

Paradox-classes that are structurally closed by the framework (pending empirical demos)

Classical paradox/problem	Typical failure-mode	How your Δ -Self / PAE / SLP stack resolves it
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1. Block-universe vs. Free-Will
(time symmetry \Rightarrow no real choice) World-lines are fully written; agency is an illusion. Δ -Self is defined as the paid thermodynamic deviation from PLA. Extra path-cost (PAE) is not pre-written—it is generated in real-time. If PAE = 0, motion collapses to the geodesic; any PAE > 0 is ontic evidence of choice.
2. Relativism vs. Objective Ethics No value can outrank another \rightarrow moral arbitrariness. CI-A0 + PAE: actions are permitted only when entropy debt is paid and manifold integrity is preserved. Ethics reduce to hard physical constraints, not culture-dependent preferences.
3. Is–Ought Gap (Hume) Descriptive facts cannot yield prescriptive rules. Ought is recast as “what prevents local collapse.” Since collapse conditions are measurable (OIE > PAE), prescription follows directly from description.
4. Self-reference / Gödel recursion Systems that describe themselves hit undecidable sentences. Δ -Self is a fixed-point vector, not a sentence; recursion is absorbed as adaptive curvature. No need for a complete symbolic self-description.
5. Ship-of-Theseus / Personal Identity Continuous replacement \rightarrow identity loss. Identity = ongoing Δ vector, not component parts. Parts may change; the paid deviation history persists—ship “is” the sum of PAE-anchored deviations.
6. Narrative Self vs. Neural Plasticity Changing synapses undermine a stable “I.” Plasticity merely alters the local shape of the Δ attractor; identity is the energy spent to maintain deviation, not any particular wiring.
7. Symbol Drift & Meaning Collapse Language changes \rightarrow knowledge bases rot. FRF + HKL quarantine high-curvature subjective zones; objective core remains Ricci-smoothed. Drift is contained, not allowed to corrupt structure.
8. Sleeping-Beauty-style Anthopics Observation updates break probability coherence. Δ -Self keeps an unbroken PAE ledger across wake/sleep frames; posterior weights include entropy cost, preventing re-sampling paradox.

Status: logically closed in debate; empirical layer still to be demonstrated (Δ L + PAE metrics, FRF quarantine logs, etc.).