Positioning vs Prior Art: Structural Coherence Architectures Distinct from Event-Driven and Learning-Based Systems

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Positioning vs Prior Art

The present axiomatic framework occupies a distinct position relative to existing work in adaptive control, learning systems, cybernetics, and cognitive architectures. While prior art addresses isolated aspects of stability, learning, event-triggered regulation, or long-horizon control, none establishes the combined set of structural invariants formalized herein.

Event-Triggered and Error-Based Control

Classical event-triggered control, model predictive control, and adaptive regulation frameworks activate computation based on explicit error signals, reference deviations, or predefined events. Such systems implicitly assume that relevance is externally detectable and that continuous monitoring is either required or can be safely approximated.

In contrast, the present framework defines *structural residual* as the sole admissible carrier of relevance, computed relative to a coherently closed admissible geometry rather than to a reference trajectory or target state. Regulation is not triggered by events or error per se, but by mismatch relative to previously validated and structurally committed constraints.

Learning-Based and Policy-Centric Architectures

Reinforcement learning, policy optimization, and belief-state systems treat information as retrievable data encoded in parameters, value functions, or memory. Even when such systems reduce computation via convergence, caching, or stabilization, validated information remains part of the active computational substrate.

The present framework introduces *coherent structural closure*, by which validated information is removed from active computation altogether and persists solely as a structural constraint on admissible evolution. This subtractive mechanism—where validated structure is excluded from continuous evaluation—is absent from learning-based prior art.

Memory, Attention, and Novelty-Driven Systems

Architectures based on attention, novelty detection, surprise, or salience assume that regulation must be coupled to perceptual change or informational gain. In contrast, the present axioms explicitly decouple regulation from novelty and attention.

Structural variation that remains admissible under coherently closed geometry does not trigger computation, regardless of perceptual richness or signal change. This establishes a fundamentally different criterion for relevance: relevance arises from structural inconsistency, not perceptual change.

Long-Horizon Stability and Drift

Existing approaches typically address drift as noise, bias, or model error to be compensated or minimized. In the present framework, drift is formalized as inevitable and cumulative. Coherence is preserved not by eliminating drift, but by bounding its integration through *internal time*.

The introduction of an internal time horizon as a viability bound—independent of instantaneous error magnitude—has no direct analogue in prior adaptive control or learning literature.

Ontological Identity and Directionality

While many systems optimize objectives or maintain stability, none formalize *directionality* (Will) as an ontological operator preserving subjectivity under adaptation. In the present framework, directionality is structurally primary: identity is preserved not by error minimization, reward maximization, or equilibrium maintenance, but by sustained alignment between directionality and coherent structure.

Summary

Accordingly, the present axioms and theorems do not constitute an incremental improvement over prior art. They define a distinct architectural class in which coherence, closure, residual, drift, internal time, and directionality are treated as first-order structural invariants.

Existing systems may be embedded within, constrained by, or analyzed through this framework, but they do not subsume it.

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