

## Theories of Consciousness and Death Does Consciousness End, Continue, Awaken, or Transform When the Body Dies?

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### Abstract

In this paper the organic process of death is envisaged as giving rise to a transformative experience, one that the human brain may have evolved in response to being confronted with its termination. The out-of-body experiences (OBEs) of patients undergoing surgery are examined, and considered to have a physiological basis rather than a spiritual one. The near-death experience (NDE) is then interpreted as a return to the present of the moment of birth.

It is suggested that nothing leaves the body at death, but that the individual has a euphoric experience that coincides with cessation of awareness of time. The NDE of a noted atheistic philosopher is then considered. By its nature the process of death precludes research by conventional neuroscientific methods that would be both invasive and impractical. The paper concludes with corroborative evidence of a personal nature.

WHAT happens when we die? The phenomenon known as the near-death experience (NDE) is explored in this paper in the hope that it may provide an insight into the possible transformation of the human consciousness that may occur at death. Dying is considered by most people to be a gradual process. Charles II is said to have apologised for taking an unconscionable time over it, whereas he probably thought death itself would be instantaneous, like the snuffing out of a candle.

But death is also a process, which commonly starts with cardiac arrest. Some minutes elapse before stoppage of the circulation becomes lethal to the brain. The mind can remain alert until the brain stem – into which are packed the control mechanisms for speech, sight, hearing and breathing – ceases to function. What takes place in the mind during that interval

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is crucial. A considerable body of evidence has been assembled indicating that the human consciousness undergoes a unique transformation.

A great deal of this evidence comes from reports of the near-death experience (NDE) that have been recorded over the past fifty years. The NDE ‘typically involves a number of different components including a feeling of peace and well-being, out-of-body experiences (OBEs), entering a region of darkness, seeing a brilliant light, and entering another realm’ (French, 2005, p. 351). Certain impressions can be aligned with corresponding physical events. For example, the thump that accompanies the return to the body in many autoscopic NDEs (where the subject claims to have seen the medical team at work from above) appears to coincide with the heart being restarted by a successful resuscitation procedure (Sabom, 1982).

The most significant event is the irreversible loss of the capacity for consciousness that is the inevitable effect of death of the brain stem. A distinction should be made between the *capacity* for consciousness, which is a function of the brain stem, and the *content* of consciousness, which resides in the cerebral hemispheres. The survival of the former is essential for the activation of the latter.

Typically, at least according to French (2005), it is clear that during the minutes that elapse between cardiac arrest and death of the brain stem, the mind experiences vivid and varied images. It seems that these lead into a final experience that totally resolves all personal conflicts, all unanswered questions, all emotional loose ends, all guilt remorse and sorrow, as the consciousness enters a state of warmth, joy and release from pain, characterised by NDEers as being overwhelmingly suffused with love. In a word, it is transformative.

Another notable feature of NDEs is the disappearance of all sense of time, which occurs just before the moment of death. This atemporal sense is not the same as entering a *hereafter*, but would seem to be a permanent *here-and-now*. The *after* in “life after death”, or “hereafter”, is a product of the sequential habit of thinking derived during this life, which has always involved consideration of *the next*. Being born, and acquiring a theory of mind means entering time – a narrativised “and then...and then...” mode, a “What happens next?” perspective. But if this imperative ceases to govern one’s perceptions, such a question ceases

to formulate itself. Eternity is thus outside of *time* in its restricted sense of duration measured as a succession of events (cf. Nixon, 2010).

### **Does Something Leave the Body?**

Perhaps the heightened reality of the experience is the most powerful impression noted by NDEers. But registering this impression is not the same as accepting that the events related in the NDE actually happened. Because they were experienced as real does not mean that they were actual.

The distinction between real and actual is particularly marked in the autoscopic element of the NDE, the out-of-the-body situation experienced by many patients being treated for cardiac arrest. They typically report leaving their body and observing, usually from a point near the ceiling, the medical team at work. For this actually to occur, the retina of the eye would have to record the relevant images and pass them via the optic nerve to the visual cortex. The requisite organs, together with their support systems of veins, arteries, glands and the like, would therefore have to be in place. Such a disembodied assemblage has never been recorded by anyone present in such a setting; the very process of enumerating them in this way serves to highlight the bizarre nature of the notion.

But the intention here is emphatically not to devalue such accounts; quite the reverse. As noted earlier, such testimony is overwhelmingly suffused with the reality of what was experienced. Is it then the case that what took place in the mind was also produced there? If so, there is no necessity to postulate the idea that anything like a soul or spirit leaves the expiring human.

### **The Altered State of Consciousness**

In the normal everyday situations of life, such as writing at a desk, the conscious mind experiences a stable model of reality: a combination of sensory inputs, such as the hardness of the chair or the sound of passing traffic, together with mental constructs, derived from learning and memory. But on occasion an alternative model displaces this stable model: for example, in dreams, drug-induced states, and out-of-body experiences. All such states involve worlds of truly imaginary, i.e., imaged in the mind, origin, which seem as real, and often more real, than waking life.

In effect, the model of reality fuelled by sensory inputs has been challenged and superseded by a model derived from images and memory, and constructed from the top down (Blackmore, 1993). The conscious model of reality is dislocated so radically that the mind seeks something to put in its place: the model based on memory and experience becomes dominant over the bottom-up reality model as sensory input becomes weaker and less definite. In a dream this dominance may be temporary and transient, so that we forget not only what we dreamed, but if we dreamed at all.

Under anaesthetic, however, it is possible that the mind responds to physical sensations originating from surgery by converting them into a mental construct, specifically an image of the surgeon at work on the subject's body. In other words, the person adopts the survival strategy of combining sensory input, perhaps affected by anaesthetic, with memory and previous knowledge of medical procedures. From these sources the mind constructs a model of what is happening to the body. This becomes dominant in the *out of body experience*, during which patients report observing the activities of the medical team from a point near the ceiling. In six cases of resuscitation from cardiac arrest reported by Sabom (1982), subjects confirmed details recorded on medical instruments and conversations of waiting relatives that could only have been perceived from a position outside the body. The altered-state-of-consciousness theory cannot account for these phenomena, unless it is modified to allow for paranormal or extrasensory perception. A closer examination by Blackmore (1993) revealed many of these anecdotes to have been as much fantasy as fact, containing obvious contradictions.

However there are other situations in which the mind adapts to unmanageable challenges by shifting into an alternate state of consciousness. Faced with an inevitable car crash or similar accident situation, people frequently report experiencing a vivid replay of their lives. "My whole life seemed to flash before my eyes" is a typical formulation, of what has been termed "depersonalization in the face of life-threatening danger" (Noyes & Kletti, 1976).

The onset of death presents the mind with its most extreme condition of sensory deprivation as the sense organs lose their functions and the brain is denied sensory stimuli. But there is one significant compensation: in its weakened state of anoxia, the brain is no

longer called upon to initiate motor functions or muscular contractions. Nevertheless, the brain stem is still alive, and able to affect neural activity in the cortex.

It seems fair to suggest that the preconditions for an altered state of consciousness are then met. Sensory input has ceased, so the mind searches for a model to replace the fading bottom-up reality model. It can only build one from the top down, i.e. using memory, images, and experience in a totally unfettered way. Having laboured since birth in the service of the organism, the mind can now give complete precedence to the onrush of images and feelings stored away over the years. Relieved of the necessity to monitor, filter, and suppress external perceptions, the mind is freed to experience totally the joys, sorrows, loves, hates, pleasures, and pains that make up this flood.

Whatever form the experience takes, it will be unique for each individual, based entirely on his or her biography, and hence not part of some universal or shared other world. But the universal factor in the situation is that it will not be subject to limits of duration. It will be outside time, having no beginning or end, conspiring to convince the spirit that its condition is unique, personal, and eternal.

The logic behind such a marked change is very clear; the continuance of survival, for any animal, hinges on its acquiring sufficient nourishment to continue living. The basic question posed by life is, "Where is the next meal coming from?" This puts humans in the "And then...and then..." mode referred to earlier. But in death the only parameter is the present. Time past and time future fall out of the picture.

The idea that all this, the resolution of all regrets and fears in some personal paradise can be a creation of the isolated mind in its dying moments may seem implausible. But again there is a logic behind it. Once out of the womb an infant child embarks on a life centered on others; every engagement with a significant other is increasingly social, in a context of other-directed and frequently dependent relationships.

It may be helpful here draw attention to the work of child psychologist Margaret Donaldson. Professor Donaldson (1992) suggests that humans are born experiencing only the present, the here-and-now, which she terms *point mode*. "Later other loci become possible. For example, the second mode, which is called the *line mode*, has a

locus of concern that includes the personal past and the personal future” (p. 11).

Death is a complete reversion to the singularity of the moment: in effect, a return to point mode. As the poet T S Eliot (1944) has it, “In my beginning is my end” and “In my end is my beginning” (first and last lines of *East Coker*). At death the dimensions of both time and a responding world are apparently displaced by a state of timelessness and solitariness – not, however, loneliness, since the interior world at the point of death is peopled with those who have meant most in life; reportedly such encounters, though imaginary, are extremely vivid.

For those who have not experienced an NDE, it may be hard to accept that the product of the mind at such a time will be so unique and exceptional. Experience of the brain’s capacity for recall is not encouraging. Consciously trying to dredge up happy memories, friends’ faces, successful holidays and the like may lead to the conclusion that the raw material is not exactly heavenly.

Similarly, seeking to conjure up a picture of the joys and pleasures that might comprise life in paradise is somehow unrewarding. But this may be because the attempt is made from within a context that is neither relevant nor propitious; that is, the dominant reality model of one’s waking life. This may be why the potential performance of the human mind at the point of death has long been seriously underrated. Susan Blackmore (1983), in noting that many persons dismiss out-of-body experiences as “just imagination,” comments, “Imagination is far too vast and exciting a word to be denigrated with the word ‘just’. ... [The OBE] is imagination, and that may be quite the most exciting thing it could be” (p. 149).

The central conundrum, then, may be re-expressed in the following form: *Nothing leaves the body at death, yet we do experience a personal heaven. The experience occupies only a moment of time, yet creates an eternity in death, at which point the dimension of time is extinguished.* Such may be the transformation of consciousness that occurs at death.

The foregoing is an organic perspective on the near-death evidence, firmly grounded in the idea that everything humans experience at death is a product of the brain. But two other perspectives are widely held, and should be acknowledged here.

From the earliest times, the belief that an immaterial mind/soul or ghost separates from the dying body was widespread. This, the spiritual perspective, sees NDEs as providing a glimpse or foretaste of a spiritual realm in the hereafter. Bestsellers on the topic agree.

A second important perspective is the psychological, of which Noyes and Kletti's (1976) suggestion of depersonalization in the face of life-threatening danger is an example. However it is the third broad category, organic studies, which has received increased attention in recent years, according to French (2005).

Cardiac arrest survivors have been the chosen subject of at least four such studies because they provide the opportunity for a prospective approach, under clinical conditions, whereas retrospective accounts of NDEs are generally unsystematic, self-selecting, and often reported years after the event. From the prospective studies a best estimate for the incidence of NDEs among cardiac arrest survivors has been reckoned to be 10-12% (French, 2005).

Among the proximate causes of the experience may be the anoxia and/or hypercarbia of changed levels of blood gases, fluctuations in the body's neurotransmitters, and dysfunction of the temporal lobe. The explanation by Saavedra-Aguilar and Gómez-Jeria (1989) invokes temporal-lobe dysfunction, hypoxia, psychological stress, and neurotransmitter changes to account for the NDE. As Blackmore (1993) has pointed out, different components of the NDE may have different causes, giving rise to a model that is a synthesis of different components. The release of endorphins has also been invoked by a number of authorities (e.g., Carr, 1982; Saavedra-Aguilar and Gómez-Jeria, 1989) since they are known to relieve stress and pain and give rise to pleasant feelings.

Some have questioned the apparent occurrence of intense mental activity when the patient shows a flat EEG (which occurrence is controversial). Such experiences appear to be taking place at a time when cerebral function is severely impaired. However others have pointed out that the NDE may have occurred as the patient rapidly entered the state of flat EEG or as they more gradually recovered from that state (French 2005, p. 363). It should be borne in mind that altered states of consciousness often have an effect on time perception, as illustrated by the life review component of the NDE during which it is claimed that the whole of an individual's life is replayed in a fraction of a second.

One further possibility has been raised and may be worth quoting. According to Hameroff and Chopra (2010):

Recently two clinical studies used processed EEG brain monitors at the time of death in terminally ill or severely brain-damaged patients from whom support was withdrawn, allowing the patients to die peacefully. In both sets of patients, measurable EEG brain activity dwindled as blood pressure dropped and, eventually the heart stopped beating. But then, in each patient, there was an abrupt burst of brain activity lasting about a minute or more which correlated with gamma synchrony EEG, the most reliable marker of conscious awareness. Then, just as abruptly, the activity ceased. Because these patients died, we can't know if they had NDE or OOB [out of body] experiences, or if the activity actually marked the soul leaving the body – 'giving up the ghost.' But regardless, the mystery is how the energy-depleted brain could muster synchronous neuronal EEG activity – whatever it was. One possible answer is that consciousness and gamma synchrony involve very low energy quantum entanglements which persist while other brain functions have run out of fuel.

This report confirms once more that both the uniqueness and the non-repeatability of the NDE are severe constraints on further progress in researching the organic model.

Perhaps the case of noted sceptic and lifelong atheist, A. J. Ayer, could be a paradigm for the organic explanation for NDEs. The crucial fact to emerge from Ayer's NDE episode (a period of four minutes without a heartbeat) was that the experience must have occurred entirely within his own head. So many readers gained the impression from Ayer's (1988a) account of his NDE that he had changed his mind about his atheism, that he felt obliged to publish a postscript a few months later. In this he made it clear that his experience had not altered his firm belief that there was no life after death: "I thought it so obvious that the persistence of my brain was the most probable explanation [for the near-death experience] that I did not bother to stress it. I stress it now. No other hypothesis comes anywhere near to superseding it" (1988b)

Particularly intriguing is the way that his experience so closely reflected his personal life. Like many people, Ayer clearly identified with Shakespeare's tragic hero Hamlet. For



example he expressed regret that his article had been given the rather bald title “What I saw when I was dead” instead of his own choice, a quotation from *Hamlet*: “That Undiscovered Country [from whose bourn no traveller returns]” (1988b).

Throughout the account, Ayer (1988b) employs phrases from the play. At one point he found himself in space, which appeared to him to be awry, or “slightly out of joint.” He felt it was “up to me to put things right,” echoing Hamlet’s words: “The time is *out of joint*; O cursed spite! That ever I was born *to set it right*.” He encounters *ministers* who are in charge of space (perhaps reflecting Hamlet: “Angels and *ministers* of grace, defend us!”).

Ayer also recalled during his NDE that since Einstein it had become customary to treat space-time as a single whole. He therefore “hit upon the expedient of walking up and down, waving my watch, in the hope of drawing their [the ministers] attention, not to my watch itself but to the time which it measured” (1988a). This behaviour is utterly characteristic of the philosopher and academic that Ayer was in life. His NDE certainly confirms that the experience is unique and different for each individual.

The religious figures that are met during some NDEs almost always correspond to the religion of the person having the experience, “with Christians tending to see Jesus and Hindus seeing the messengers of Yamraj coming to collect them” (Osis and Haraldsson, as cited in French, 2005). For the atheist Ayer a tragic hero and a leading man of science were invoked instead (Hamlet and Einstein).

For Ayer and those championing the organic perspective, there can be only one explanation for the near-death experience. The human brain seems to have evolved a particular strategy when faced with extinction. Some combination of endorphin release and hypercarbia/anoxia usually triggers a final experience so profoundly happy that what might happen next no longer matters. This is the moment of transformation into eternity (OED 1.1 A state to which time has no application; timelessness.)

Death is a subject impossible to study empirically, because no traveller returns from it. Consequently this writer’s personal conviction that time ceases at death is not amenable to proof, or likely to receive support from any quarter. However it is firmly held, as a result of two experiences, apparently triggered by a premonition or intuition of approaching death.

Neither developed very far, so they could be regarded as proto-NDEs. One was a lucid dream, and the other a recollection of a hallucination that occurred under anaesthetic.

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### Postscript, a Memoir

“IT all began with a dream – ”

“*Oh, no!*”

“A lucid dream actually – one where you know you are dreaming?”

“*And what was this dream about, Roger?*”

“I’ve completely forgotten – all I remember is that it was very happy and enjoyable. But I was aware that sooner or later I would have to wake up.

At that point it was borne in on me, as if to compensate for my disappointment, that at the appropriate time – which I took to mean at death – the pleasant experience would continue and be completed, fulfilled. The words “So *that’s* how it is!” came into my mind.”

“*That’s how what is?*”

“During the concluding moments of life everything would be resolved. Most important of all, at the moment of death the perception of time would be transformed. That moment would mark a reversion to a state that would be literally time-less. It seemed as though death would be an all-embracing experience of joy in the present moment, a totality with nothing beyond it.”

“*And why was this perception so remarkable to you?*”

“Because it squared the circle – it turns out that whereas in life you continually worry about what’s going to happen next, at the moment of death all preoccupation with the future ceases to apply. You exist entirely in the moment, the now – ”

“*At which point it’s goodnight Vienna?*”

“Yes – life comes to an end, but you go out on a high.”

*“No eternal strumming of harps and praising the Lord forever then?”*

“Not unless such things constitute your idea of Heaven, in which case the dying brain would create those images in your mind. But for most people the experience would incorporate joyful meetings with loved ones – ”

*“- after travelling along a tunnel towards a brilliant white light? You’re talking about near-death experiences aren’t you?”*

“Yes.”

*“Oh...dear!*

Time was when I would have echoed my friend’s scepticism. NDEs? Weren’t they a bit hippy, flaky, along with ley lines, crystals and other illusory props to New Age thinking? But the dream had provided me with an insight, an intuition that was very hard to ignore. It seemed to me that the final operation of your dying brain is to create the experience of paradise.

Since that morning, back in the 80s, the need to know more has taken me to conferences in Europe and the States, to degree-level exploration of the brain and conscious mind in the search for evidence in support of the notion that a paradisaal eternity is compressed into that final moment. But I can’t prove it.

However the lucid dream described above started me thinking about out-of-body and near-death experiences, and brought to mind a near-death experience of my own. It occurred when the dentist gave me a general anesthetic in order to extract some teeth.

As soon as I passed out, my whole life – all ten years of it – flashed before my eyes. There was a tumult of impressions, of home life, pets, friends and relatives, and then I was in a tunnel that led up towards a distant bright light. At that point I became convinced that I had been given too much gas, that I had died, and was therefore on my way to Hell. As I got closer to the light I made out a face peering down at me – obviously Satan. The puzzling thing was that he was wearing glasses. If the Devil was as all powerful as I had been led to

believe, he would surely possess 20/20 vision? At that point, his (the dentist's), voice reached me, and I was back in the land of the living.

The experience was very real, particularly the conviction that I had died. This realness seems to be one of the most memorable features of NDEs – “realer than here, really” as one experiencer put it (Sabom, 1982, p33). The other thing that most experiencers record is that time seems to fall out of the frame. There is just the now, the moment, an experience of bliss so total and all embracing that concern about the future ceases to apply.

In life, minute follows minute, hour follows hour and day follows day. But according to my lucid dream, at the point of death the mind stands outside time and experiences a resolution of all conflicts, all unanswered questions, all emotional loose ends, all guilt, remorse and sorrow, and in that last moment enters a state of warmth and joy and release from pain. If this is really what happens at death it is important that everyone should be aware of it.

From what I have experienced and read, it seems to me that the two most important characteristics of the NDE are (a) that at death nothing leaves the body, the NDE being a construct of the dying mind, and (b) at the moment of death you are totally embedded in a euphoric present, which has the effect of extinguishing any concern about what will happen next. Death may, from such a perspective, be regarded as a totally transformative experience.

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