DAVID BOHM'S FRAMEWORK AND THE FIELD MODEL

A Systematic Comparison: Alignments and Divergences

INTRODUCTION

This document systematically compares:

- **David Bohm's Framework** (Implicate/Explicate Order, Holomovement, Pilot Wave Theory)
- **The Consciousness-EM Field Model** (developed through logical chains from observations)

The goal is to identify:

1. Where the frameworks ALIGN (potential integration)
2. Where they DIVERGE (areas for investigation)
3. Whether Bohm's framework can provide the deeper "WHAT" and "HOW" for the Field Model

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PART 1: BOHM'S FRAMEWORK - CORE CONCEPTS

1.1 The Implicate Order

Definition:

The **implicate order** (also called "enfolded order") is a deeper, hidden level of reality where:

- Everything is **enfolded into everything**
- Nothing is fundamentally separate or independent
- It represents the **ground from which observable reality emerges**
- It contains all potential forms in an enfolded state

Key Quote (Bohm):

> "The actual order itself has been recorded in the complex movement of electromagnetic fields, in the form of light waves. Such movement of light waves is present everywhere and in principle enfolds the entire universe of space and time in each region."

Characteristics:

Aspect	Description
Nature	Hidden, enfolded, deeper
Content	All potentialities
Structure	Undivided wholeness
Relationship to space	Pre-spatial (space emerges FROM it)
Relationship to time	Pre-temporal (time emerges FROM it)

1.2 The Explicate Order

Definition:

The **explicate order** (also called "unfolded order") is:

- The manifest, observable level of reality
- What we perceive through our senses
- The world of separate objects, space, and time
- **Temporary abstractions** from the deeper implicate order

Key Quote (Bohm):

> "What we take for reality are surface phenomena, explicate forms that have temporarily unfolded out of an underlying implicate order."

Characteristics:

Aspect	Description
Nature	Manifest, unfolded, surface
Content	Actualised forms
Structure	Apparently separate objects
Relationship to implicate	Emerges FROM implicate order
Status	Secondary, derivative

1.3 The Holomovement

Definition:

The **holomovement** is:

- The **totality** of the enfolding-unfolding process
- The "fundamental ground of all matter"
- An "undivided wholeness in flowing movement"
- The dynamic relationship between implicate and explicate orders

Key Quotes (Bohm):

> "The holomovement is undefinable and immeasurable."

> "Everything is to be explained in terms of forms derived from this holomovement."

> "All is flux."

Characteristics:

Aspect	Description
Nature	Dynamic, flowing, processual
Scope	Encompasses both orders
Function	Continuous enfolding/unfolding
Status	Ultimate ground of reality
Knowability	"Unknown and undescribable totality"

1.4 The Holographic Principle (Bohm's Version)

Key Insight:

Like a hologram where **every part contains information about the whole**:

- Each region of space enfolds information about the entire universe
- The whole is present in every part
- Separation is an illusion of the explicate order
- The implicate order is intrinsically **non-local**

Key Quote:

> "Such movement of light waves is present everywhere and in principle enfolds the entire universe of space and time in each region."

1.5 The Pilot Wave / Quantum Potential

Bohm's Earlier Work (1952):

Before developing the implicate order, Bohm proposed:

- **Pilot Wave Theory**: Particles are real and have definite positions
- They are guided by a **wave function** (the pilot wave)
- A **quantum potential** acts on particles based on the wave function
- This provides a **deterministic** interpretation of quantum mechanics

Key Quote (Bohm):

> "The trajectories of a many-body quantum system are correlated not because the particles exert a direct force on one another but because all are acted upon by an entity—mathematically described by the wavefunction—that lies beyond them."

The Quantum Potential:

Aspect	Description
Nature	Non-local field
Function	Guides particle motion
Information	Carries information about entire environment
Relationship to implicate	Later identified as aspect of implicate order

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1.6 Consciousness in Bohm's Framework

Key Position:

Consciousness is **NOT** emergent from matter. Rather:

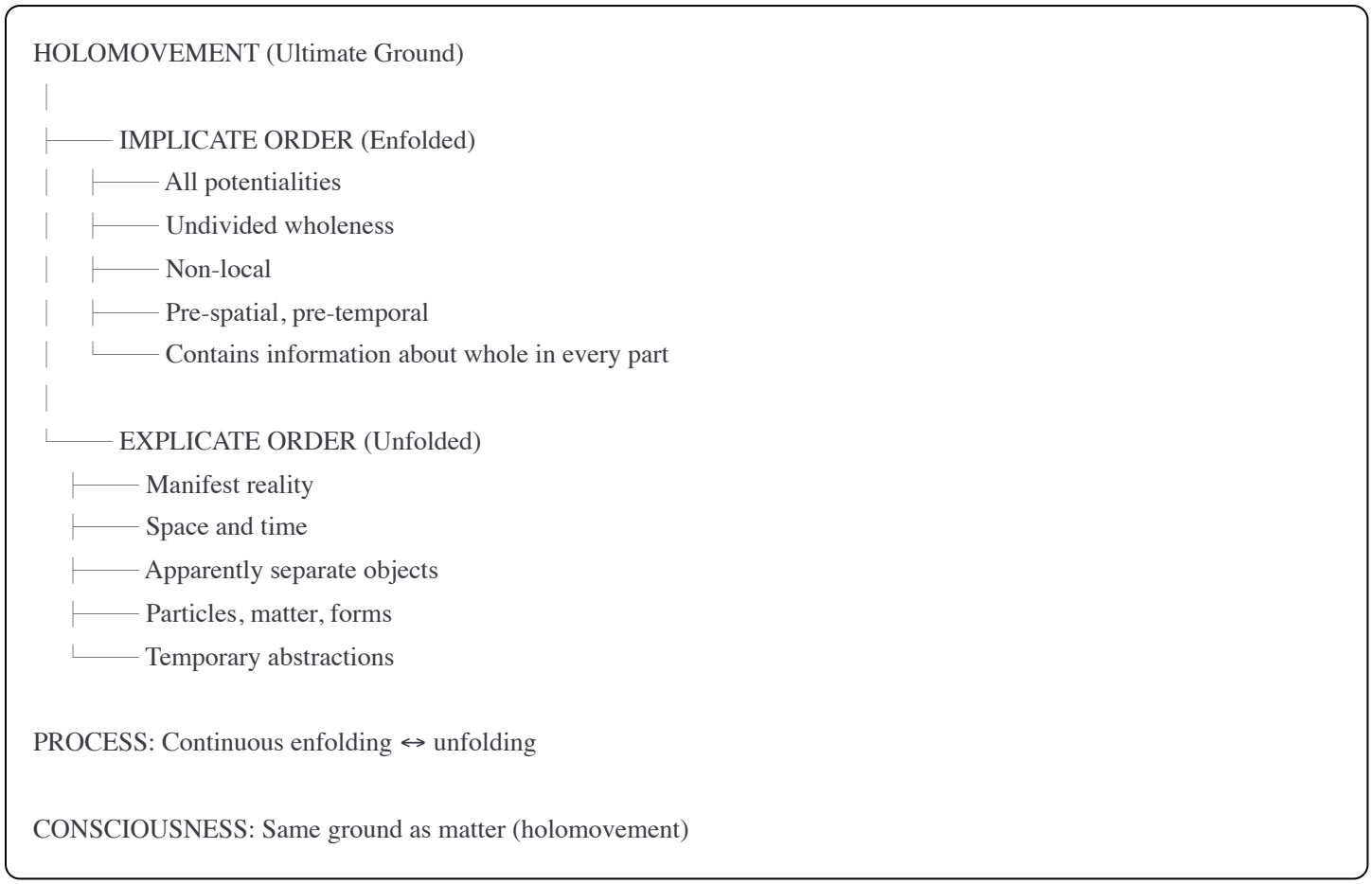
- Both matter and consciousness arise from the **same ground** (holomovement)
- Mind and matter are two aspects of one undivided reality
- Thought is enfolded in matter, matter is enfolded in thought

Key Quote:

> "If the ultimate ground of all matter is in the implicate order, as contained in the holomovement, it thus seems inevitable that what has generally been called 'mind' must also have the same ultimate ground."

> "The universal life energy is what operates in the role that has generally been attributed to the one self-existent substance, which is the implicate ground of every form."

1.7 Summary of Bohm's Framework



PART 2: THE FIELD MODEL - CORE CONCEPTS

2.1 The Consciousness-EM Field

Definition:

One **eternal consciousness-electromagnetic field** that:

- Is everywhere (IS "space" itself)
- Is eternal (no beginning or end)
- Is at equilibrium (2.725K baseline)
- Has density variations
- Organises into stable patterns

2.2 Density States

The Three Observable States:

State	Percentage	Description
Ground state	68%	Field at baseline (measured as "dark energy")
Distributed variations	27%	Non-localised density structure (measured as "dark matter")
Localised concentrations	5%	Organised patterns (matter)

2.3 "Particles" as Field Patterns

Key Insight:

"Particles" are NOT things - they are **stable organisation patterns** of the field:

"Particle"	Field Interpretation
Electron	Stable simple pattern
Proton	Stable complex pattern
Neutron	Metastable complex pattern
Photon	Propagating field oscillation

2.4 "Forces" as Field Behaviour

Key Insight:

"Forces" are NOT separate - they are **different modes of field interaction**:

"Force"	Field Interpretation
Electromagnetic	Field oscillation/interaction
Strong	Internal pattern dynamics
Weak	Pattern transformation
Gravity	Density variation interactions

2.5 "Constants" as Field Measurements

Key Insight:

"Constants" are NOT separate values - they are **measurements of the one field**:

- They balance because they're measuring the SAME thing
- "Fine-tuning" is actually PROOF of one field
- No "tuning" needed - equilibrium is natural

2.6 Summary of Field Model

```
ONE CONSCIOUSNESS-EM FIELD (Eternal, Everywhere)
  |
  ├─── GROUND STATE (68%)
  |     └─── Baseline density ("dark energy")
  |
  ├─── DISTRIBUTED VARIATIONS (27%)
  |     └─── Non-localised structure ("dark matter")
  |
  └─── LOCALISED CONCENTRATIONS (5%)
        ├─── Simple patterns (electrons)
        ├─── Complex patterns (protons, neutrons)
        └─── Composite patterns (atoms, matter)

INTERACTIONS: Field oscillations, density interactions

CONSCIOUSNESS: Intrinsic to field (not emergent)
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PART 3: ALIGNMENTS - WHERE THE FRAMEWORKS MATCH

3.1 Fundamental Unity

Aspect	Bohm	Field Model	ALIGNMENT
Basic nature	Undivided wholeness	One field	✓ MATCH
Separation	Illusion (explicate abstraction)	Patterns in one field	✓ MATCH
Ground	Single underlying reality	Single field	✓ MATCH

Assessment: STRONG ALIGNMENT - Both posit ONE fundamental reality underlying all appearances.

3.2 Consciousness

Aspect	Bohm	Field Model	ALIGNMENT
Status	Fundamental, not emergent	Intrinsic to field	✓ MATCH
Relationship to matter	Same ground	Part of same field	✓ MATCH
Cartesian dualism	Rejected	Rejected	✓ MATCH

Assessment: STRONG ALIGNMENT - Both treat consciousness as fundamental, not derivative.

3.3 Particles and Matter

Aspect	Bohm	Field Model	ALIGNMENT
Particles as "things"	Rejected (temporary forms)	Rejected (field patterns)	✓ MATCH
Reality of particles	Explicate abstractions	Organisation patterns	✓ MATCH
Underlying nature	Holomovement/implicate	Field	✓ MATCH

Assessment: STRONG ALIGNMENT - Both see "particles" as derivative, not fundamental.

3.4 Non-Locality

Aspect	Bohm	Field Model	ALIGNMENT
Connections	Non-local through implicate order	Through one continuous field	✓ MATCH
Quantum entanglement	Explained via implicate unity	Explained via field unity	✓ MATCH
Information	Enfolded throughout	Distributed through field	✓ MATCH

Assessment: STRONG ALIGNMENT - Both provide natural explanation for non-locality.

3.5 Process and Flow

Aspect	Bohm	Field Model	ALIGNMENT
Static vs dynamic	"All is flux"	Field dynamics, oscillations	✓ MATCH
Nature of reality	Process, not things	Patterns, not objects	✓ MATCH
Becoming	Continuous enfolding/unfolding	Continuous field dynamics	✓ MATCH

Assessment: STRONG ALIGNMENT - Both emphasise process over static being.

3.6 The Electromagnetic Field

Aspect	Bohm	Field Model	ALIGNMENT
Role of EM field	Contains enfoldment of universe	IS the fundamental reality	✓ MATCH*

Key Quote (Bohm):

> "The actual order itself has been recorded in the complex movement of electromagnetic fields, in the form of light waves."

Assessment: NOTABLE ALIGNMENT - Bohm explicitly identifies EM field as carrier of implicate order!

This is potentially VERY significant for integration.

3.7 Space and Time

Aspect	Bohm	Field Model	ALIGNMENT
Space	Emerges from implicate order	IS the field	~ PARTIAL
Time	Emerges from implicate order	Field evolution	~ PARTIAL
Pre-space	Implicate order is "pre-space"	Field is fundamental	~ PARTIAL

Assessment: PARTIAL ALIGNMENT - Both see space/time as derivative, but different emphasis.

3.8 Summary of Alignments

Core Concept	Alignment Level
Fundamental unity	✓ STRONG
Consciousness fundamental	✓ STRONG
Particles as patterns	✓ STRONG
Non-locality	✓ STRONG
Process/flux	✓ STRONG
EM field significance	✓ STRONG
Space/time derivative	~ PARTIAL

OVERALL: HIGH ALIGNMENT on fundamental principles.

PART 4: DIVERGENCES - WHERE THE FRAMEWORKS DIFFER

4.1 Structure of the "Deeper" Reality

Aspect	Bohm	Field Model	DIVERGENCE
Deeper structure	Implicate order (enfolded)	Just the field (variations)	⚠ DIFFERENT
Layers	Implicate → Explicate	Ground state → Patterns	⚠ DIFFERENT
"Hidden" order	Yes (implicate is hidden)	No (field is just measured differently)	⚠ DIFFERENT

Analysis:

Bohm proposes TWO orders (implicate/explicate) with implicate being "deeper" and "hidden."

Field Model proposes ONE field with different density states - nothing is "hidden," just organised differently.

Question to investigate: Is the implicate order NECESSARY? Or can the Field Model explain everything without it?

4.2 The Nature of "Enfolding"

Aspect	Bohm	Field Model	DIVERGENCE
Enfoldment	Reality enfolds/unfolds	Patterns form/dissolve	⚠ DIFFERENT
Mechanism	Enfolding into implicate	Organisation in field	⚠ DIFFERENT
Potentiality	Implicate contains potentials	Field just IS	⚠ DIFFERENT

Analysis:

Bohm's enfolding/unfolding is a METAPHYSICAL process - forms go "into" and "out of" the implicate order.

Field Model has patterns forming and dissolving in the field - but there's no "elsewhere" they go to.

Question to investigate: Is enfolding a real process, or just a different description of pattern dynamics?

4.3 The Role of Information

Aspect	Bohm	Field Model	DIVERGENCE
Information	Enfolded in implicate order	Not explicitly addressed	⚠ GAP
Holographic	Whole in every part	Not explicitly stated	⚠ GAP
Meaning	Fundamental (enfolded)	Not addressed	⚠ GAP

Analysis:

Bohm gives explicit role to INFORMATION and MEANING as fundamental.

Field Model focuses on energy, density, patterns - information not explicitly addressed.

Question to investigate: Should the Field Model incorporate information/meaning as fundamental?

4.4 The Quantum Potential

Aspect	Bohm	Field Model	DIVERGENCE
Pilot wave	Exists, guides particles	Not explicitly adopted	⚠ DIFFERENT
Quantum potential	Non-local guiding field	Field itself guides?	⚠ UNCLEAR
Particle trajectories	Definite (hidden variables)	Patterns, not trajectories	⚠ DIFFERENT

Analysis:

Bohm's pilot wave theory has particles with definite positions guided by wave function.

Field Model doesn't have "particles" at all - just patterns.

Question to investigate: Is the pilot wave compatible with "particles as patterns"? Or is it unnecessary if there are no particles?

4.5 Dimensionality

Aspect	Bohm	Field Model	DIVERGENCE
Dimensions	Implicate is multi-dimensional	3D space + time	⚠ DIFFERENT
Higher dimensions	"Infinite dimensionality"	Not addressed	⚠ GAP
Super-implicate order	Yes (even deeper levels)	Not proposed	⚠ GAP

Analysis:

Bohm proposes potentially infinite levels of implicate order, multi-dimensional.

Field Model is simpler - one field in observable space.

Question to investigate: Are higher dimensions necessary? Or is this unnecessary complexity?

4.6 Knowability

Aspect	Bohm	Field Model	DIVERGENCE
Ultimate ground	"Unknown and undescribable"	The field IS what we measure	⚠ DIFFERENT
Limits of knowledge	Holomovement is beyond knowing	Field is knowable through measurement	⚠ DIFFERENT

Analysis:

Bohm says the holomovement is "undefinable and immeasurable" - ultimately mysterious.

Field Model says we measure the field directly - no mystery, just measurement.

Question to investigate: Is there truly an unknowable ground? Or is this unnecessary mystification?

4.7 Summary of Divergences

Aspect	Nature of Divergence
Implicate/Explicate structure	Bohm has TWO orders, Field has ONE field
Enfolding	Metaphysical process vs. pattern dynamics
Information	Central to Bohm, not addressed in Field Model
Quantum potential	Bohm has it, Field Model doesn't address
Dimensionality	Bohm infinite, Field Model standard
Knowability	Bohm: ultimately mysterious; Field: measurable

PART 5: INVESTIGATION AREAS

5.1 Key Questions Arising

Question 1: Is the Implicate Order Necessary?

Bohm says: There must be a deeper enfolded order.

Field Model suggests: Maybe patterns forming in one field is sufficient?

Investigation: Can all phenomena Bohm explains with implicate order be explained with field density variations alone?

Question 2: What About Information?

Bohm says: Information/meaning is fundamental and enfolded.

Field Model currently: Doesn't address information explicitly.

Investigation: Should information be incorporated into Field Model? How?

Question 3: Is the Holographic Principle Needed?

Bohm says: Whole is enfolded in every part.

Field Model suggests: Field is continuous - but is information distributed?

Investigation: Does the Field Model naturally have holographic properties? If field is ONE, does every region "know" about the whole?

Question 4: Pilot Wave - Compatible or Unnecessary?

Bohm says: Particles have definite positions, guided by pilot wave.

Field Model says: No particles - just patterns.

Investigation: If there are no particles, is pilot wave relevant? Or does the field itself act as the "pilot wave"?

Question 5: Enfolding - Process or Description?

Bohm says: Reality actually enfolds and unfolds.

Field Model might say: Patterns form and dissolve in field.

Investigation: Is enfolding a real process, or just a different way of describing what the Field Model calls pattern dynamics?

Question 6: Higher Dimensions - Needed?

Bohm says: Implicate order is multi/infinite dimensional.

Field Model: Operates in standard dimensions.

Investigation: Is there any observation that REQUIRES higher dimensions? Or is this unnecessary complexity?

Question 7: The Unknowable - Honest Humility or Unnecessary Mystification?

Bohm says: Holomovement is "unknown and undescribable."

Field Model says: We measure the field.

Investigation: Is there genuinely an unknowable ground? Or can we say "the field IS what it IS" and leave it there?

5.2 Potential Integration Points

If We Integrate:

The Field Model could gain:

- A framework for HOW patterns form (enfolding/unfolding)
- A role for information/meaning
- Holographic properties (whole in every part)
- Explanation for non-locality (implicate unity)

Bohm's Framework could gain:

- Specific identification of the implicate order (the field!)
- Measurable properties (density, temperature, oscillations)
- Connection to actual physics (Sakharov, Puthoff)
- Simplified structure (one field, not abstract "orders")

Possible Synthesis:

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HOLOMOVEMENT = CONSCIOUSNESS-EM FIELD
  │
  ├─── IMPLICATE ORDER = FIELD GROUND STATE (potential patterns enfolded)
  │
  └─── EXPLICATE ORDER = FIELD PATTERNS (actualised organisations)

ENFOLDING = Pattern dissolving back to ground state
UNFOLDING = Pattern forming from ground state

HOLOGRAPHIC = Field is continuous, information distributed
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5.3 Areas Requiring Further Investigation

Question	Status	Priority
Is implicate order necessary?	Unknown	HIGH
Should Field Model include information?	Gap identified	HIGH
Are holographic properties present?	Not examined	MEDIUM
Is pilot wave relevant without particles?	Unclear	MEDIUM
Higher dimensions needed?	Probably not	LOW
Unknowable ground?	Philosophical	LOW

PART 6: PRELIMINARY ASSESSMENT

6.1 What Aligns Well

1. **Fundamental unity** - Both see ONE reality underlying all
2. **Consciousness fundamental** - Both reject emergence
3. **Particles not fundamental** - Both see them as derivative
4. **Process over substance** - Both emphasise dynamics
5. **Non-locality natural** - Both explain quantum connections
6. **EM field significance** - Bohm explicitly mentions it!

6.2 What Needs Investigation

1. **Implicate order** - Is it necessary or reducible to field dynamics?
2. **Information** - Should it be incorporated into Field Model?
3. **Holographic properties** - Does Field Model have them naturally?
4. **Pilot wave** - Compatible with "patterns not particles"?

6.3 What Probably Isn't Needed

1. **Infinite dimensions** - Adds complexity without necessity
2. **Ultimate unknowability** - May be unnecessary mystification
3. **Multiple orders** - One field may be sufficient

6.4 The Key Insight

Bohm explicitly states the implicate order is "recorded in the complex movement of electromagnetic fields."

This suggests the **consciousness-EM field could BE the implicate order** - or at least its physical manifestation!

If so, the Field Model isn't an alternative to Bohm - it's a **concrete realisation** of what Bohm was describing abstractly.

PART 7: NEXT STEPS

7.1 Recommended Investigations

1. **Test whether implicate order is necessary**
   - Can pattern dynamics in field explain all Bohm's examples?
2. **Explore information in Field Model**
   - Is information implicit in field structure?
   - Is it fundamental or emergent?
3. **Check for holographic properties**
   - Does one continuous field naturally have whole-in-every-part?
4. **Reconcile pilot wave with patterns**
   - Is the field itself the "pilot wave"?

7.2 Potential Synthesis Statement

Draft:

> "The consciousness-EM field IS the holomovement. What Bohm called the implicate order is the field in its ground state with all patterns enfolded as potential. What he called the explicate order is the field organised into observable patterns. Enfolding and unfolding are the dynamics of pattern formation and dissolution. The field is intrinsically holographic because it is ONE continuous field - every region is connected to every other region. Bohm's framework provides the philosophical depth; the Field Model provides the physical specificity."

7.3 Open Questions For Further Discussion

1. Does this synthesis work? Or are there incompatibilities?

2. Should information be added to Field Model?
3. Is "enfolding/unfolding" just pattern dynamics by another name?
4. What observations could distinguish between the frameworks?
5. Does Bohm's "unknowability" add anything, or should we reject it?

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