Coherence Field Theory
Paper 2: Drift Mechanics

1. Introduction

Drift is the central dynamic of incoherence. While Paper 1 introduced drift as the accumulation of distortion under misalignment, this paper formalizes drift as a mechanical process with identifiable stages, thresholds, and propagation patterns. Drift is not an emotional or psychological phenomenon; it is the structural consequence of sustained misalignment between architecture and field. Understanding drift mechanics is essential for analyzing system stability, predicting collapse, and identifying conditions for realignment.

2. The Structure of Drift

Drift is the directional propagation of distortion across time. It emerges when architecture must compensate for field pressures that violate its constraints.

2.1 Drift as Accumulated Compensation

Compensatory strategies arise when architecture cannot operate directly within field conditions. These strategies introduce structural inefficiencies that accumulate over time.

2.2 Drift as Signal Degradation

Distortion reduces the accuracy of perception and the fidelity of internal signals. As drift increases, signal quality declines and the system's ability to track reality diminishes.

2.3 Drift as Architectural Stress

Compensation and distortion impose mechanical stress on architectural invariants. Sustained stress reduces tolerance and accelerates drift propagation.

3. Drift Propagation Mechanics

Drift follows a predictable mechanical sequence.

3.1 Initial Misalignment

Drift begins when field pressures exceed architectural constraints, creating the first point of distortion.

3.2 Compensatory Load

Architecture introduces compensatory strategies to maintain function. These strategies are structurally costly and generate additional distortion.

3.3 Distortion Amplification

Distortion propagates through interconnected structures, amplifying misalignment and reducing system stability.

3.4 Thresholds and Collapse

When drift exceeds architectural tolerance, compensatory strategies fail. Collapse occurs when the system can no longer maintain coherence under existing field conditions.

4. Drift Thresholds

Drift is governed by thresholds that determine whether the system stabilizes, destabilizes, or collapses.

4.1 Architectural Tolerance

Each architecture has a finite capacity to absorb distortion before compensatory strategies become unsustainable.

4.2 Field Pressure Intensity

Field conditions vary in intensity. High-pressure fields accelerate drift, while low-pressure fields allow temporary compensation.

4.3 Non-Linear Accumulation

Drift does not accumulate linearly. Small distortions can compound rapidly once thresholds are crossed, producing sudden instability.

5. Drift in Compatible vs. Incompatible Fields

Drift behaves differently depending on field compatibility.

5.1 Compatible Fields with Temporary Misalignment

In compatible fields, misalignment may occur temporarily, but drift remains limited and reversible.

5.2 Incompatible Fields with Persistent Pressure

In incompatible fields, misalignment is sustained. Drift accumulates continuously and becomes difficult to reverse.

5.3 Field Switching and Transitional Drift

Transitions between fields can generate temporary drift even when both fields are individually compatible. Transitional drift reflects the system’s adjustment to new structural demands.

6. Drift Reversal Mechanics

Drift can be reversed when structural conditions allow realignment.

6.1 Removing Distortion Sources

Eliminating incompatible field pressures halts further drift and reduces compensatory load.

6.2 Reestablishing Invariants

Architecture must reassert its invariants to restore signal accuracy and reduce distortion.

6.3 Architectural Recovery Windows

Recovery requires a window in which field pressures remain within tolerance. Without such a window, drift reversal is incomplete or unstable.

7. Implications for Coherence Field Theory

Drift mechanics form a core diagnostic and predictive framework within Coherence Field Theory.

7.1 Drift as the Central Diagnostic

Drift reveals the degree and direction of misalignment between architecture and field.

7.2 Drift as the Predictor of Collapse

Collapse occurs when drift exceeds tolerance. Drift levels indicate proximity to collapse.

7.3 Drift as the Measure of Field Compatibility

Field compatibility can be assessed by observing drift behavior under varying conditions.

8. Conclusion

Drift is the dynamic expression of incoherence. It arises from compensatory strategies, propagates through distortion, and accelerates under incompatible field conditions. Drift thresholds determine whether a system stabilizes, recovers, or collapses. By formalizing drift mechanics, this paper extends the foundation of Coherence Field Theory. Paper 3 will develop the concept of field compatibility and its role in coherence preservation.