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

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2025

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.

Contents

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 $\mathcal{F}_\sigma(x,t)$, where σ denotes the subject, whose internal structure determines the content of experience. 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:

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

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

4. Metric of Subjective Coherence

We define the coherence metric:

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

With:

- κ: 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 κ and T
- Depersonalization: collapse of M and S
- Lucid dreaming: stable κ, 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 $\mathcal{F}_\sigma$
- 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_{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."*

Acknowledgments

The author acknowledges the use of ChatGPT (OpenAI) as an assistant in refining the phrasing, improving the clarity of presentation, and supporting the formalization of certain expressions and equations. All conceptual ideas, theoretical developments, and interpretations remain entirely the responsibility of the author.