

Review: Dr Pim van Lommel, *Consciousness Beyond Life: The Science of the Near-Death Experience*, HarperOne, NY, 2007

Pages: 404

NDE Magnum Opus Defies Materialism

A magnum opus on NDEs and their scientific bases, which also delves into philosophy, although not from a Christian perspective.

The rigour applied to refute naturalistic explanations of brain chemical release near death, hypoxia effects, and hallucinogens leaves nothing unturned. On the positive side, NDE and OBE veridical accounts show mind operating outside the brain. However, there are still some unknowns, such as DMT, which can ‘unloose’ the mind-brain connection and induce some OBE-like experiences. All this seems to point to a kind of dualism though, not materialism.

The chapter on quantum physics is excellent chapter, and ideas like DNA being a receiver of non-local information or functioning as a kind of hologram are intriguing.

For detailed NDE, OBD, and Terminal Lucidity accounts one should look to other works (e.g. from IANDs).

An important read for the Christian as it powerfully dismisses Materialism and by extension Atheism. Their ‘hard problem of consciousness’ can no longer be ignored and the Christian worldview has the answers.

Introduction (pp. v-xxi)

Clinical death: a period of unconsciousness caused by lack of oxygen to the brain because either circulation, breathing, or both have stopped.

500K cells die in the body s^{-1} ; 50B per day, meaning the whole body replaces itself every two years. How then can we explain the continuity of a constantly changing body?

Consciousness can't be located in time and space; it's *nonlocal*. The brain is merely a relay station, a transceiver, for receiving consciousness.

I) A Near-Death Experience and Its Impact on Life (pp. 1-5)

“My NDE was caused by blood loss during delivery ... swift as an arrow, I fly through a dark tunnel.”

II) What Is a Near-Death Experience? (pp. 6-43)

4.2% of the population have reported an NDE.

NDE elements: OBE (37% frequency); ‘hell’ experience (2% frequency); no distance or time.

Autoscopic NDE: 53% frequency; OBE in which people see their own resuscitation and surroundings; patients move via mental force.

Moody, Ring, Sabom, and Grayson all did retrospective studies.

Greyson Scale: 0-32; 7+ is a genuine NDE.

In the other dimension, there's no distinction between good and evil.

An Out-of-Body Experience: “patients feel as if they have taken off their body like an old coat”; “range of vision can extend to 360”.

“I also told them they should mind their language during surgery.”

A color-blind NDEr: “I saw the dazzling colors ... all the more surprising because I'm color-blind ... Don't ask me to name them ... I lack the necessary experience.”

Vicki (administered 100% O₂ as a baby which damages eyeball development and the optic nerve, causing complete atrophy): “there were ... quite a people ... all, like, made out of light”. This case, “raises serious questions.”

“The tunnel was virtually horizontal, but at a slight upward angle. It was about 10 feet in diameter.”

Dante, *Divine Comedy*: “The plain was crowded ... jammed with hordes of ghostly discarnate beings ... the most frustrated, the angriest ... miserable beings I had ever laid eyes on ... Everywhere people were locked in what looked like fights to the death ... of course, having no substance, they could not actually touch one another ... These creatures ... locked into habits of mind and emotion.”

Scientists dismiss people with an NDE as dreamers, fantasies, attention seekers or confused patients.

III) Changed by a Near-Death Experience (pp. 44-69)

NDE really stands for New Discernment through Experience.

The NDE integration experience takes seven years. They are transpersonal: people become more forgiving; tolerant; less critical; less tolerant of noise; attach less importance to status, money, and material things.

“I can live without my body, but apparently my body can’t live without me.”

NDEs can cause hyperesthesia.

Synchronicity: thinking of someone right before they call.

50% of families, 25% of friends, 85% of doctors, and 50% of psychiatrists reject NDEs as delusions, causing NDER’s to doubt their sanity.

After eight years, NDER church attendance has dropped 42% but interest in spirituality increased to exactly compensate. Their fear of death drops by 63%.

IV) Near-Death Experiences in Childhood (pp. 70-79)

Children rarely experience a life review, usually only from six if they do.

10% of adults and 25% of children and teens have had an OBE.

Longitudinal studies show childhood NDE testimony remains identical eight years on.

V) There Is Nothing New Under the Sun (pp. 80-103)

The druids believed souls passed from one body to another after death. In Buddhism after death there is a 49-day dream state before a soul starts a new life. *The Tibetan Book of the Dead (Bardo Thodol)* compiled c. AD 8thC by the founder of Tibetan Buddhism Guru Rinpoche.

The Second Council of Constantinople (AD 553) rejected reincarnation.

Socrates' myth of Er, son of Armenius holds that once everybody has chosen their next life, they were told to drink a certain amount of water from the river (Lethe) which caused them to forget their previous life. In the 8thC, Bede recounts the story of Drythelm's NDE.

A doctor in 1889, "had the sensation of being in a body that had, 'perfect health and strength, memory, judgment, and imagination'".

VI) Research Into Near-Death Experiences (pp. 104-135)

From 1975-2005, 42 NDE studies having 2,500 patients were published; mostly retrospective. 1880-1930 saw Bolivia's second great epoch of hacienda construction.

A 1982 Gallup poll found 5% of people in the US have had an NDE; a 1998 German study found 4.2%.

The younger the person, the greater chance of an NDE.

Scientists assume O₂ deficiency causes an NDE, e.g., the 'tunnel' is caused by the eye's gradual darkening and shrinking range of vision. Stimulating epileptic brain areas, and using hallucinogens like LSD do alter consciousness, however, they never involve a life review.

Blocking certain brain receptors combined with endorphin release can cause peace and bliss.

The Valsava maneuver tries to push air through the body with mouth and nose closed; slowing the heart rate and lowering BP. This also causes short-term brain O₂ deficiency.

There is a high correlation between NDEs and high initial partial 'end-tidal' CO₂ levels. However, the majority of people with high pet CO₂ don't have NDEs.

Low-dose ketamine is an anesthetic; it's also an hallucinogen since it blocks NMDA brain receptors. The illusions are frightful and bizarre. Endorphins last several hours, whereas pain returns immediately and peace is absent straight away after an NDE.

Dimethyltryptamine (DMT), psilocybin, and mescaline are all serotonin analogs which bind to the 5-HT₂ brain receptors.

The pineal gland can also convert serotonin into DMT when stimulated by adrenocorticotrophic hormones like cortisol, epinephrine and norepinephrine. When dying, large DMT is thought to be released by the pineal gland, therefore it is thought to 'loosen' natural inhibitions against an enhanced consciousness.

NDE patients have fewer REM sleep periods.

Psychologists claim OBEs are a combination of memories, fantasies, guesses, and expectations.

Under general anesthesia, fMRI shows loss of nearly every major brain function.

VII) The Dutch Study of the Near-Death Experience (pp. 136-160)

Initial interview withing 5 days afterwards: "Do you have any recollection of the period of your cardiac arrest?"

Only 10% of CHD patients leave hospital alive due to brain damage.

Those with a deep NDE are more likely to heart of cardiac arrest within 30 days afterwards.

VIII) What Happens in the Brain When the Heart Suddenly Stops? (pp. 161-178)

During cardiac arrest there is no cornea or gag reflex, nor pupil dilation. Blood flow stops, also, during an internal cardiac defibrillator (ICD) implantation.

EEGs flatten after 15s on average.

The brain also undergoes edema which squeezes out 50% of normal blood volume creating an O₂ undersaturation problem.

A no EEG state is compared to a computer disconnected and all circuits disabled.

Neurons in the cerebral cortex, hippocampus, and thalamus respond badly from O₂ deficiency.

TIA: transient ischemic attack.

Resuscitation inside 1min gives a 33% chance of survival.

At 5% of required flow, external heart massage is insufficient to pump enough blood into the brain (systolic pressure is only 20-50mm Hg); defibrillation is always required.

The lower the temperature, the later permanent brain damage occurs as cell O₂ demand is lower (therapeutic hypothermia reduces cerebral edema).

IX) What Do We Know About Brain Function? (pp. 179-204)

An fMRI can't detect real-time brain activity since it can only manage 1-2 scans s⁻¹.

Thousands of neurons die daily raising the question of long-term memory possibility.

Neurons use V-changes to communicate.

EEG can be deduced from an EKG.

Local brain electrical stimulation can trigger past memories, but never an NDE life review.

tDCS: transcranial direct current stimulation; causes permanent functional change in some parts.

Each cc of cerebral cortex has 10^{11} dendrite synapses, making 10^{14} for a whole brain on average! This makes from 10^{14} actions s^{-1} .

In 1920, Karl Lashley's rate experiments showed no matter how much brain matter was removed, they could still perform complex tasks learned before tissue removal.

A young man with IQ 126 had severe hydrocephalus; 95% of his skull was filled with cerebrospinal fluid. His total brain matter was only 100g. In 'split-brain' patients, an unconscious 'ready' signal in the brain *precedes* a conscious decision to act or not by 350ms.

X) Quantum Physics and Consciousness (pp. 205-237)

Quantum timelessness is experienced in dreams.

Classical physics assumes reality, causality, continuity, and locality.

Quantum physics assumes superposition, complementarity, uncertainty principle, and entanglement. Unless an object is observed, it has definite location in time and space.

All matter is 99.999% *emptiness*, a complex field of standing waves.

Any field disturbance always travels at light speed.

EMFs have a near-infinite information storage capacity in its frequencies. To receive information into our consciousnesses, we need a *receiver*, i.e., the brain.

Max Born, "I am now convinced that theoretical physics is actually philosophy."

The double-split experiment proves each photon must pass through the both splits at the same time (i.e., superposition).

Bose-Einstein condensate: system where parts become the whole, like the many voices of a choir becoming one harmony.

The brain may function as a hologram where the whole image can be recreated from any part.

XI) The Brain and Consciousness (pp. 238-261)

Monistic materialism: everything is matter; consciousness is an illusion.

NDEs suggest consciousness is non-local.

John C. Eccles: “I maintain ... the human mystery is incredibly demeaned by scientific materialism ... its claims ... to account eventually for all the spiritual world in terms of patterns of neuronal activity. This belief must be classed as superstition ... We have to recognise that we are spiritual beings with souls existing in a spiritual worlds.” [p243]

“The computer does not produce the Internet any more than the brain produces consciousness.” [pp250-1]

Constantly-changing electric and magnetic neuronal network fields can be seen as a biological quantum coherence phenomenon.

XII) The Continuity of the Changing Body (pp. 262-282)

Cells emit biophotons; 200-800nm [infrared] of $10^3 \text{ s}^{-1} \text{ cm}^{-2}$ (10^{-6} X weaker than sunlight).

The immune systems information is perhaps stored in nonlocal space.

Isolated WBC culture at distance shows instantaneous communication to the host's body (WBCs responded when a Pearl Harbor veteran 12km was shown a film close up of a gunner shooting a Japanese aircraft).

Organ recipients can sometimes sense snippets of feelings from the donor (“transplanted memory syndrome”).

“Just as a musical instrument (structure) does not equal the music being played (function), DNA structure is not the same thing as DNA function.” [p268]

DNA could function as a “quantum antenna” of nonlocal communication.

An ECG can be picked up all over the body due to the hearts EMF.

XIII) Endless Consciousness (pp. 283-307)

Samadhi: pure consciousness without content.

XIV) Some Implications of NDE Studies (pp. 308-326)

Epilogue (pp. 327-330)

Appendices (pp. 331-391)

20% of failed suicides have an NDE.

Akasha: Ether.

Clair-

audience: knowing other's thoughts.

sentience: knowing other's feelings.

voyance: knowing what is happening at a distance.