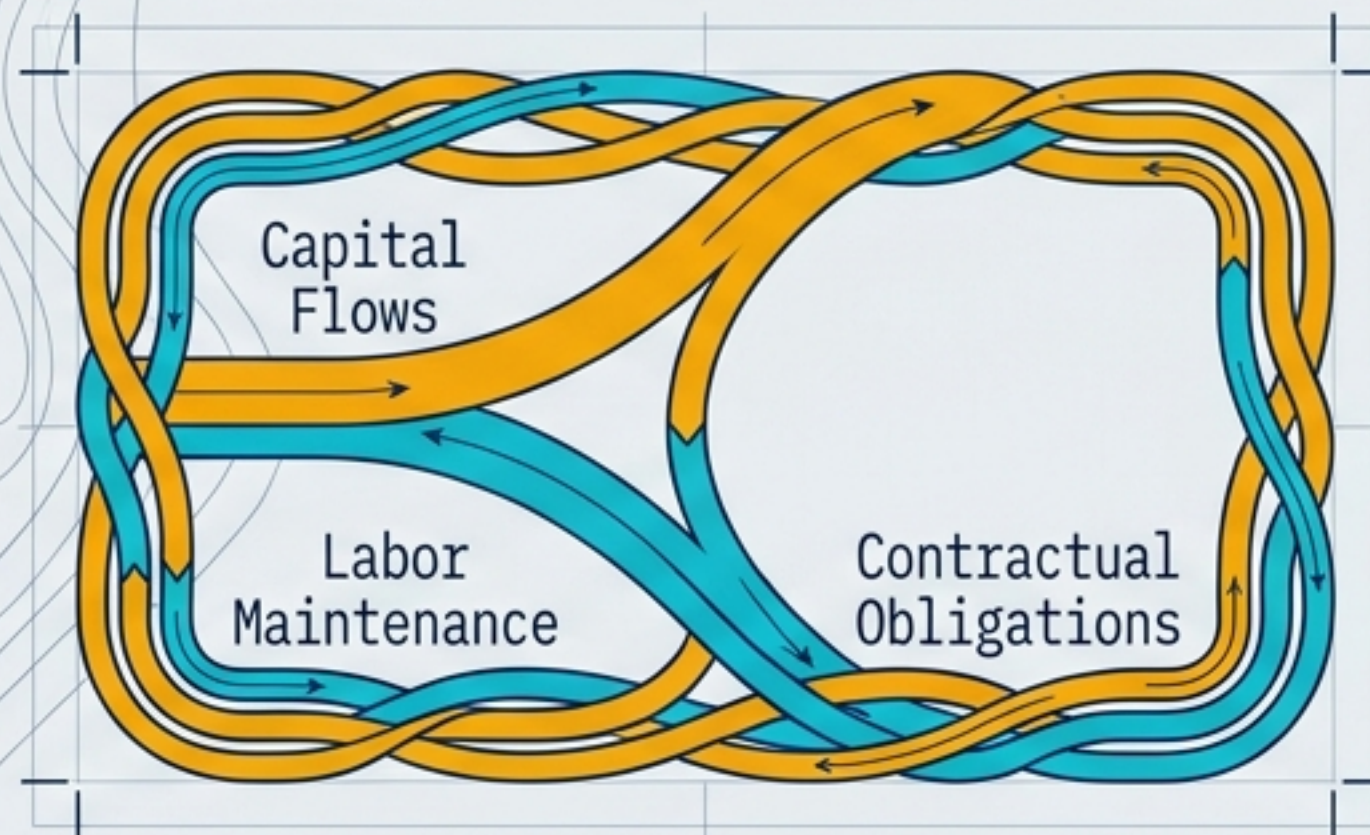
The Noun Fallacy occurs when a stabilized trajectory through a space of admissible configurations is mistaken for a fundamental entity.

## The Illusion



Treated as a foundational entity.  
Analyzed by its intrinsic properties.

## The Reality

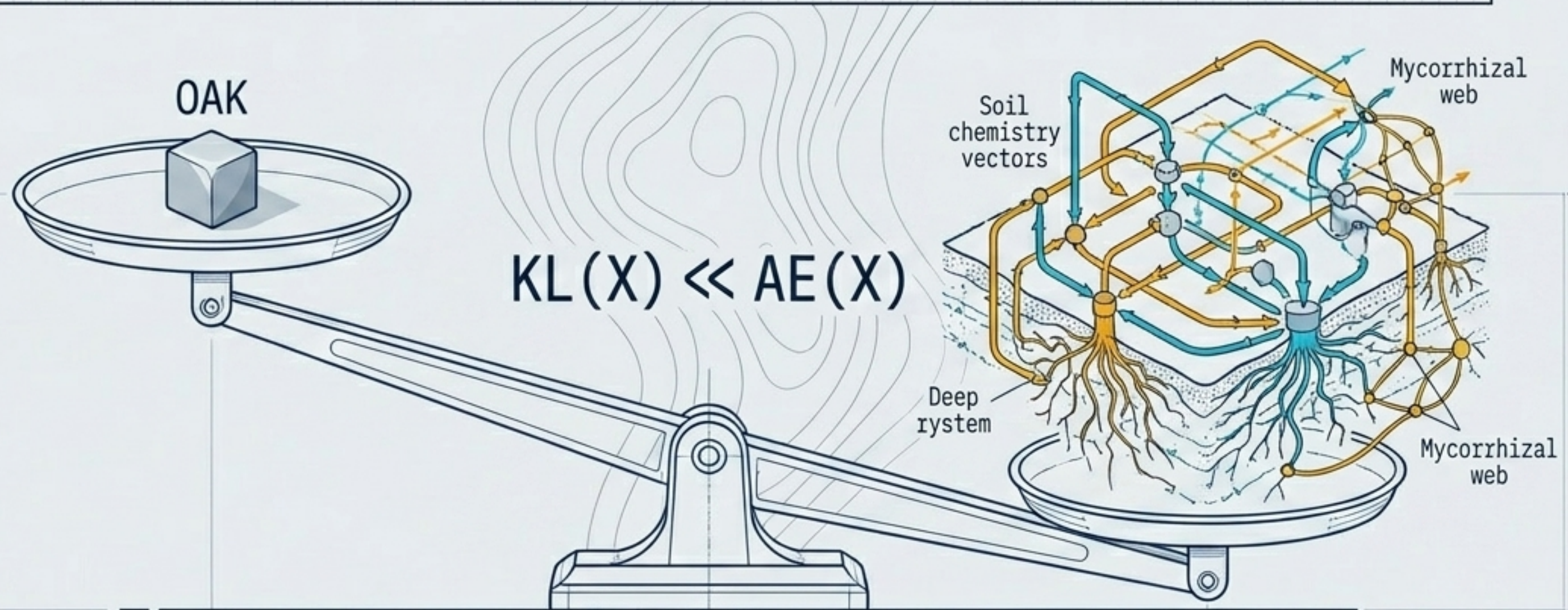


A stabilized trajectory.  
Exists only as long as sustaining inputs flow.

The primary question about any configuration is not "Does it exist?"  
but "Is it reachable, and under what conditions does it remain reachable?"

# The Rational Economy of Compression

The Noun Fallacy survives because compression earns its keep. The space of nameable configurations expands faster than the space of buildable ones.



Minimal description length:  $KL(X)$

Massive assembly cost:  $AE(X)$

Nouns are a highly efficient, lossy compression of a trajectory.  
The fallacy only occurs when we mistake the cheap label for the underlying structural reality.

# The Ontological Inversion

Admissibility is prior to existence. Entities do not have intrinsic persistence; they are regions of state space where trajectories dwell long enough to be labeled.

Noun Fallacy: treats as primitive



Key Insight: Persistence is simply a special case of stable reachability.

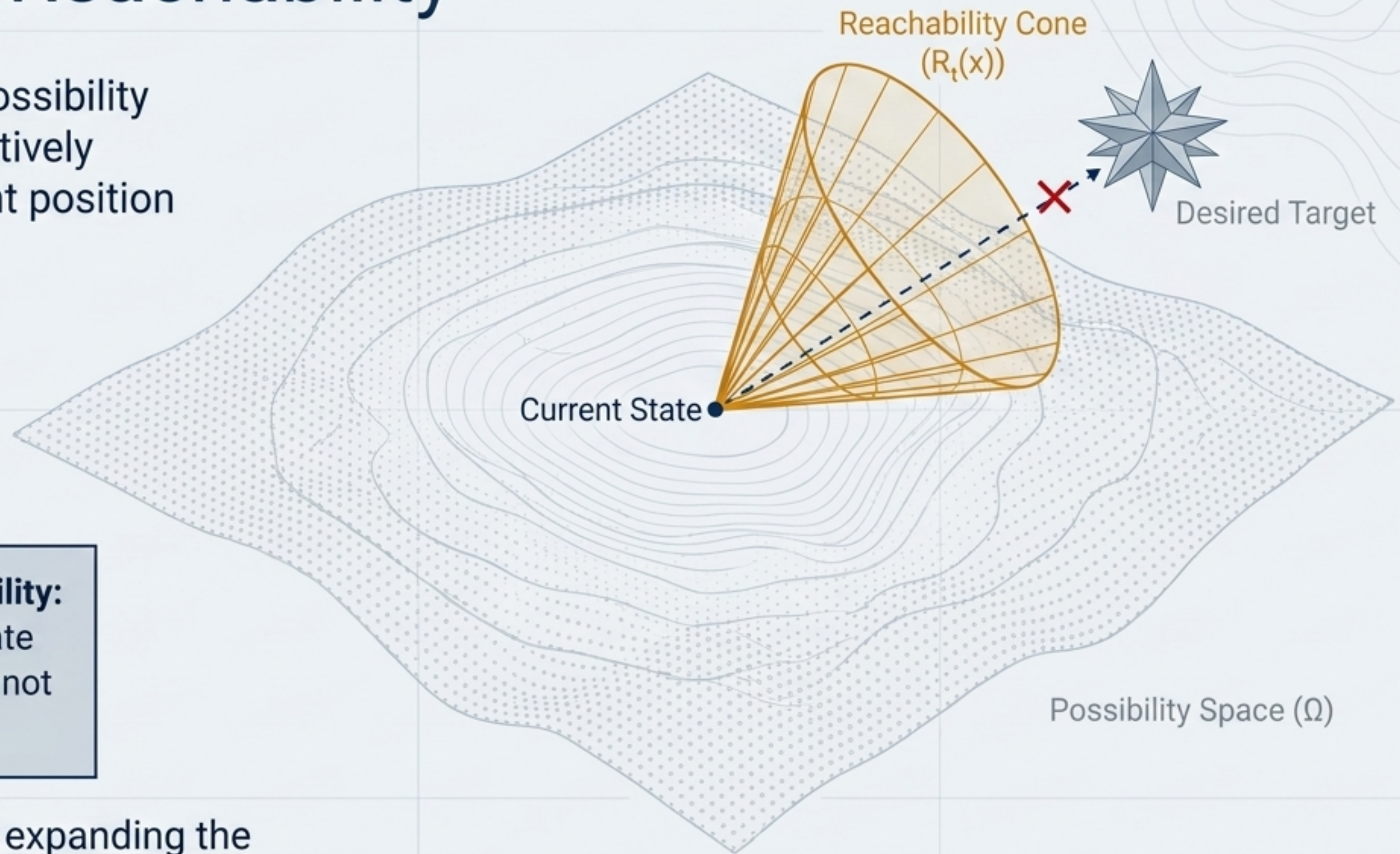
# The Universal Arc of Correction

Across independent domains, theoretical crises emerge when nominal primitives fail. The correction always takes the exact same mathematical form: recovering the process from the residue.

Domain	Residue (The Noun)	Trajectory	Admissibility Structure
Biology	Species	Genotype Trajectory	Population Genetics
Physics	Caloric Fluid	Molecular Velocity	Thermodynamics
Computation	Static Object	Wavefront Propagation	Process Calculi
Urbanism	Master Plan	Generative Sequences	Jacobs Conditions
CogSci	Stored Representation	Active Inference	Generative Model

# Possibility vs. Reachability

A state may exist within a possibility space while remaining effectively unreachable from the current position via admissible transitions.

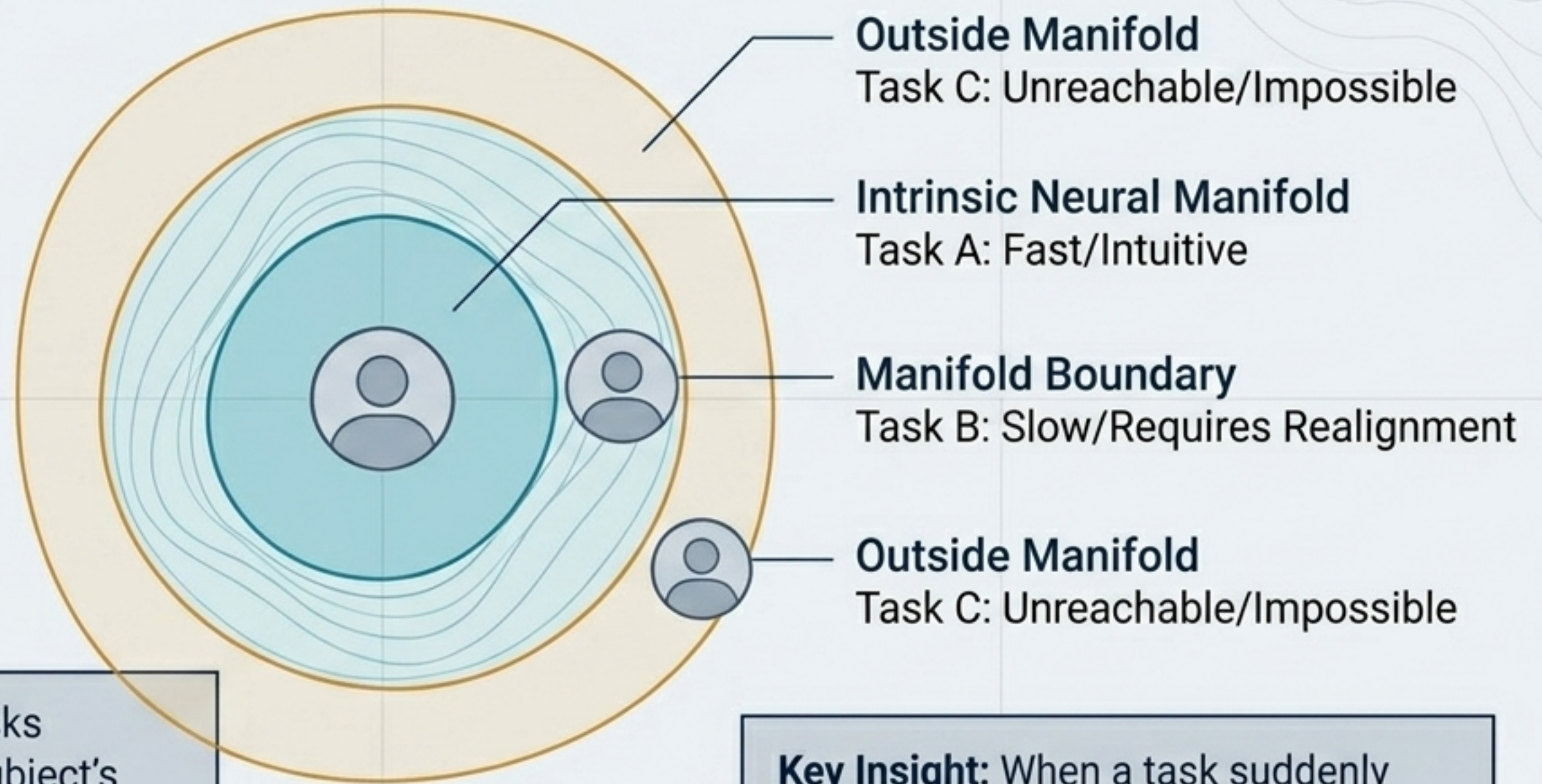


**Convergence Without Reachability:**  
Specifying a beautiful target state outside the reachability cone is not a plan; it is a wish.

The primary goal of design is expanding the reachability cone, not just defining the target.

# The Illusion of Intrinsic Difficulty

Difficulty is not a noun. It is relational distance from the boundary of a system's current reachability cone.

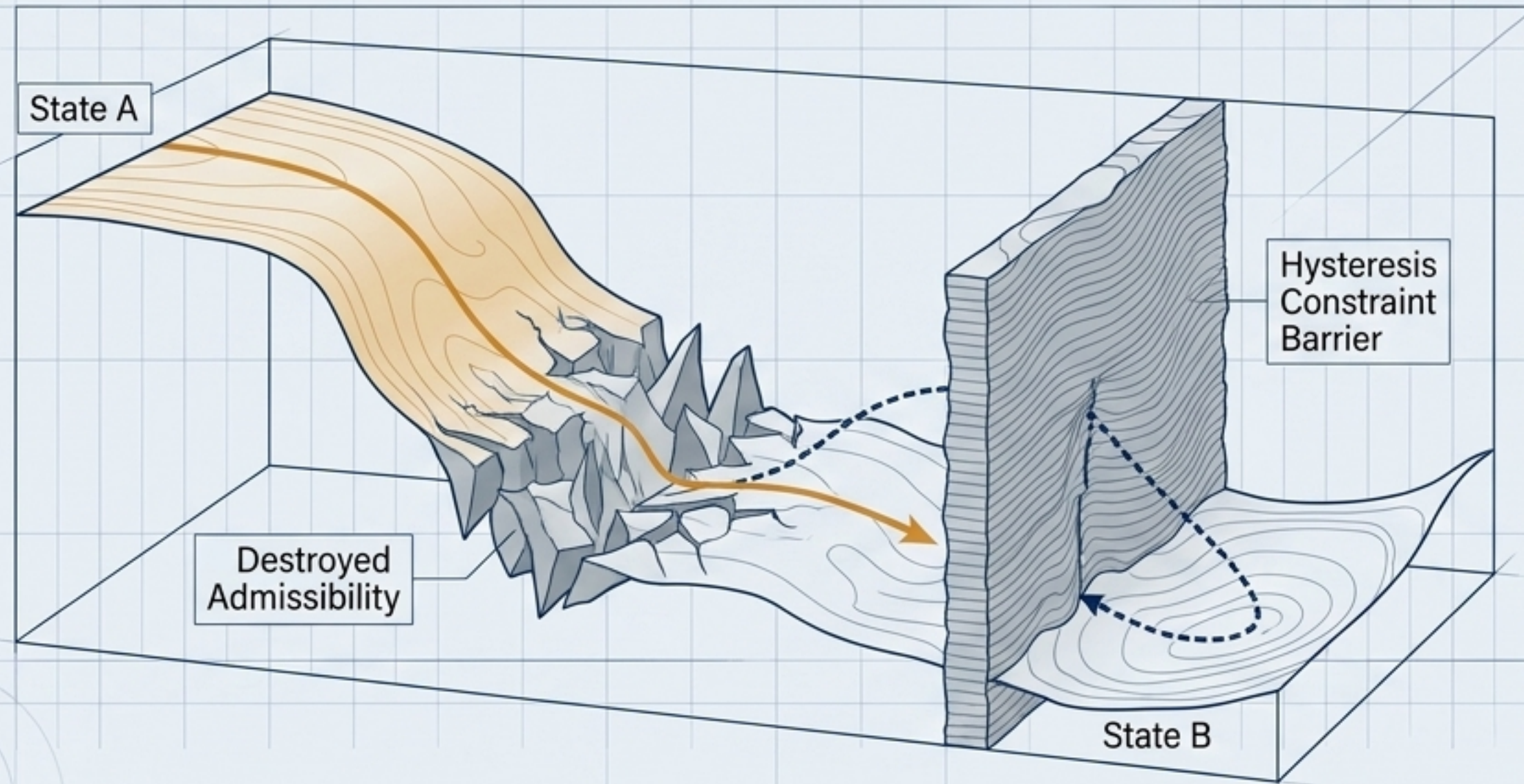


**Empirical Evidence:** In BCI learning, tasks requiring neural patterns outside the subject's pre-existing intrinsic manifold were unlearnable, while technically equivalent tasks aligned with the manifold were trivial.

**Key Insight:** When a task suddenly becomes easy, the task didn't change—the system's compilation state expanded to encompass it.

# Structural Hysteresis: Frozen Histories

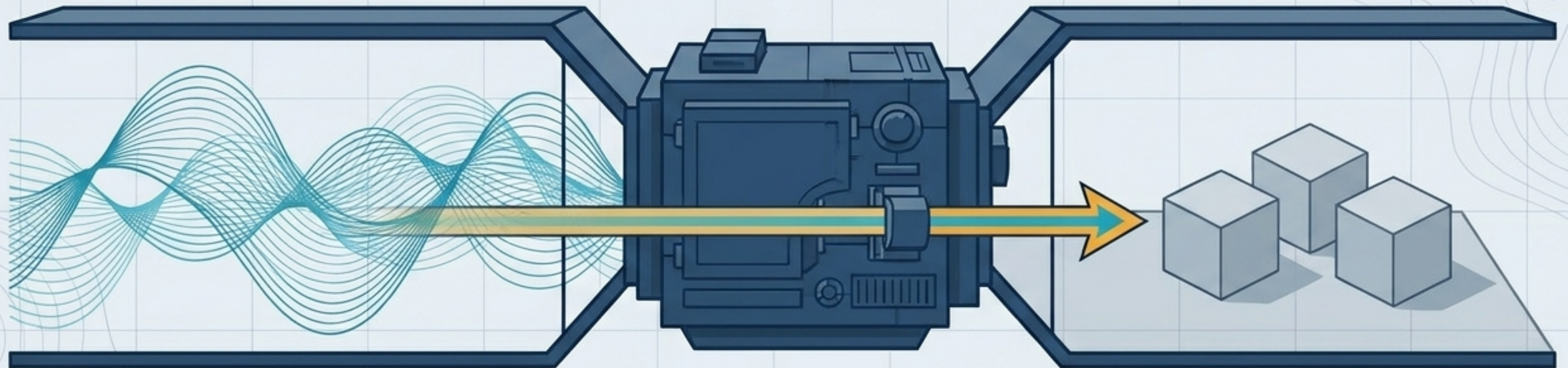
Nouns suppress history. Processes permanently alter future possibilities.  
The path back is not equivalent to the path forward.



**Key Insight:** Two systems may appear identical as “nouns” (e.g., a restored forest vs. a primary forest), but because they have radically different histories, they possess radically different futures.

# The Gravity of Re-Nominalization

Institutional pressure constantly turns processes back into nouns. When a process is compressed to a metric noun, optimization pressure targets the label, destroying the underlying dynamic.



**Alexander's Transformation Rules**  
(Context + Forces → Resolution)

**Institutional Paradigm Machine**  
Software Engineering

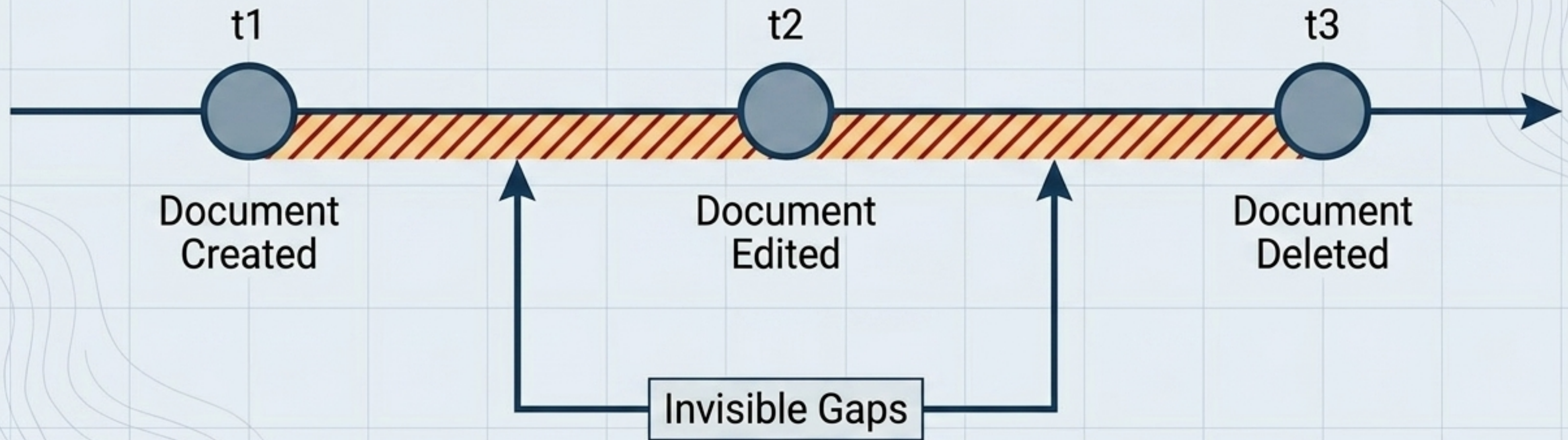
**Gang of Four Object Patterns**  
(Singleton, Factory)

**Goodhart's Law** is a special case of the Noun Fallacy.

Re-nominalization is the cognitive default. It requires active methodological discipline to resist.

# System Memory: The Museum of Frozen Residues

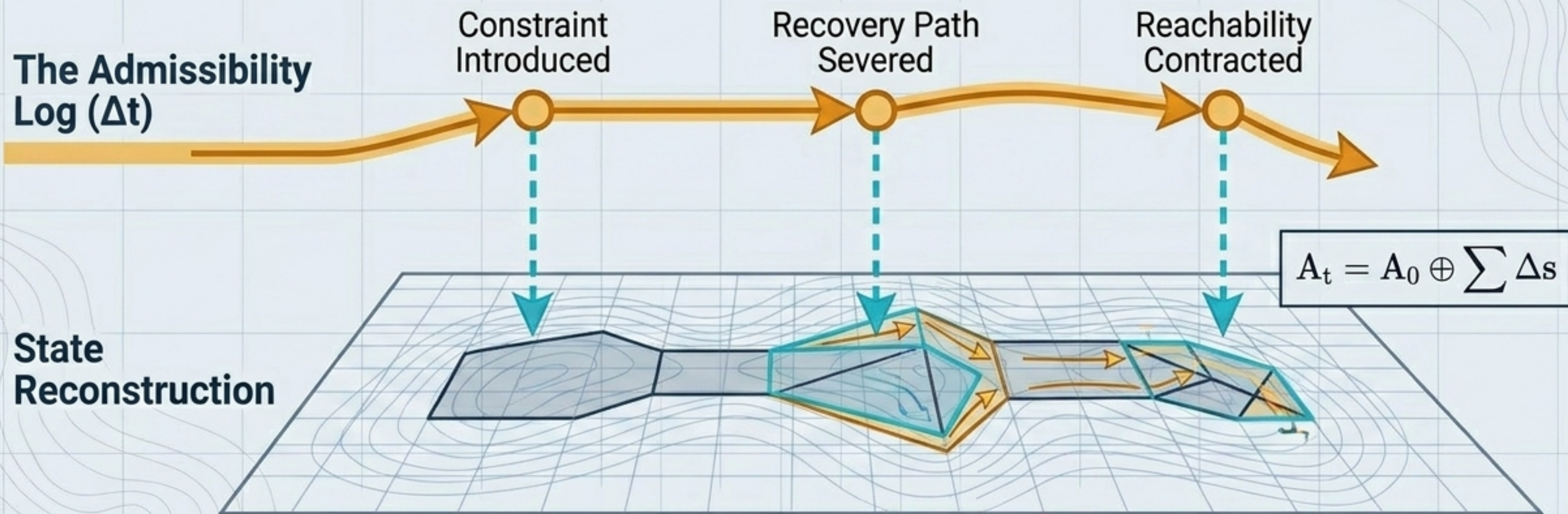
Conventional logging architectures (Git, Event Sourcing) are noun-centric. They record snapshots of what happened (states), not what was possible.



**Key Insight:** A state-centric log is blind to the progressive shrinking of possibilities that occurs immediately before a systemic failure.

# The Admissibility Log

A process-primary representational architecture. Store the changes in the geometry of possibility ( $\Delta t$ ); derive the history of states.



**The shift** is from asking "What happened?" to "What became possible or impossible?"

# Architecture Comparison Matrix

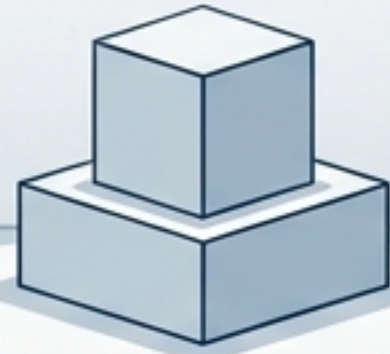
Only the Admissibility Log natively tracks the contraction of the reachability cone, making it structurally resistant to Goodhart dynamics and metric gaming.

Capability	Git (DAG)	Event Sourcing	CRDTs	Admissibility Log
State at time $t$	Yes	Yes	Yes	Derived
Event that happened	Yes	Yes	Yes	As $\Delta t$
<b>What became impossible</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>When constraint appeared</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
<b>Foreclosed branches</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>Yes</b>
Goodhart-resistant	Low	Medium	Medium	High

# The Economics of Trajectory Debt

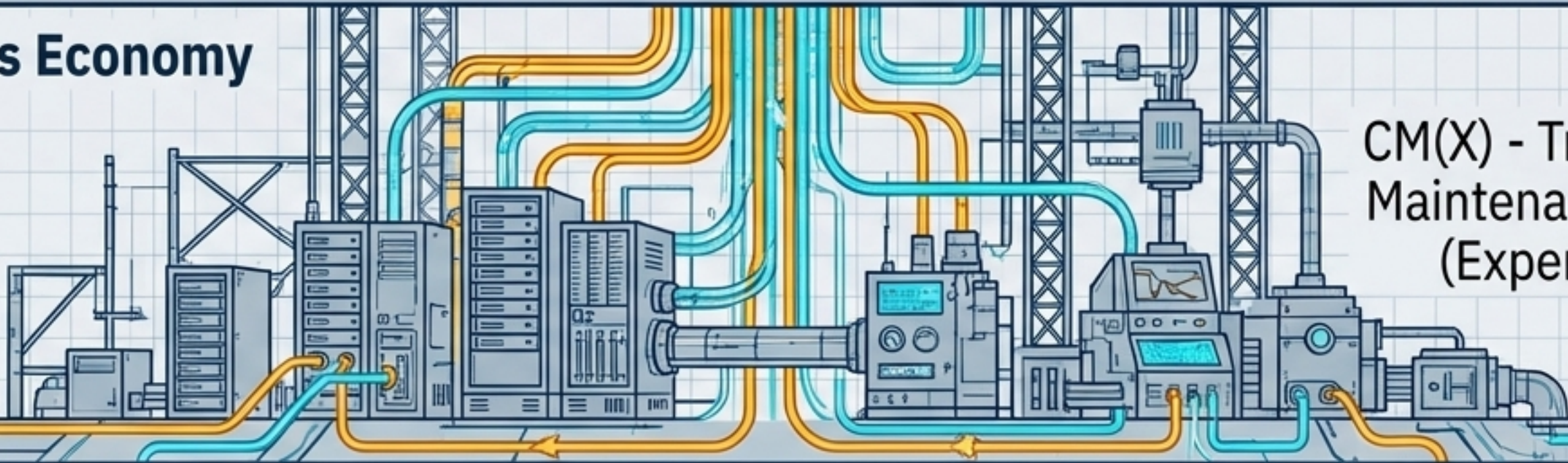
Nouns hide maintenance. The cost of compression is initially low, but 'Trajectory Debt' compounds exponentially as the environment shifts and the admissibility structure drifts.

## The Noun Economy



CN(X) - Naming Costs (Cheap)

## The Process Economy

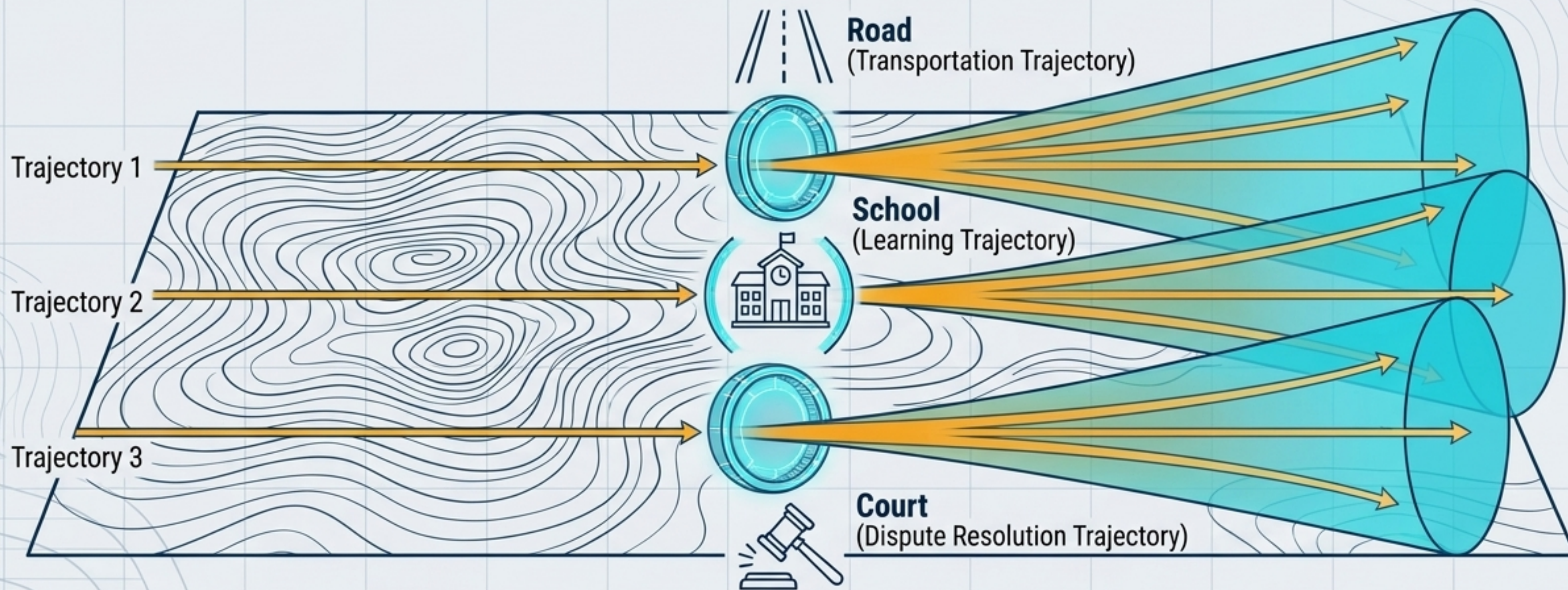


CM(X) - Trajectory Maintenance Costs (Expensive)

**Maintenance labor** is invisible to noun-centric accounting because it sustains the trajectory, not the residue.

# Synthesis: Civilization as Admissibility Infrastructure

Civilizations are not collections of monumental objects. They are **admissibility infrastructures** designed to preserve, buffer, and expand human trajectories.



**An institution should not be judged by its noun-outputs, but by whether it expands or contracts the reachability cone of the people who depend on it.**

# The Process-Primary Mandate

- 1 Trajectory Recovery:** What active **process** does this 'noun' compress?
- 2 Stability Analysis:** What invisible environment **sustains** this stability?
- 3 Foreclosure Audit:** What vital questions does this noun make unaskable?
- 4 Reachability Tracking:** Are our available **options expanding** or **contracting**?

**Persistence is secondary. Reachability is primary.**