

Wider human consciousness as shown by death and dying

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Consciousness is now one of the central strands in the neuroscience agenda. The current interest in chronic vegetative states, and the ways that consciousness can be enhanced by peripheral and cortical stimulation, suggest that we may have to re-think the mechanisms of coma. A recent paper (Rosenberg 2009), looking at consciousness, coma and brain death, draws together the current strands of neuroscience thinking. However, he is very bold when claiming that 'There is no separate mind from the brain, the mind is the brain. Cartesian logic of a separate mind and brain is an archaic philosophical concept, displaced by current functional magnetic resonance imaging, deep brain stimulation studies, years of meticulous neuropathologic studies, and experimental neurophysiological animal studies that have proven that consciousness and mind are embedded into specific neuro-anatomical arousal behavioural circuits... It is now clear that coma, consciousness and cognition are neural-directed constructs and probably results from mathematical computations yet to be discovered.'

This statement reminds me of the point that physics had reached before the birth of quantum mechanics, when Newtonian understanding of the physical world was considered to give an almost complete description, and physicists were discussing openly the end of physics with nothing more to be found. Of course, quantum mechanics changed that completely. As Larry Dossey once said, the 'yet to be discovered' phrase is a classic example of a materialistic promissory note as suggested by Eccles and Popper.

Rosenberg does not address any of the now sizeable literature on telepathy, remote viewing and the action of mind at a distance, which suggests that mind may be beyond the brain. He could still quite rightly argue that these functions are embedded in the brain, but I think it is important, particularly at the present time of scientific growth, to leave open the possibility that mind may not be just an emergent property in the materialistic sense that he has suggested in his article.

I would like to describe two sets of circumstances, the near death experience in cardiac arrest, and the phenomena that occur around the time of dying, which point to mind being separate from the brain, or certainly having effects beyond the brain.

One of the difficulties of NDE research is that it is impossible retrospectively to get a clear indication of the cerebral physiology occurring at the time of the experience, and to decide whether there is a true change in brain physiology or whether the experiences are more 'fear death' than 'near death'. The advantage of using the cardiac arrest model is that one can be certain that the physiological state of the brain during the cardiac arrest is similar in all cases. The same clinical signs as those of death are present: no detectable cardiac output, no respiratory effort, and an absence of brainstem reflexes, no cough

reflexes and fixed, dilated pupils. However, there have now been four studies (Parnia et al. (2000), van Lommel et al. (2001), Schwanager et al. (2002) and Greyson et al. (2003)) which show that approximately 10% of recovered cardiac arrest patients report NDEs, and the phenomenology of these was very similar to those occurring in other situations - the tunnel, the Being of Light, the quintessential English garden, the dead relatives and the decision to return were all present. What was also surprising is the experiencers' insistence that the NDE occurred while they were unconscious. If they are correct, the experience would have taken place when brain function was severely compromised and conscious experience should have been absent. It was thus important to determine exactly when the NDEs did occur, and whether the experiencers were correct in their perceived timing.

Out of body experiences (OBEs) were reported in many of these studies. In the OBE, the patient appears to leave their body and view the resuscitation process from a vantage point on the ceiling. The OBE thus becomes extremely important as if the patient does truly watch their own resuscitation process, it should be possible to determine the point in the resuscitation at which the experience occurs, and therefore whether this is during unconsciousness, as the patients claim. If this were shown to be so, it would have profound consequences for neuroscience. It would indicate not only that mind and brain were indeed separate but also that sensory impressions apparently gained without the senses could be remembered after consciousness returned.

There is already anecdotal evidence that this may be so. Sabom⁵ has studied retrospectively the memories of patients from their out of body state in the resuscitation process and found a significant correlation between patients' accounts and the actual resuscitation procedures, leading him to suggest that these OBEs are veridical. A number of high profile cases tend to point in the same direction, the most notable of which is that of Pamela Reynolds (Sabom 1998) who had an NDE during cooling, heart-stopping and brain-stem surgery. However, much of her experience occurred in the early part of the operation and thus might fall into the group of experiences that can, in special circumstances, occur under anaesthesia. Penny Sartori⁶, an intensive care unit nurse, carried out her PhD on NDEs in cardiac arrest. She placed symbols on a card on the monitor next to the patient's bed. Some of her recovered patients reported OBEs during the arrest but none reported seeing the cards during their OBEs, as the cards were placed too far from the body, which was all the patients were interested in looking at. However, she has published one case where there was apparently veridical out of body perception during unconsciousness, but in which no cards were seen. But more important, she asked all recovered patients, whether they had had an OBE, to describe what they thought had happened in the cardiac resuscitation process. She found that those who said they witnessed the event from the ceiling gave a more accurate account than those who merely reported what they thought had happened.

In 2008, Dr. Sam Parnia and a team of researchers presented at the United Nations a programme for the placing of boards with symbols on them in

intensive care units in some hospitals, so that the NDE in cardiac arrest could be studied more formally, the AWARE study. They now have 18 hospitals with boards placed in the resuscitation areas, and an additional two hospitals in the US and one in Austria, and it is hoped that within the next three years the study will provide a definitive answer to this question.

Is the NDE a model for the final stage of dying?

It seemed logical to accept that any experiences reported during cardiac arrests would be a model for the final stage of dying. It is also logical to argue that the dying should perceive some aspects of a reality like the near death experience as they approach this stage.

In order to examine this question, we set up a study to look at the experiences of the dying in the weeks and months before death, and finally at the time of death itself. My colleagues in this study were Sue Brayne, a counsellor and psychotherapist, and Hilary Lovelace, an experienced hospice nurse. We found that a number of phenomena occur in this end of life period, which we have called end of life experiences, or ELEs. The phenomena are: deathbed visions or dreams suggesting an onward journey; transiting to and from other realities which often involve love and light; deathbed 'coincidences', in which someone emotionally close to the dying person becomes aware of them at the moment of their death, and finally, deathbed phenomena, which are the parapsychological events that occur around the time of death, such as clocks stopping, odd animal behaviour, and mechanical malfunctions. Our question is whether ELEs do suggest that mind might extend beyond the brain.

A questionnaire, which included all these areas of the dying person's experiences, was piloted and validated with the Camden Palliative Care Team and then given to carers in two hospices and one nursing home. The study was designed in two parts. Carers were first asked to answer the questionnaire retrospectively, listing experiences that had been reported to them by either the dying or their relatives in the previous five years. We then asked them to keep a diary in which to record any prospective events and we returned one year later and gave the same questionnaires again so that we could obtain a true prevalence rate for the occurrence of these experiences in the institutions. At each visit carers were given a one-hour interview to expand on their answers in the questionnaire, and also to give them a safe opportunity to talk about how these phenomena were accepted in their institution. In the five year retrospective there were 38 interviewees and 30 of these took part in the prospective study. The carers came from many different disciplines; nursing, pastoral, medical and other professions. We also obtained stories through the media, from a TV interview and newspaper articles. In all we had over 2000 accounts and thus have a very large data base of accounts with which to compare the stories in the nursing home and hospices.

We found that these experiences are far from uncommon - over two-thirds of the carers had had ELEs reported to them in the previous year. An interesting carer-bias was evident as 5% had 1-10 and 8% had 10-20 occurrences reported to them. Deathbed visions were reported by over 50% of the carers. In these comforting visions, the dying person reported that a dead relative,

most often (in a quarter of cases) a parent, had come into their room, sometimes sitting on their bed. They told the patient they were going to come to pick them up, often specifying the day, though this was negotiable – the departure could be delayed for some good reason such as a child arriving from abroad to say goodbye, though not for very long. Very rarely the vision was seen by others in the room, especially children.

Deathbed coincidences were reported by 54% of carers. The form these visits took depended on the mental state of the recipient, but it always made a powerful, sometimes overwhelming, emotional impact. If they were awake, it was usually a strong feeling that something had happened to that person. If they were asleep, then the communication was more narrative and conveyed a definite message, usually that the person had died but they were ok; often they were seen in a vision surrounded by love, light and compassion. 35% of carers reported light surrounding the body at death. There were also many reports of parapsychological phenomena such as clocks stopping, animals who behaved strangely, televisions going on the blink, alarms ringing and other electro-mechanical malfunctions.

The mechanical malfunctions were stressed by many of the carers, and this suggests that it may be possible to measure this effect. Bob Jahn and Brenda Dunne (2009), in the Princeton experiment, have shown that random number generators could be affected mentally by normal subjects attempting to influence the distribution of numbers they produced and Dean Radin (1998), using this principle, has designed a random number generator which is portable and can be hooked up to a laptop computer. This is now being produced and sold commercially by Psyleron.

I tested the audience of psychiatrists in the conference at which this talk was given, to see whether we could link with and influence a Psyleron random number generator. We found to our surprise that this was indeed so, as they were able to produce an impressive Z score of over 2, where 1 is significant at the 0.05 level. This shows clear evidence of the action of mind at a distance, albeit only the distance from the auditorium to the podium!

In conclusion, death appears to be a very special time, when clear non-local effects of mind are manifested. There are also additional phenomena before death that suggest that our current conception of death as terminating and switching off the mind as well as the body, may be wrong. The dying certainly see and report the possibility of a continuation of consciousness and the evidence of the phenomena at the time of death certainly support this.

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