

# MU-CFT IV: Coherent Subjectivity and Perception (Mandrov Unified Coherent Field Theory)

Dmitry A. Mandrov

Independent Researcher, Russia

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## **Abstract**

This fourth part of the Mandrov Unified Coherent Field Theory (MU-CFT) develops a model of perception and identity based on the geometry of coherent subjective fields. Perception is interpreted as a projection of coherence onto the experiential space. We define a functional metric of subjective coherence and use it to explain normal, altered, and pathological states of consciousness. The theory provides a bridge between phenomenology, cognitive science, and field-based ontologies, offering new avenues for understanding perception, selfhood, and their distortions.

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## 1. Introduction

MU-CFT IV investigates how perception and identity arise from the internal geometry and dynamics of a coherent subjective field. We frame perception not as passive registration of sensory inputs, but as active projection governed by the coherence structure of the subject.

## 2. The Subject as a Coherent Field

The observer is modeled as a coherent field  $\mathcal{F}_s(x, t)$  whose structure determines what is experienced. Identity emerges from the internal stability and self-referential loops of this field. The field is dynamic, adaptive, and recursive.

## 3. Perception as Coherent Projection

Perception is modeled as a function:

$$P(x, t) = \pi[\mathcal{F}_s(x, t)]$$

where  $\pi$  is the projection operator from the internal coherence field onto experiential space. Distortions in perception arise from incoherence or topological defects in  $\mathcal{F}_s$ .

## 4. Metric of Subjective Coherence

We define the coherence metric:

$$\mathcal{K} = \alpha\kappa + \beta S + \gamma T + \delta M$$

With:

- $\kappa$ : causal consistency
- $S$ : structural cohesion
- $T$ : temporal continuity
- $M$ : semantic integration

$\mathcal{K}$  quantifies the perceived coherence of reality.

## 5. States of Perceptual Reality

Coherence Level	Phenomenological Features	Examples
High $\mathcal{K}$	Stable identity, consistent time, rich meaning, integrated form	Wakeful awareness, focused attention, lucid dreaming
Medium $\mathcal{K}$	Partial disintegration, symbolic distortions, drift in time or meaning	Regular dreams, altered states (e.g., trance, meditation)
Low $\mathcal{K}$	Fragmented perception, incoherent time flow, loss of meaning and causality	Hallucination, acute psychosis, derealization episodes

Table 1: Levels of perceptual coherence and corresponding subjective states

## 6. Altered and Pathological Perception

Examples include:

- Psychosis: fragmentation of  $\kappa$  and  $T$
- Depersonalization: collapse of  $M$  and  $S$
- Lucid dreaming: stable  $\kappa$ , altered  $M$

Therapeutic approaches can target restoration of coherence rather than surface symptoms.

## 7. Phenomenology Reinterpreted

MU-CFT provides field-theoretic correlates to phenomenological concepts:

- Intentionality  $\Rightarrow$  directional coherence vector
- Embodiment  $\Rightarrow$  coupling of field to sensorimotor interface
- Presence  $\Rightarrow$  local coherence maximum

## 8. Neurocognitive Correlates

MU-CFT does not reduce experience to the brain, but allows correspondence:

- Neural synchrony  $\Rightarrow$  approximation of  $\mathcal{F}_s$
- Binding problem  $\Rightarrow$  failure of  $S$  component
- Default Mode Network  $\Rightarrow$  baseline coherence pattern

## 9. Comparisons with Other Theories

- IIT: focuses on information integration; MU-CFT adds spatial-temporal structure
- GNW: emphasizes accessibility; MU-CFT emphasizes field geometry
- Predictive Coding: treats perception as inference; MU-CFT as projection

## 10. Formal Expression of Perception

Perceptual experience as a function of dual coherence:

$$P_{\text{experience}}(x, t) = f(\mathcal{K}_{\text{subject}}, \mathcal{K}_{\text{environment}}, R_{\text{match}})$$

where  $R_{\text{match}}$  is resonance or alignment factor.

## 11. Glossary of MU-CFT IV Concepts

Term	Definition
Coherent Field	Structured dynamic source of experience and identity
$\mathcal{K}$	Metric of coherence including causality, time, structure, and meaning
Projection	Perception as outward mapping from field structure
Phase Shift	Sudden reconfiguration in perceived reality $\Delta\mathcal{K}$
Resonance	Matching of internal and external coherence for stable experience

Table 2: Key concepts in MU-CFT IV

## 12. Conclusion

MU-CFT IV reframes perception and identity through the lens of coherent field dynamics. This opens pathways to unified theories of mind, perception, cognitive distortion, and therapeutic realignment of experience.

*"We do not see the world as it is, but as it coheres through us."*

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