

Reality Drift Framework: On Cognition, Meaning, and Drift

Cognitive Drift Series – CD 1

A. Jacobs — Reality Drift Framework (2023–2026)

Introduction

Modern life increasingly feels coherent on the surface while unstable underneath. Systems function. Outputs improve. Information flows faster than ever. Yet meaning feels thinner, decisions feel less final, and reality itself feels harder to grasp.

This pattern has been described within the Reality Drift framework through concepts such as the Drift Principle and Cognitive Drift.

This document formalizes the underlying mechanism connecting these concepts into a unified model of cognition, meaning, and drift.

Core Claim

Cognitive Drift emerges when environmental complexity grows faster than a system's ability to compress and stabilize information, revealing limits in how far intelligence can scale while maintaining alignment with reality.

The Drift Principle

Drift = Entropy / Compression

- Entropy reflects the complexity and instability of the environment
- Compression reflects the system's capacity to model and reduce that complexity
- When entropy exceeds compression capacity, drift emerges

From the perspective of the system, this can also be expressed as a relation between compression and fidelity: $\text{Drift} \approx \text{Compression} / \text{Fidelity}$

As systems scale, this relation imposes a structural limit. Increases in compression capacity do not guarantee proportional increases in fidelity, creating conditions where drift becomes inevitable.

Structural Components of Cognition

Cognition can be understood in terms of several interacting components that shape how systems represent, stabilize, and act on reality:

1. Compression

Reality is reduced into representations.

- Necessary for functioning under complexity
- Enables abstraction, modeling, and communication

2. Recursion

Representations are fed back into the system.

- Systems model their own representations
- Produces thought, identity, and self-awareness

3. Fidelity

Constrains alignment between representation and reality.

- Maintains coherence and meaning
- Prevents distortion during compression

4. Judgment (Constraint)

Forces closure under uncertainty.

- Collapses possibility space
- Binds representation to consequence
- Terminates recursive loops

5. Drift

Failure mode of the system. Occurs when:

- Compression increases
- Recursion accelerates
- Fidelity degrades
- Judgment weakens

Result: Systems remain operational and coherent while losing alignment with reality.

Cognition as a Loop

Cognition operates as a continuous loop in which reality is compressed into representations, those representations are fed back recursively, and the system either maintains fidelity or begins to drift before reaching some form of judgment or continuation.

This same dynamic governs not only human cognition, but also language, institutions, media systems, and artificial intelligence.

Dimensions of Cognition and Drift

Cognition can be examined across several interacting layers, each offering a different perspective on how drift emerges across cognition, systems, and time.

1. Base Layer (Reality Mechanics)

- Recursive Compression Theory
- Intelligence as compression
- Consciousness as recursive self-modeling

2. Meaning Layer (Stability)

- Semantic Fidelity
- Meaning as constrained compression
- Breakdown of coherence under overload

3. Constraint Layer (Closure)

- Judgment as termination function
- Runaway recursion when constraint is removed

4. Variation Layer (Cognitive Differences)

- Cognitive architectures as compression strategies
- Porousness as boundary condition
- Differences in drift sensitivity

5. Interaction Layer (Human–AI Systems)

- AI as external compression system
- Mirror effect
- Synthetic flow as bounded co-cognition

6. System Layer (Culture and Media)

- Compression loops (feeds, summaries, algorithms)
- Mirror effects (identity and social reflection)
- Distributed cognition across populations

7. Temporal Layer (History)

- Consciousness evolves through recursive layers
- Systems drift, collapse, and re-encode
- AI as a new recursion layer

What This Framework Explains

This framework accounts for a wide range of modern phenomena:

- Why modern life feels “off” despite increasing optimization
- Why AI appears intelligent but lacks grounding
- Why systems continue functioning without resolving underlying problems
- Why culture appears coherent while losing alignment with lived reality

Drift as a Structural Condition

Cognitive Drift is not an error or anomaly, but an expected outcome of systems in which compression scales rapidly while fidelity lags and constraint mechanisms weaken.

Under these conditions, meaning becomes unstable, identity becomes more fluid, and systems continue to optimize without maintaining grounding in underlying reality.

Adaptive Responses Under Drift

Under conditions of drift, cognitive systems tend to either lose coherence, stabilize through constrained recursion, or detect instability early at the cost of increased sensitivity.

These responses vary depending on underlying cognitive compression styles, which shape how systems process, filter, and stabilize information.

Drift (Unconstrained)

- fragmentation
- overload
- loss of coherence

Stabilization (Constrained Recursion)

- bounded recursive loops
- use of external systems (tools, AI, structure)
- restoration of local coherence

Sensitivity (Early Detection)

- early detection of instability
- increased susceptibility to overload
- enhanced pattern recognition and synthesis

Maintaining Alignment

We are entering a phase in which compression is increasingly externalized into AI systems, recursion operates across both human and machine layers, fidelity becomes more difficult to maintain, and judgment is more often deferred.

As recursive compression extends beyond the individual, cognition becomes distributed across internal and external systems, introducing new forms of co-cognition that can either stabilize or amplify drift depending on how constraint is maintained.

In this environment, preserving alignment increasingly depends on cognitive hygiene: the ability to maintain fidelity as representations are continuously formed, updated, and acted upon under conditions of accelerating compression.

The result is a cognitive environment where meaning is continuously reprocessed, reality is mediated through representations, and cognition extends beyond the individual.

Where This Leads

Cognitive Drift becomes visible when the basic structure of cognition is no longer masked by stability.

- Minds compress reality.
- Compression becomes recursive.
- Recursion produces awareness.
- Fidelity stabilizes meaning.
- Judgment enforces closure.

When fidelity and judgment weaken, drift emerges. Modern systems accelerate this process, and AI makes it visible.

This suggests that intelligence does not scale without constraint, and that beyond a certain point, increasing capability begins to erode alignment rather than improve it.

What remains uncertain is how far cognition can move from reality while still appearing coherent.