

Scientific theories of the NDE

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Send comments to: [Kevin Williams](#)

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The following are excerpts from [Jean Ritchie's](#) excellent book [Death's Door](#). Here she describes all the various theories explaining the near-death experience. These included the following: the dying brain theory, Darwin's theory, the hallucination theory, the temporal lobe theory, the lack of oxygen theory, the depersonalization theory, the memory of birth theory, and finally, the theory promoted on this website, the afterlife theory. It is important to realize the fact that although the mechanism for the dying process in the brain can be quantified, this by no means proves the near-death experience is merely a vision produced by the brain which ends upon permanent brain death. One can quantify a television signal that traveled through the air waves and is being processed by a television set. However, one cannot quantify the television show itself being played on the screen by quantifying the components of the television set. This analogy fits for the near-death experience as well.

The Dying Brain Theory

This theory is one that has been popularized by Susan Blackmore in her book [Dying To Live](#). One of the greatest strengths of the afterlife theory and the argument that near-death experiences are real is also one of its greatest weaknesses. The fact that all those who had near-death experiences follow the same path toward the light, going through similar stages on the way, makes a powerful case for the whole thing being a profound spiritual journey to an afterlife where everyone, from all ages and cultures, is welcome. But that same case, the "sameness" evidence, is also a fundamental part of the argument that the near-death experience is not a real experience, not a spiritual voyage, but a function of the dying brain. All brains, regardless of where in the world they come from, die in the same way, say the skeptics. And that is why all near-death experiences have essential core elements which are the same. It is not because the dying person is traveling toward a beautiful afterlife, but because the neurotransmitters in the brain are shutting down and creating the same lovely illusions for all who are near-death.

But why? Why should the dying brain do this, if it is just a highly sophisticated lump of tissue? That question is one of the most fundamental questions in the whole of human thinking. It boils down to asking, are we individuals with "personalities" and "souls" and "minds" that are exclusive to us? Or are we simply bodies controlled by very clever computers, or brains, each of which works a little differently from the rest, thus making each of us unique, just as an Apple computer is different from an IBM, although there are far more similarities between them than there are differences?

Scientists and researchers are divided. There are some who want to reduce the near-death experience to nothing more than a series of brain reactions. Others, who accept the realness and validity of the near-death experience, are nonetheless quite happy to see it put into a scientific context. In other words, they are not frightened of researching the experience rigorously, of finding out everything that we possibly can about it, perhaps even being able to explain aspects of it. But they can happily let that scientific aspect sit alongside the deeply personal, life-enhancing evidence of those who have actually been there.

There are very few people around, even among the skeptics, who would deny that people have near-death experiences, and that they are deeply affected by them because so many obviously sane and well-balanced people have now come forward and talked about what happened to them. What they do dispute is what causes a near-death experience and what it means. There are two main strands of research: one takes the psychological approach, which looks for reasons for human beings to behave the way they do, and to think and possibly to hallucinate the way they do. The other is the straightforward physiological approach, which is searching for that part of the brain which malfunctions and causes a near-death experience. Increasingly, as in all brain research, not just that connected with near-death experiences, the two approaches overlap.

The ruthless, depersonalized argument - that a near-death experience is just the result of the brain beginning to die - is not acceptable to the vast majority of people who have had near-death

experiences. To reduce what was a profound and transforming experience to nothing more than a set of neurotransmitters going on the blink is a bit like seeing Michelangelo's statue of David as nothing more than several tons of marble.

If there is no afterlife, and the near-death experience is just the last throw of a fevered and dying brain, why does it bother? If everything, including the soul and personality, is going to dust and ashes, why does the brain lay on this last wonderful floor show for people near-death, or facing actual death, who relax into peacefulness and describe their wonderful visions?

If the near-death experience is just a hallucination, why do a great many people report being told, "Your mission has not been completed," or, "The time for your death is not yet," during their near-death experience? If the near-death experience is just an hallucination, how can so many people be hallucinating the same thing? Isn't it odd that so many people are being told the same thing? Are they all hallucinating identical responses? For many people, it is easier to believe the near-death experience is a real afterlife experience and not mass hallucination.

Darwin's Theory

One theory is that it is a deliberate ploy of the human race to help those behind adapt better to the inevitable ending of their lives. Darwin's simple theory of the survival of the fittest holds that every species is struggling to increase its hold on this planet and guarantee the survival of its descendants. That is our greatest primary urge. Other animals help their peers to survive: the dying elephant, for example, trails away into the bush so that he does not slow down the herd. Are the dying just "helping the herd" by putting out propaganda that death does not contain a sting? But this theory does not explain why near-death experiences are erratic, or why we shunted down an evolutionary sidetrack for years by making them something that people were reluctant to talk about. After all, in Darwinian terms, humans are the complete masters of the universe.

The Hallucination Theory

Some scientists from the camp that believes the near-death experience is one day going to be explained by brain functions have suggested that the dying secrete endorphins, hormones which act on the central nervous system to suppress pain and which are known to create the "runner's high", which happens when long-distance runners go through a pain barrier and find themselves running with ease and without tiredness, and with a feeling of elation. But endorphins are not hallucinogens and cannot re-create a state like a near-death experience, so although they may be involved in the process as a painkiller, they are not responsible for the whole experience.

Research on neurotransmitter receptors is highly complex and, in terms of our understanding of the functioning of the brain, in its infancy. It is known that a powerful anesthetic called ketamine can produce many of the features of a near-death experience, particularly the out-of-body element, and one theory is that a ketamine-like substance may be released by the body at the time of a near-death experience, and may attach itself to certain neurotransmitter receptors and be responsible for producing the whole near-death experience by blocking those receptors.

A psychology professor named Ronald Siegel from UCLA rejects the spiritual and mystical importance of the near-death experience. He claims to have reproduced near-death experiences in his laboratory by giving LSD to volunteers, but, other researchers say that although drug-induced hallucinations may have some resemblance to near-death experiences, they are not the same. For one thing, drug induced hallucinations often evoke fearful and paranoid experiences which are not generally found in the near-death experience. Drug induced hallucinations distort reality while the near-death experience has been described as "hyper-reality."

The Temporal Lobe Theory

Some features of the near-death experience are known to occur in a type of epilepsy associated with damage to the temporal lobe of the brain, and researchers have found that by electrically stimulating this lobe they can mimic some elements of the near-death experience, such as leaving oneself behind, and the sense of life memories flashing past, although this is actually a common feature of near-death experiences. They believe that the stress of being near-death, or thinking that

you are near-death, may in some way cause the stimulation of this lobe. There is some evidence to support this theory in the lower numbers of near-death experiences reported by people who suffer strokes which affect this part of the brain, or have tumors in this area. But there is also a case against: the characteristic emotions that result from temporal lobe stimulation are fear, sadness, and loneliness, not the calm and love of a near-death experience. Also, scientists may be simply discovering the mechanism connected with the mind/body separation thought by some to occur at death. Because a chemical mechanism is present in the brain, this does not mean the near-death experience is strictly a chemical reaction. Science may only be describing the aspect of dying that deals with the brain.

The Lack of Oxygen Theory

Other possible explanations are a lack of oxygen in the brain, or too much carbon dioxide. But these would not explain why some patients are able to give full and cogent reports of things that went on around them during their near-death experience. Cardiologist Michael Sabom has reported one patient who, while having a near-death experience, watched his doctor perform a blood test that revealed both high oxygen and low carbon dioxide. And comparisons of near-death experiences with the hallucinations produced by an oxygen-starved brain show that the latter are chaotic and much more similar to psychotic hallucinations. Confusion, disorientation, and fear are the typical characteristics, compared with the tranquility, calm, and sense of order of a near-death experience. There are some features in common: a sense of well-being and power, and themes of death and dying. But people who have experienced both at different times say that there is an unmistakable difference.

Hallucinations, whether deliberately drug-induced, the result of medication, or caused by oxygen deprivation, almost always take place while the subject is awake and conscious, whereas near-death experiences happen during unconsciousness, sometimes when the subject is so close to death that no record of brain activity is recorded on an electroencephalograph, the machine that monitors brain waves. Also, the medical conditions that take subjects to the brink of death, and to having near-death experiences, do not necessarily include oxygen-deprivation, or any medication. This is particularly true of accident victims. Near-death experiences appear to occur at the moment when the threat of death occurs, not necessarily at the time, maybe hours later, when death is close enough to be starving the brain of oxygen.

The Depersonalization Theory

The first modern attempt to explain near-death experiences in psychological terms was made in 1930 by a psychologist who argued that people faced with an unpleasant reality of death and illness attempt to replace it with pleasurable fantasies to protect themselves. They "depersonalize", removing themselves from themselves - the floating away from their own bodies that near-death experiencers have. It is a theory that is still sometimes put forward, but it can be countered by the fact that some typical features of a near-death experience just do not fit into the depersonalization mode, such as the strong spiritual and mystical feelings, and the increased alertness and awareness.

The Memory Of Birth Theory

Another popular theory is that the near-death experience has nothing to do with death at all, but it is a memory of birth. A baby being born leaves the womb to travel down a tunnel towards a light, and what waits for it in the light is usually a great deal of love and warmth. What happens at the point of death is only a stored memory of what happened when life began. Yet again there are a lot of points that don't match: a baby being born does not exactly float at high speed down a tunnel, but is buffeted along with difficulty by its mother's contractions. And how does this model explain the meeting with friends and relatives who have died? The "being of light" is supposed to be the midwife or the doctor who rules the delivery room - but many babies are born without a midwife or doctor present, or perhaps with many people present. On a purely practical level, a baby's nervous system is not sufficiently developed to allow it to assimilate and store memories of the birth process.

Those who argue this theory say that the feelings of peace and bliss are a memory of the peace of the womb when all physical needs were met by the mother and there were no stresses and strains. Why should this be any more likely than the feelings of peace and bliss are relief from the pain of illness and injury at the point of death? However, being born is often not a pleasant experience for babies which leaves them crying as if in agony. In contrast, the near-death experience is more often described as the most pleasurable experience a person can have. The birth process is not pleasant.

The Afterlife Theory

Melvin Morse, who did all the ground-breaking research with young children, states unequivocally, "There is no explanation for the light."

Kenneth Ring, perhaps the most respected of all near-death experience researchers, and the one who did most to put the subject on the academic map, says: "Any adequate neurological explanation would have to be capable of showing how the entire complex of phenomena associated with the core experience (that is, the out-of-body state, paranormal knowledge, the tunnel, the golden light, the voice or presence, the appearance of deceased relatives, beautiful vistas, and so forth) would be expected to occur in subjectively authentic fashion as a consequence of specific neurological events triggered by the approach of death ... I am tempted to argue that the burden of proof has now shifted to those who wish to explain near-death experiences in this way."

Those sentences are a couple of complicated sentences, but what Kenneth Ring is saying is that there are so many consistent features of near-death experiences that it is going to be very difficult to find a good explanation for them in terms of the physical working of the brain. And, he believes, that the evidence is so strong for them that sympathetic researchers should no longer feel that the burden is on to them to prove that they happen, but rather, for the skeptics to prove that they don't.

Perhaps the final word should go to Nancy Evans Bush, a near-death experiencer with the International Association for Near-Death Studies, who said: "There is no human experience of any description that can't simply be reduced to a biological process, but that in no way offsets the meaning those experiences have for us - whether it's falling in love, or grieving, or having a baby." Or coming close to death and having a transcendental experience.