The Cross-Primitive Coherence Engine

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Cognitive domain fields operating independently can produce contradictory evaluations: confidence may authorize execution while integrity prohibits it; affective state may favor a path that capability analysis rules out. The cross-primitive coherence engine resolves these contradictions by ensuring that all cognitive fields produce mutually consistent evaluations at every mutation lifecycle stage. Coherence is not aspirational; it is structurally enforced.

What It Is

The cross-primitive coherence engine is the integration mechanism that ensures all cognitive domain fields, including affective state, confidence, integrity, capability, and forecasting, produce evaluations that are mutually consistent when applied to the same mutation proposal. The engine does not override individual field evaluations. It detects inconsistencies and initiates reconciliation before the mutation proceeds.

Why It Matters

Without coherence enforcement, agents can develop internal contradictions: acting confidently in domains where their integrity is compromised, or proceeding optimistically when capability analysis indicates failure. These contradictions produce unreliable behavior because different cognitive subsystems are operating on incompatible assessments of the same situation.

How It Works

At each mutation lifecycle stage, the coherence engine collects evaluations from all active cognitive fields and checks for consistency. Consistency rules define which field combinations must agree and which may disagree within specified bounds. When an inconsistency is detected, the engine initiates reconciliation: adjusting field inputs, requesting additional evaluation, or flagging the inconsistency for higher-level resolution.

The reconciliation process is deterministic and recorded in the lineage, creating an auditable record of how cognitive contradictions were resolved.

What It Enables

The coherence engine enables agents that behave consistently because their internal evaluations are consistent. An agent governed by the coherence engine cannot simultaneously believe a task is within its capabilities and lack the confidence to execute it without an explicit reconciliation that resolves the contradiction. This internal consistency is what makes agent behavior predictable and trustworthy.

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Primary Technical Disclosure
○ Human-Relatable Computable Intelligence
Secondary Technical
● The Cross-Primitive Coherence Engine○ Narrative Identity as Compressed Self-Model○ Ecosystem Participation Credentials From Cognitive History○ Anonymized Governance Telemetry Aggregation○ The Coherence Control Loop: Detection, Recording, Restoration○ The Complete Thirteen-Stage Mutation Lifecycle○ Ten Conditions for Human-Relatable Behavior○ Graceful Degradation With Active-Domain Registry○ Architectural Inversion: Agent Carries State, Substrate Provides Environment○ Sequential Cascade Structures in Cross-Primitive Coherence○ Conformity Attestation: Verifiable Architectural Compliance
Applications (General)
○ Why AI 2.0 Requires Structural Cognition, Not Better Prompts○ The Compliance Case for Cognitive Architecture Under the EU AI Act○ Why Alignment Is Insufficient for Trustworthy AI○ Enterprise Trust Through Architecture, Not Alignment○ Insurance Liability Reduction Through Human-Relatable AI○ Building Consumer Trust in AI Through Cognitive Relatability○ Regulatory Future-Proofing Through Human-Relatable Architecture○ Competitive Differentiation Through Cognitive Architecture
Applications (Specific)
○ OpenAI's Alignment Approach Is Missing Structural Isomorphism○ Constitutional AI Defines Principles Without Cognitive Architecture○ DeepMind's Safety Research Lacks Cognitive Isomorphism○ Meta's Open AI Safety Is Missing Cognitive Architecture○ Inflection AI Simulates Empathy Without Structural Coherence○ Adept AI Automates Actions Without Structural Integrity○ Covariant Trains Robot Dexterity Without Cognitive Coherence○ Sanctuary AI Builds Humanoid Form Without Human-Relatable Cognition○ Aleph Alpha Offers Sovereign AI Without Structural Coherence○ Mistral AI Optimizes Efficiency Without Architectural Coherence
Human-Relatable Intelligence overview →
AQ
deterministic
autonomy

Legal

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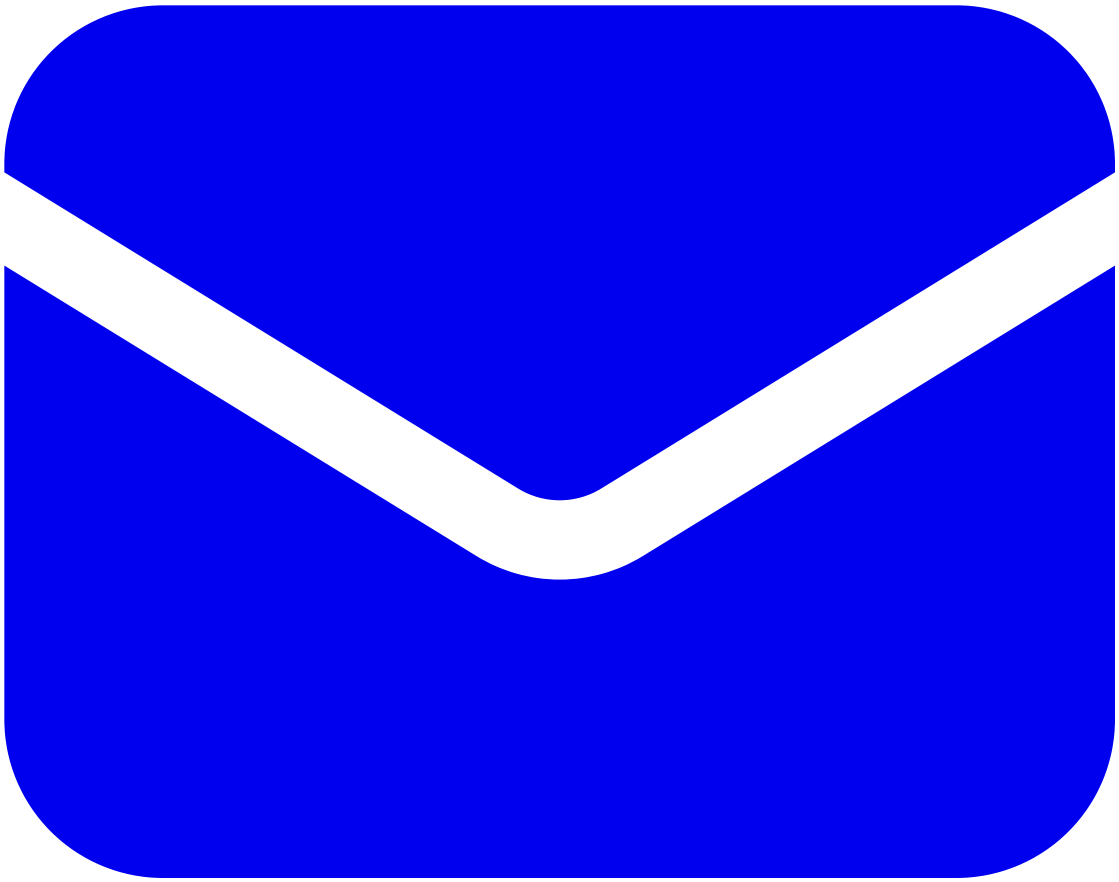

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