

Solving the mystery of consciousness through near-death experiences

Workshop: Evidence from NDEs for
how consciousness works

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August 30, 2013

Workshop agenda

- **Introduction**
- **For each theory...**
 - What is the proposed theory?
 - What evidence is presented to support the theory?
 - How does the theory address how consciousness works with the brain?
- **Discussion among the workshop presenters**
- **Questions and discussion from the audience**

Introduction

- What is consciousness? A person's awareness or their subjective phenomenal experience
- How consciousness can arise from matter is a mystery to materialist reductionist science
 - The “explanatory gap” in trying to go from matter to subjective phenomenal experience
 - “Neural correlates of consciousness” don't bridge the gap
- Fundamental limitation of materialist science in explaining consciousness

“Hard problem” of consciousness

- David Chalmers (1996, 2010)
 - Qualia argument
 - Philosophical zombie argument
 - Inverted spectrum argument
- Conclusion (Chalmers, Koch)
 - Consciousness appears to be another fundamental aspect of reality (Chalmers, 2010, p. 17)
 - Brain and mind appear to be “ontologically distinct” (Koch, Skeptiko.com, 2/7/12)

Evidence from NDEs about the nature of consciousness

- Consciousness continues to operate when the brain is off-line
- Sense of separation of consciousness from the physical body and then returning to the body
- All cognitive faculties are present in the out-of-body state, with heightened, hyper-real intensity
- Veridical perceptions in the out-of-body state

Implications of NDE Evidence

- Consciousness appears to operate independent of the brain
 - It appears to be an objective, autonomous entity
- Therefore, ordinarily consciousness must somehow interact with the brain
- “Mind-body interactionist dualism”

Objections to Interactionist Dualism

- How can mind-brain interactions occur?
- How does brain injury also impair the non-material mind?
- How can mind-brain interaction explain a person's phenomenal experience?
- Doesn't this view violate the "causal closure" of the physical?

So lets get down to specifics...

- What is your theory?
- What additional evidence from NDEs supports your theory?
- How does an independent, non-material consciousness work with the brain?
- Specifically what *mechanism* is involved when the non-material mind *interacts* with the material brain?

Three main theories based on NDE evidence

1. **Theory of essence** (Arnette, 1992, 1996, 1999):

Consciousness resides in the non-material *essence* of the person, the seat of their personality, thought and memory

“I became aware that although I had left my body behind, whatever constituted “I” was still alive and remained unchanged. I sensed that this other form in which I existed was like a transparent encasing for my soul, or the consciousness that was the essence of myself.” – L.R.

Three main theories based on NDE evidence

2. **Mind-entity theory** (Mays & Mays, 2008, 2011):

Consciousness resides in the non-material *mind-entity* of the person (implies a “spiritual” being)

“The Light was both inside and around me. I was aware that I was both a separate, individual entity while being simultaneously subsumed by the presence of this other entity.” –L.R.

“I could see out of my eye sockets as if I were wearing a mask and I felt physically burdened by, and separate from my body. I was well aware of being a separate entity from the body that I was inhabiting.”

Three main theories based on NDE evidence

3. **Theory of non-local consciousness** (van Lommel, 2010 and others):

Consciousness operates as wave-fields in non-local dimensions, beyond space and time

“Eventually I came to rest in a dense, velvet-black space that enveloped me in tranquility, and I had no fear. I became aware that there was no time. There was no yesterday or tomorrow. There were no boundaries. There was no pain. While I floated in the darkness, the Earth appeared far below me and gradually came into my vision.” –L.R.

Workshop agenda...

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Theory of Essence (Arnette)

Overview

- The *essence* is the *non-material* part of the person that pre- and post-exists the material body.
- Although non-material, the essence *does* have physical properties—mainly, it emits an electromagnetic field (EMF) that fluctuates/changes with time.
- The material body also generates a time-dependent EMF.
- The interaction of these two EMFs is responsible for the binding of the essence to the body and the interaction between essence and brain.

Theory of Essence...

A Veridical NDE



Next, I remember looking down at my body, and my kids fighting over the will.

(used by permission from www.cartoonstock.com)

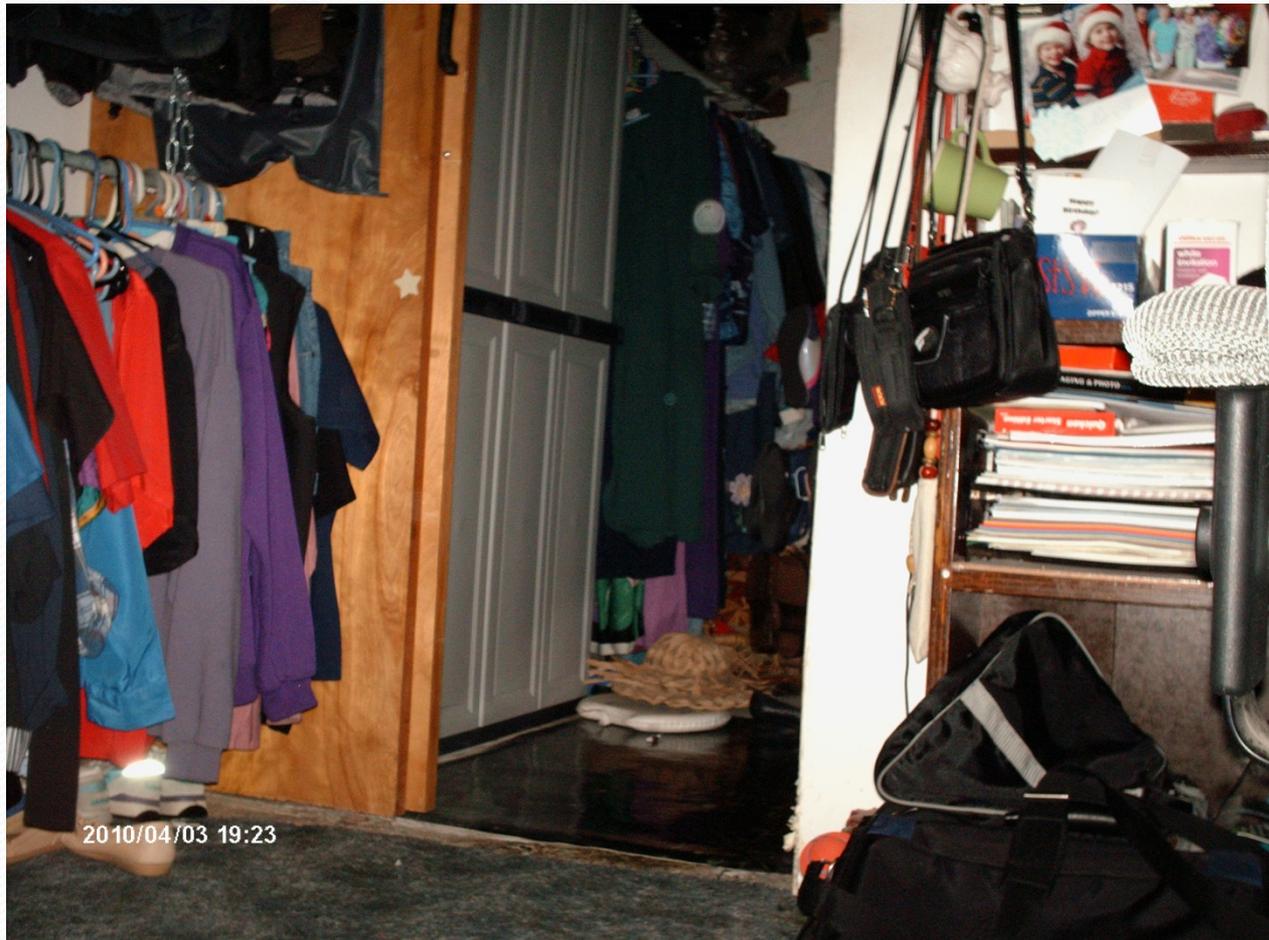
Theory of Essence...

Examples of the Electromagnetic/Energetic Aspect

- An NDEr described himself (out of body) as being composed of “**waves**” and being “**charged**” (Moody, 1975, p. 48)
- Another described himself as being an “**energy pattern**” (p. 49)
- A third described himself as being “**a little ball of energy**” (p. 50)

Theory of Essence...

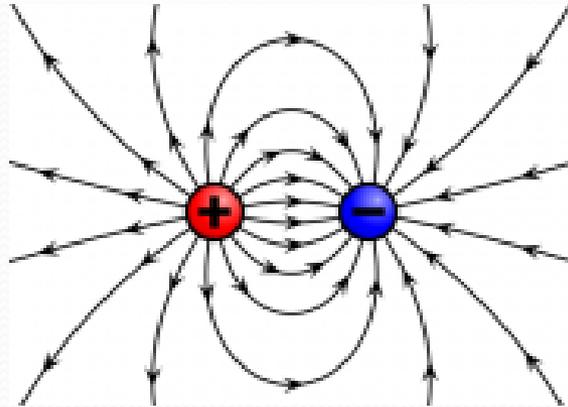
A Disembodied Essence



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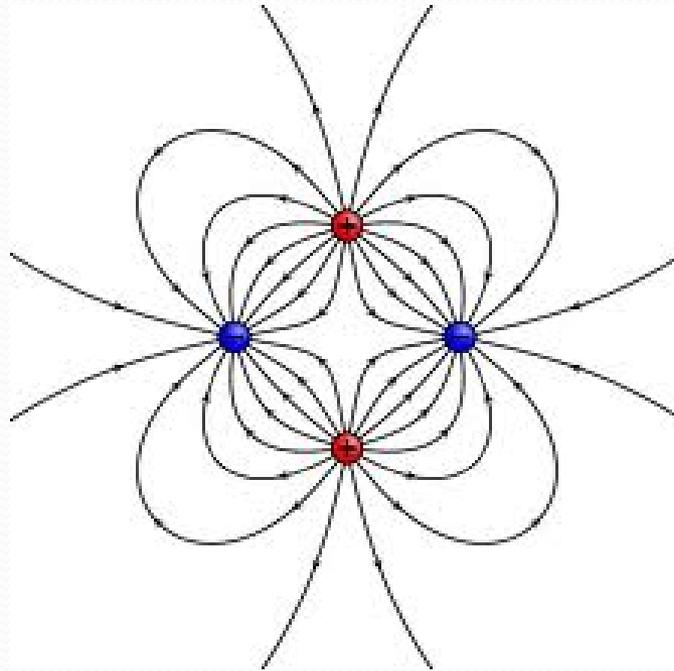
Theory of Essence...

Electric Dipole Field Lines (static)



Theory of Essence...

Electric Quadrupole Field Lines (static)



Theory of Essence...

Examples of Induced Recombination

- I was up there at the ceiling, watching them work on me. When they put the shocks on my chest, and my body jumped up, I just fell right back down to my body, just like dead weight. The next thing I knew, I was in my body again. (Moody, 1975, p. 82)
- (The nurse was on this side of the bed with that machine. She picked up them shocker things and put one there and one right there [pointing to appropriate places on chest] and I seen my body flop like that. . . . It seemed like it just took me and slammed me together, you know. It seemed like I was apart and then like two forces coming together in a crash. It seemed like I was up here [pointing to ceiling] and it grabbed me and my body and forced it back, pushed it back. (Sabom, 1982, p. 35)
- I was sitting up there somewhere and I could look down. . . . They thumped me a second time. . . . Then I reentered my body--a transition that was just like that [the snap of a finger]. (Sabom, 1982, p. 35)

Theory of Essence...

An Attractive Analogy



Theory of Essence...

Basic Principles of the Theory of Essence

1. The human being is composed of two parts: (a) the living physical body, and (b) the non-material *essence*, which is the seat of consciousness, thought, personality, and memory.
 - The essence is composed of a substance (*not* matter) that can exist on its own.

Theory of Essence...

Basic Principles of the Theory of Essence ...

2. During physical life, the essence co-occupies the space of the body; they interact via their respective electromagnetic fields (EMFs), thus providing mutual, reciprocal influence.
 - The two are held together and interact through the attractive, constructive interference between their EMFs, as long as the two EMFs have frequencies that match each other.
 - If the body dies, so does its field, and the bond is broken, freeing the essence.

Theory of Essence...

Basic Principles of the Theory of Essence ...

3. The interactive process involves *fluctuations* in both EMFs; a fluctuation in one field causes changes in the other. The integrity of this bond and the interactions depends on the degree to which the overall frequencies of the EMFs match. This is how the essence communicates with the physical brain and body.

Theory of Essence...

Basic Principles of the Theory of Essence ...

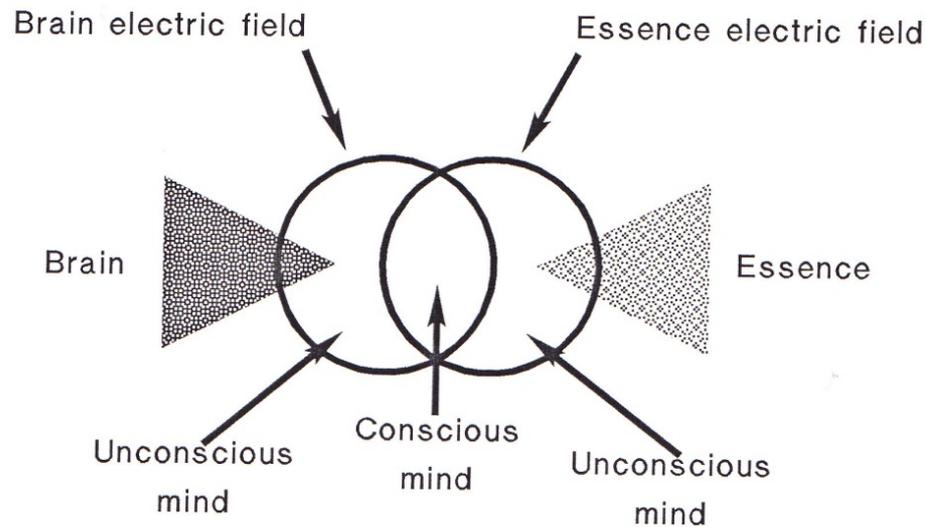


Figure 4. A definition of "mind" as the overlap of and interaction between brain and essence electric fields.

Mind-Entity Theory (Mays)

Theory

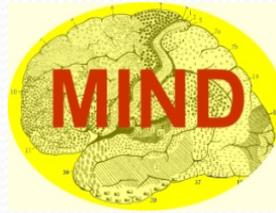
- The “mind” is an energetic, spatially extended non-material entity
- The mind-entity is ordinarily united with the brain and body, but separates during an NDE



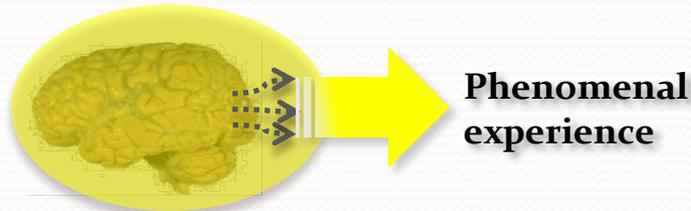
Mind-Entity Theory...

Theory...

- The mind can interact with physical processes including brain neurons, via induced electrical interaction



- All cognitive faculties reside in the mind but require the brain's neural activity to become conscious



Mind-Entity Theory...

Additional evidence – from NDEs

- The NDE OBE phenomenology is consistent with an independent conscious entity, which is freed of the limitations of the physical body
 - No physical pain; feel free of the body; show disinterest in the body; feel weightless, tireless; greater mental and sensory acuity; physical defects are absent, including blindness from birth
 - On return to body: pain, heaviness, physical defects, the usual mental and sensory acuity all return
- Physical interactions are sometimes energetic/electrical in nature
 - NDEr interacting with doctor's physical arm: "very rarefied gelatin" consistency, with an electric current running through it (Moody & Perry, 1988, pp. 8–9)

Mind-Entity Theory...

Additional evidence – from SDEs

- In shared-death experiences (SDEs), the loved one may experience elements similar to an NDE, although the person is completely healthy (Moody & Perry, 2010)
 - Out-of-body, seeing deceased relatives, the life review of the dying person, the opening to the tunnel
- In many shared-death experiences:
 - Dying person's "spirit" appears as a luminous form or mist that rises from the person's body: it has depth, complex layers with energetic motion; some kind of electricity like an electrical disturbance (pp. 101-103)
 - Mind-body passes through person at bedside—mild electrical sensation, pulse or surge, like electric current (pp. 11, 40, 93, 99, 124-125)

Mind-Entity Theory...

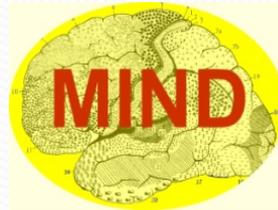
Additional evidence – neurological phenomena

- Mental events become conscious only when there is sufficient electrical brain activity, otherwise they remain subliminal (Libet, 2004)
- Memories may be blocked by brain dysfunction but are not lost (e.g., terminal lucidity)
- Many other phenomena: phantom limb sensations, neural plasticity, etc.

Mind-Entity Theory...

How does consciousness work with the brain?

- The mind interfaces with different regions of the cortex which have specialized functions
- When any brain functions are impaired, the mind can no longer interface properly and consciousness is impaired

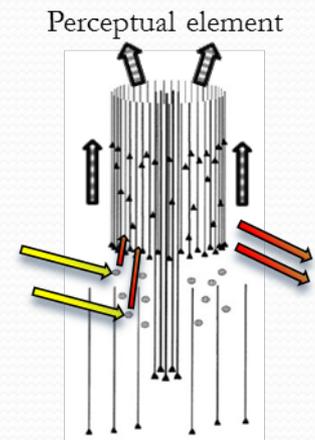
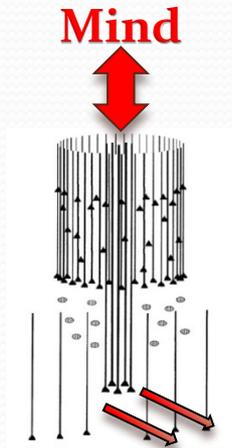


- Memories reside in the mind but interfaces through the hippocampus for memory formation, consolidation and recall

Mind-Entity Theory...

How does the mind *interact* with the brain?

- Mind-neuron interactions result in electrical oscillations in apical dendrites in pyramidal neurons
- Mind influences neuron firing (mind to brain interaction)
- Neural activity produces mind percepts (brain to mind interactions)



Mind-Entity Theory...

Approaches for scientific investigation

- Neurological phenomena: investigate cortical microcircuits; neurological “oddities”, etc.
- Phantom limb phenomena: investigate the phantom limb field directly and via phantom limb sensations and pain
- NDE and SDE phenomena: more thorough analysis of accounts for cases about physical interactions
- NDE physiological aftereffects: sensitivities and electrical effects probably result from incomplete reintegration of the mind and body—study should provide further insights.

Theories of non-local consciousness

History and background

- William James (1897) – the transmission theory
- Frederic Myers (1903) – the filter theory
- The brain as transceiver – transmitting and receiving consciousness (television set analogy)
- Combination with evidence from NDEs and the mysteries of quantum physics

Non-local consciousness...

Theory (van Lommel, 2010, 2013)

- Consciousness originates and is stored as wave-fields of information in a non-local dimension
- The brain serves as a relay station for parts of the wave-fields to be received as our waking consciousness, via the changing electromagnetic fields in the brain
 - The brain serves as a transceiver or interface to the wave-fields (TV camera and TV set analogy)
- The wave-fields are endless and indestructible, not measureable by physical means, but manifest physically in the collapse of the wave function in neural activity

Non-local consciousness...

Additional evidence

- Non-local nature of space and time in NDEs
 - Events from past and future, and from wide distances of space can be accessed
- Sense of oneness with the Source in NDEs
 - Having access to all wisdom and knowledge
 - Interconnectedness with other people's consciousness, including deceased relatives
- Quantum phenomena
 - *Quantum superposition* of possible states, governed by a quantum wave function
 - "*Collapse*" of the wave function which non-randomly determines the state outcome, under the influence of consciousness
 - "*Non-local entanglement*" in which components of a widely spatially separated system remain unified and connected—implies that the universe constitutes an undivided whole.
 - The apparent *time-reversibility* of quantum physical processes

Non-local consciousness...

How does consciousness work with the brain?

- The brain is a transceiver, serving as a relay station for parts of “wave-fields” to be received as waking consciousness in measurable and changing electromagnetic fields (van Lommel, 2013)
- Brain processes (microtubule quantum computations inside neurons) connect to fluctuations in fundamental space-time geometry (Hameroff & Chopra, 2012)

Non-local consciousness...

How does the mind *interact* with the brain?

- The brain as a transceiver that is “tuned” uniquely to an individual’s wave-fields (van Lommel, 2010)
 - Probably through the person’s unique “junk” DNA—parts of our DNA whose function is not identified yet
 - The brain receives conscious acts via collapse of the wave-fields in the neurons and transmits phenomenal experience through wave-fields that are generated by the brain.

Non-local consciousness...

How does the mind *interact* with the brain?

- Individual wave-functions collapse within the microtubule structures of the neurons (Hameroff & Chopra, 2012)
 - At death or during an NDE, “it is conceivable that the quantum information which constitutes consciousness could shift to deeper planes and continue to exist purely in space-time geometry, outside the brain, distributed non-locally”, as a “quantum soul” apart from the body.

Discussion and Q&A

- How do you answer the main objections to interactionist dualism?
 - How can any physical interaction occur?
 - How does brain injury also impair the mind?
 - How does mind-brain interaction explain phenomenal experience occur?
 - Why is this not a violation of causal closure of the physical?
- How do you compare your theory with the other two?
- How would you demonstrate the validity of your theory?

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