



What NDEs tell us about consciousness

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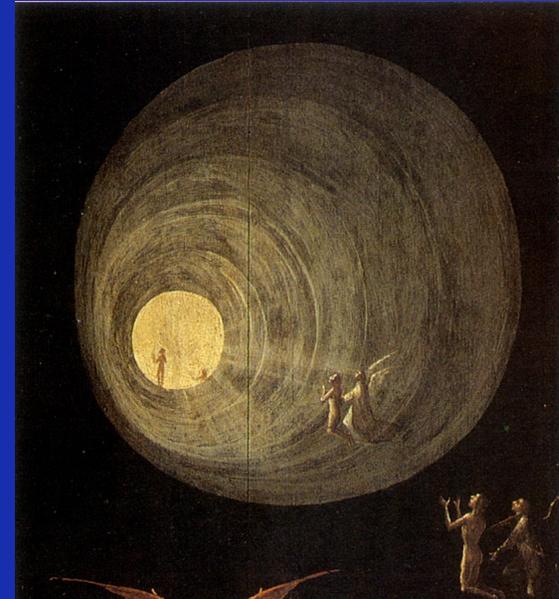
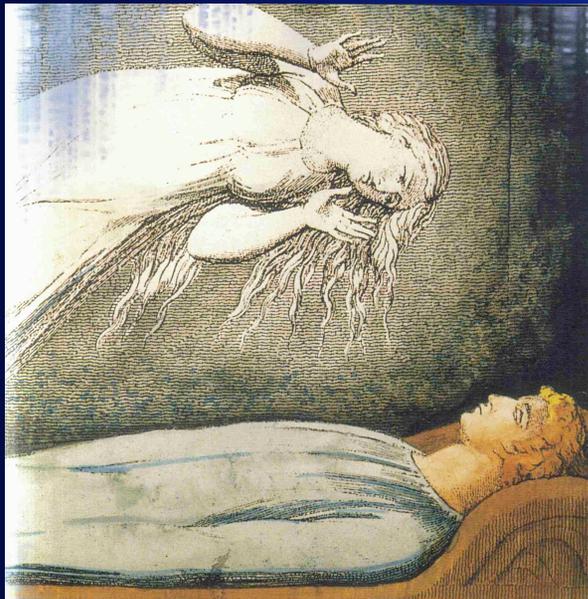
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What is a near-death experience (NDE)?

Typical elements of an NDE

- Coming close to death
- Sense of peace
- Feeling separated from the body
- Hovering nearby and seeing your body

William Blake, *The soul hovering over the body*.



Hieronymus Bosch, *Ascent of the blessed* (detail).

- Traveling through a tunnel toward a light
- Meeting deceased relatives or friends
- Encountering a Being of Light or religious figure
- Having a “life review”
- Being told or choosing to return

Theory of the self-conscious mind

- NDE phenomena (evidence of consciousness independent of the body)
 - Continuity of consciousness in cardiac arrest
 - Veridical perceptions in out-of-body component of NDE
 - Phenomenology of the NDE OBE
- Neurological phenomena (evidence of “agency”)
 - Subjective backward referral of sensory experiences
 - Mental “force”
 - Global workspace theory: doesn’t explain initiating “endogenous” mental activity
- Self-conscious mind
 - Autonomous “field of consciousness” united with the brain and body
 - Brain *mediates* cognitive faculties
 - Non-material entity but interacts with the brain and body in some physical way

Physical interaction in NDE-OBE

- If the mind is a non-material entity, how does it interact with the physical processes of the brain and body?
 - In order for the “mind” to influence the brain, it must interact in some way with the brain
 - But the mind is of a completely different “substance” than the brain, so how could it possibly interact?
- But NDErs report numerous cases of interacting with physical processes
 - The interactions are *subtle*
 - Interaction with physical processes: light, sound, physical objects, (rare cases) acute sense of touch, taste, smell
 - NDEr can be “seen” by animals
 - NDEr can interact with another person’s body
 - NDEr can “merge” with another person and see and feel what they are seeing and feeling
 - Nonetheless, they appear to be *significant*

What is consciousness?

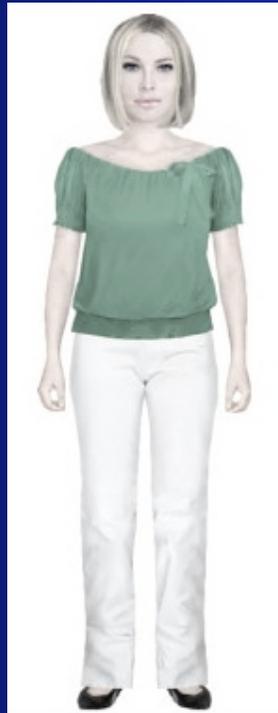
Consciousness is our subjective experience, awareness

- David Chalmers' "hard problem": physical processes alone can't explain the "quality" of subjective conscious experience
 - "Zombie" argument
 - "Qualia" argument
 - "Unity of consciousness" argument
- We pose the additional question: what *initiates* volitional activity if neurons are passive receivers of electrical impulses?
 - Global workspace theories don't explain how this works
 - There must be some *agency* that initiates the activity
 - Mental effort or "mental force"

NDEs and consciousness

What do NDEs tell us about how
consciousness works?

Mind and body



Near-death experience

Self-conscious mind

Separated, heightened awareness

Physical body

Comatose or clinically dead

Ordinary consciousness

Mind and body united

The human being is the integration or union of a *self-conscious mind* with a physical body

Mind versus body

What does each do?

Self-conscious mind

- Perception
- Thinking
- Volition
- Memory
- Feelings
- Self-awareness



From NDEs: the independent mind possesses all of the person's cognitive faculties. It is the seat of subjective conscious experience.

Physical brain / body

- Sense organs and neural connections
- Neural support for:
 - thinking
 - attention, motor actions
 - memory formation/recall
 - feelings
 - awareness in general and self-awareness



The brain provides the interface to the senses and the body, and through them to the world. It provides neural support for all cognitive faculties.

Principles of mind-brain operation

How does it work?

We have identified several principles...

1. Brain electrical activity gives rise to consciousness
2. There is a process of “coming to awareness”
3. The mind maps to the neural structures of the body
4. The “mind structure” maps to brain structures and functions
5. Cognitive function depends on brain structure
6. The mind plays an active role in brain development
7. Memory resides in the mind, not the brain

A new paradigm

A good scientific theory has *explanatory* and *predictive* power

- *Explanation*: essentially all neurological and consciousness phenomena ultimately need to be explainable in these new terms
 - Example: Libet's paradox of delayed awareness of willed action
- *Prediction*: phantom limbs (as exposed "mind-limbs") should exhibit as yet unnoticed properties, similar to the NDE-OBE "body"

Phantom limb phenomena

A *phantom limb* is a distinct subjective experience of an absent physical limb.

Prediction: phantom limbs are exposed “mind-limbs” extending beyond the physical body and should exhibit as yet unnoticed properties, similar to the NDE-OBE “body”:

1. There should be subtle interactions with objects, causing sensations
2. There should be subtle interactions with another person’s body
3. There may possibly be a faint glowing of the phantom in the dark
4. There should be some measurable physical interaction with the phantom

Forearm
amputation



Phantom “mind-limb”
extending beyond
the body



Subject M.G.



M.G. is a college educated woman, born in 1952. She is missing the fingers of left hand (congenital digital agenesis with arrested metacarpal development, origin unknown).



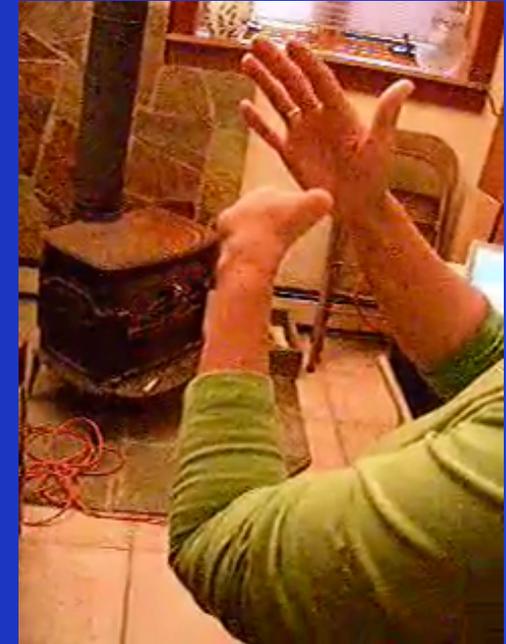
M.G. experiences typical phantom limb sensations, sensing the presence of her hand and fingers.

“Structure” of phantom fingers

Video clip: 1'43

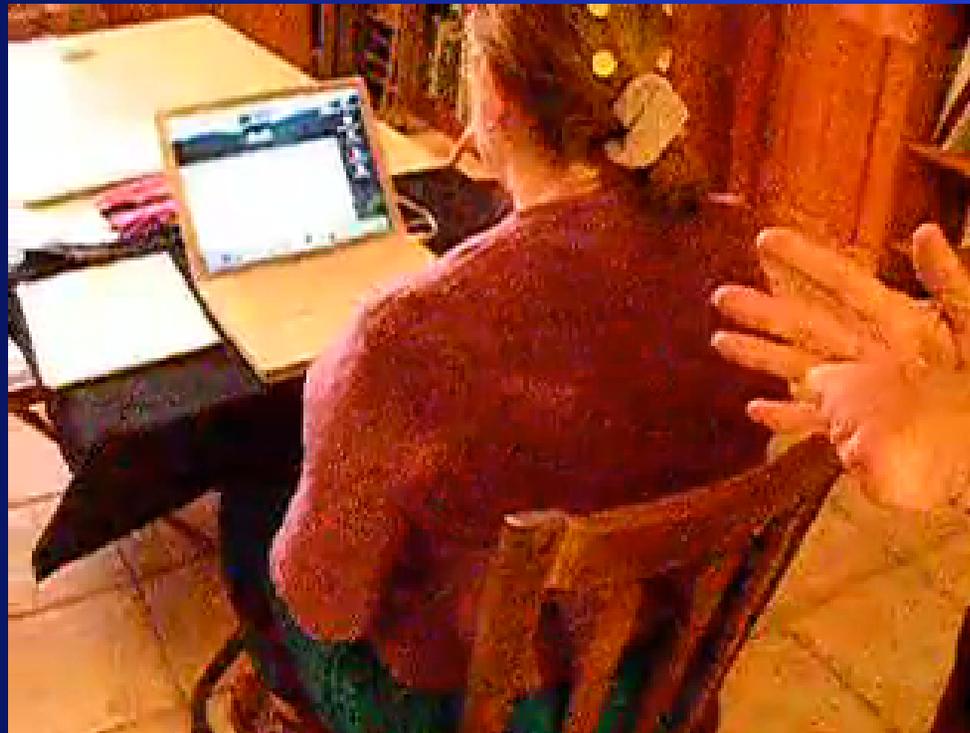
What's different

- M.G. can locate and “feel” her phantom fingers by pulsing with her right fingers.
 - The pulsing causes physiological sensations in her left finger buds, left palm and up her left arm, ending is a specific spot in her outer upper arm.
 - There is also a feeling of warmth and resistance in the right finger tip during the pulsing.
- M.G. can “feel” objects with the phantom fingers, also causing sensations in the left hand and up the left arm.
- M.G. sometimes “sees” her fingers as a faint whitish or bluish color against a dark background when she is pulsing them.



Phantom limb interaction

Video clip: 1'30



M.G. can also “touch” another person and the “touch” is felt...

Here, an area on the head is “touched”. Note the immediate reaction in subject S.M. when M.G. moves her hand closer in: the shoulders raise and there is an immediate response (perceiving a “beam” of dark, rich black, later superimposed with a black disc with a white rim or corona around it)

Phantom limbs - conclusions

- The phantom limb phenomena from M.G. suggest:
 - Visual perception of phantom limbs are possible (also subject A.Z.)
 - Phantom limbs can interact:
 - with other parts of the subject's body, causing physiological sensations
 - with physical objects, causing physiological sensations
 - with another person's head, producing visual and other sensations (sometimes intense)
 - (No evidence found to date of interaction of phantom with physical processes)
- Suggests: phantom limbs are objectively real and are a field extending beyond the physical body
- Phantom limb phenomena fit the present theory
 - The mind has a spatial structure, co-extensive with the physical body
 - In the phantom limb, the “mind-limb” extends beyond the physical stump
 - The “mind-limb” will have subtle interactions similar to NDE-OBE “body”

What about the aftereffects of NDEs?

Major NDE aftereffects include:

- Increased sensitivity to light, loud sounds, touch, electricity
- Interference with electronic equipment, clocks, etc.
- Enhanced psychic/intuitive abilities (precognition, telepathy, healing abilities, etc.)
- Elevated psychological dissociation (absorption, detachment, “in the flow”), but not at a clinical level
- Synesthesia - one sense or mental state present with another (e.g., colored numbers, letters or tones, smells with sounds)

P.M.H. Atwater, *The Big Book of Near-Death Experiences: The ultimate guide to when we die*. Charlottesville, VA: Hampton Roads Publishing, 2007.

Kenneth Ring and Evelyn Elsaesser Valarino, *Lessons from the Light: What we can learn from the near-death experience*. Needham, MA: Moment Point Press, 1998/2000.

A common theory



Before NDE

Mind and body tightly
integrated



Near-death experience

Mind operates independent of the body



After the NDE

Mind reunited with body but
more “loosely” connected

Does the present theory fit?

NDE aftereffect	Possible explanation
Increased sensitivity to light, loud sounds, touch, electricity	Mind's connection to the brain is looser, like an infant's. The NDEr is no longer accustomed to the "usual" sensory stimuli as before NDE, and may also experience sensory stimuli directly, as during NDE
Interference with electronic equipment, clocks, etc.	Mind's field of consciousness more readily extends beyond the body and can interfere via some physical interaction
Enhanced psychic/intuitive abilities	Mind's field of consciousness more readily extends beyond the body and has access to enhanced out-of-body faculties: precience, telepathy, healing energy, etc.
Elevated psychological dissociation (absorption, detachment, "in the flow")	Mind's field of consciousness more readily extends beyond the body and has some of the experience of the timelessness of the NDE
Synesthesia - one sense or mental state present with another (e.g., colored numbers, letters or tones, smells with sounds)	Mind's connection with the brain is altered and allows the formation of wider or multiple areas of simultaneous sensation so that the same stimulus elicits multiple different sensations.
Prediction: increased chance of another NDE or spontaneous OBEs	Mind's connection to the brain has not been "re-knitted" as tightly

The self-conscious mind and consciousness

The self-conscious mind is a new, fundamental *objective* element of reality:

- The mind is a non-material “field of consciousness”
- The mind interacts with physical processes, especially neurons
- A new physical force must be involved in the physical interaction between the mind and neurons
- In ordinary consciousness, the mind is united with and extensively interacts with the brain and body neurons

The self-conscious mind is the seat of the consciousness and essential selfhood of the person.

We are conscious because we *are* a self-conscious mind.

