



## Memories of Near Death Experiences (NDE): More Real than Reality?



University of Liège researchers have demonstrated that the physiological mechanisms triggered during NDE lead to a more vivid perception not only of imagined events in the history of an individual but also of real events which have taken place in their lives! These surprising results – obtained using an original method which now requires further investigation – are published in PLOS ONE.

Seeing a bright light, going through a tunnel, having the feeling of ending up in another ‘reality’ or leaving one’s own body are very well known features of the complex phenomena known as ‘Near-Death Experiences ‘ (NDE), which people who are close to death can experience in particular. Products of the mind? Psychological defence mechanisms? Hallucinations? These phenomena have been widely documented in the media and have generated numerous beliefs and theories of every kind. From a scientific point of view, these experiences are all the more difficult to understand in that they come into being in chaotic conditions, which make studying them in real time almost impossible. The University of Liège’s researchers have thus tried a different approach.

Working together, researchers at the Coma Science Group (Directed by Steven Laureys) and the University of Liège’s Cognitive Psychology Research (Professor Serge Brédart and Hedwige Dehon), have looked into the memories of NDE with the hypothesis that if the memories of NDE were pure products of the imagination, their phenomenological characteristics (e.g., sensorial, self referential, emotional, etc. details) should be closer to those of imagined memories. Conversely, if the NDE are experienced in a way similar to that of reality, their characteristics would be closer to the memories of real events.

The researchers compared the responses provided by three groups of patients, each of which had survived (in a different manner) a coma, and a group of healthy volunteers. They studied the memories of NDE and the memories of real events and imagined events with the help of a questionnaire which evaluated the phenomenological characteristics of the memories. The results were surprising. From the perspective being studied, not only were the NDEs not similar to the memories of imagined events, but the phenomenological characteristics inherent to the memories of real events (e.g. memories of sensorial details) are even more numerous in the memories of NDE than in the memories of real events.

The brain, in conditions conducive to such phenomena occurring, is prey to chaos. Physiological and pharmacological mechanisms are completely disturbed, exacerbated or, conversely, diminished. Certain studies have put forward a physiological explanation for certain components of NDE, such as Out-of-Body Experiences,

which could be explained by dysfunctions of the temporo-parietal lobe. In this context the study published in *PLOS ONE* suggests that these same mechanisms could also 'create' a perception – which would thus be processed by the individual as coming from the exterior – of reality. In a kind of way their brain is lying to them, like in a hallucination. These events being particularly surprising and especially important from an emotional and personal perspective, the conditions are ripe for the memory of this event being extremely detailed, precise and durable.

Numerous studies have looked into the physiological mechanisms of NDE, the production of these phenomena by the brain, but, taken separately, these two theories are incapable of explaining these experiences in their entirety. The study published in *PLOS ONE* does not claim to offer a unique explanation for NDE, but it contributes to study pathways which take into account psychological phenomena as factors associated with, and not contradictory to, physiological phenomena.

Journal Reference:

- Characteristics of Near-Death Experiences Memories as Compared to Real and Imagined Events Memories, PLOS ONE, <http://dx.plos.org/10.1371/journal.pone.0057620>

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