



## Another Day at the Office? Near-Death Experiences in Their Procrustean Bed of Nothing-Buttery

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The aim of this article is to expose a tacit metaphysical assumption that undermines most of the currently available explanations for near-death experiences (NDEs) and that has blinded many investigators in taking seriously the possible transcendent aspects of these experiences. It is the assumption that except for this-or-that peculiarity, the rest of the brain works more or less in the usual manner through NDEs. By reviewing the existing theories and their shortcomings, I arrive at an alternative framework for the task at hand that portrays consciousness in terms of perceptual brakes. This view questions the current neuroscientific consensus that consciousness is only brain function. The conclusion is that when it comes to NDEs, one should analyze them on two axes: that of continuity (with respect to brain functions) and discontinuity (with respect to their transcendent elements). This leaves open the possibility that while the mind is modulated by the brain, it is not created by the brain.

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## Introduction

*Consciousness is a brain function. It is what brains do. Every mindstate—including the most sublime—has neural correlates. These can be measured by functional neuroimaging techniques that track the differential patterns of oxygen-rich blood flow to specific brain areas, and cortical electrical activity. Once we have determined the neural correlates of a particular state of mind, we can model how the brain creates it, compare it to other states, and maybe even recreate it (say, by administering psychoactive substances or stimulating the relevant brain areas electrically). When the brain dies, so does consciousness. Essentially, mind and brain are two different designators for the same thing.*

This is a brief summary of the current neuroscientific consensus that is most often simply assumed and almost never seriously questioned. As Paul Bloom (2007, 149) has ironically remarked, “One of the first things an undergraduate learns in an introduction to psychology class is that substance dualism is mistaken. It is assumed by virtually all scientists that mental life is the product of physical brains.” This metaphysical (!) assumption is based upon Occam’s razor: even though body/mind dualism may be a human cognitive default—as Jesse M. Bering (2006, 454) argues—and even though the resulting belief in souls may in developmental psychological terms be natural (Bloom 2007), it must be rejected because the naturalist explanation is simpler. There is no need to posit additional bases for the mind besides the electrochemical activity in the brain. Case closed.

I have been researching the neural correlates of various spiritual, religious, and mystical experiences for two decades now and am growing more and more uneasy with this (often tacit) consensus. When doing my PhD, the “language” of neural correlates seemed to be a good and scientifically solid way of bringing lofty theological sophistry down to Earth. Twenty years later, it seems that the program has run into a kind of a stalemate. Yes, we have learned a lot about what the brain does during various spiritual practices. But all of this data is purely correlational, it does not explain anything. Recently, I have been following the scientific debate on cardiac-arrest-related near-death experiences (NDEs). This has brought me to suspect even more deeply that Plato and St. Paul may have been correct from the very beginning. There is more to consciousness than our present neuroscientific consensus grants.

The following represents an attempt to break out of the stalemate by showing that substance dualism may deserve more credit than previously believed and that believers who also happen to be scientifically inclined are not required to commit an intellectual hara-kiri if they prefer to believe there is more to human nature than the incessant “blabber” of neurons, that death is not necessarily the end, and that we have hope—even in the light of twenty-first century science.

## Another Day at the Office and Code Red

In 2025, we celebrated the fiftieth anniversary of the scientific study of NDEs. Within the field, it is common to refer to Raymond A. Moody’s (1975)

pioneering book *Life After Life* as the starting point of serious research into the phenomenon. It was in this book that Moody introduced to the English-speaking world the term “near-death experience,” originally coined by Victor Egger in the late 1890s. In brief, it refers to perimortem altered states of consciousness that, according to Bruce Greyson’s 1983 NDE scale, include the following features: (1) cognitive elements (altered sense of time, accelerated thought process, life review, sudden understanding); (2) affective elements (feeling of peace, being surrounded by light, feeling joy, feeling cosmic unity); (3) paranormal elements (out-of-body experience, hypervivid senses, extrasensory perception, visions of the future); (4) transcendental elements (another world, encountering dead loved ones, mystical being, point of no return) (Zingrone and Alvarado 2009, 19–20).

Since Moody’s original research, hundreds of books and well over 1,000 peer reviewed papers have been published on the subject matter, and thousands of NDE reports have been gathered and made publicly available via open access databases (e.g., [nderf.org](http://nderf.org)). Recently, however, Moody’s term has come under criticism by the some of the leading researchers in the field. In 2022, Sam Parnia and colleagues published a consensus statement in which they recommend a more rigid concept of “recalled experience of death” (RED) for future investigations into the field (Parnia et al. 2022, 7). The idea is to avoid conflating acutely death-related human experiences with other mental phenomena (hallucinations, delusions, etc.). Parnia et al. (2022, 7; emphasis added) define REDs as follows:

We propose that any report or recollection that purports to describe an experience in relation to death . . . should include the following six components: (1) a relation with death, (2) a sense of transcendence, (3) ineffability, (4) positive transformative effects (related to meaning and purpose to life), and a (5) severity of illness that leads to loss of consciousness . . . , together with the (6) *absence of features of other coma-related experiences* (such as conventional dreams, delirium, and delusions, in the intensive care unit . . . or elsewhere).

Unfortunately, this definition too has its shortcomings. For example, points two through four exclude any negative experiences related to death. While these have not been extensively researched, they are nevertheless commonly acknowledged (see Evans Bush, 2009). The fifth point seems to suggest that REDs be always related to severe illness—which may or may not be a good criterion for a working definition. Critics have also pointed out that by calling these experiences REDs, Parnia and colleagues confuse death with the process of dying (Martial et al. 2022, 12) and that it is not justified to disqualify NDEs not related to cardiac arrest (CA) as somehow inauthentic (Evrard et al. 2022, 6–7).

However, I do appreciate Parnia and colleagues’ intent—to try to distinguish conceptually between experiences involving CA and the resulting electrocerebral

(near) silence and all other human experiences. This is necessary because there exists a growing body of research on large overlaps in the phenomenology of NDEs and various other human experiences such as meditative, psychedelic-induced, and mystical states (e.g., Woollacott and Weiler 2025; Fritz et al. 2024; Sweeney et al. 2022; Greyson 2014a). These overlaps are astonishing first and foremost in the case of CA-related NDEs, because according to the existing neuroscientific consensus, no one with a flatlined brain should have any conscious experiences at all. But people do. So, it makes conceptual sense to view these conscious experiences as a subclass of NDEs. But since Parnia and colleagues' neologism, RED, so far has not found much support in the field, I will continue using Marjorie Woollacott and Marina Weiler's phrase "cardiac-arrest-related NDEs" to point at this subclass (Woollacott and Weiler 2025, 10).

The best currently available experimental study of CA-related NDEs is Parnia and colleagues' AWARE-II. It was conducted in several phases between 2013 and 2023 (in twenty-five intensive care units, mainly in the United States and the UK) on 567 patients who were being resuscitated from CA. Resuscitation was successful in 9.3% of cases, which is a fairly common outcome. 39.3% of survivors reported conscious episodes during CA. Of these, 21.4% met the definition of CA-related NDE (Parnia et al. 2023, 109903). Importantly, the patients' brain electrical activity (EEG) and oxygenation were monitored during resuscitation (CPR). Following CA, the brains of the patients flatlined as expected. However, despite CA, brain electrical activity paradoxically reappeared in these patients. Parnia et al. (2023, 109903) explain:

Importantly, near-normal/physiological EEG consistent with consciousness also emerged: delta, theta activity in 22% and 12% respectively (up to CPR 60 minutes), alpha 6% of data/images (up to CPR 35 minutes) and beta 1% . . . The relative frequency of near-normal EEG patterns declined over time, especially after 50 minutes of CPR. In parallel, there was a relative increase in suppressed (absent) EEG.

These (and similar—see later) results seem to lend support to the idea that no matter how lucid and transcendent CA-related NDEs may be, they can nevertheless be explained in terms of brain activity. However, things are not so straightforward. First, as Parnia (2024, 104) himself argues (in his recent book *Lucid Dying*, which is basically a contextualized expansion on AWARE-II findings), if these perimortem brain activations were to be seen as *the* neurophysiological basis of NDEs, then one would have to explain how can the brain "drive itself" with no metabolic fuel (recall that the AWARE-II patients were in CA).

The second clue comes from the (kind of sarcastic) expression "near-normal EEG" in the aforementioned quote. It hints at a tacit metaphysical assumption that investigators have so far gotten away with and that has resulted

in radically inadequate frameworks for the task at hand. When clearly exposed, this misleading assumption undermines almost all the theoretical explanations of NDEs so far proposed. It is the idea that except for this-or-that irregularity, the rest of the brain works more or less normally during NDEs (recall the phrase “near-normal EEG”; Annabel Parts and I have previously termed this schema the another-day-at-the-office model [Karo and Parts 2024, 52–55]). But NDEs (or at least CA-related NDEs) are not another day at the office. The patients in AWARE-II had CA and flatlined brains. According to the existing neuroscientific consensus, no one should have any conscious experiences under such circumstances—because consciousness is supposed to be derived from complex and precisely orchestrated interactions between groups of neurons all over the brain. And yet we have empirical evidence that consciousness is possible during CA.

I will come back to Parnia’s findings on perimortem brain activations later in discussing the related gamma burst theory of NDEs. For now, I want to briefly outline how the bona fide another-day-at-the-office assumption has blinded researchers in framing the problem adequately. In doing so, I rely on Bruce Greyson, Emily Williams Kelly, and Edward Kelly’s magnificent meta-analysis “Explanatory Models for Near-Death Experiences” (Greyson, Williams Kelly, and Kelly 2009). The paper appeared in *The Handbook of Near-Death Experiences* (Greyson et al. 2009), which was dedicated to the thirtieth anniversary of research into NDEs and has proven to be an invaluable resource to anyone seriously interested in the subject matter. In their meta-analysis, Greyson and colleagues gather and review all the theoretical explanations of NDEs available at the time and show convincingly where they fail. Except for the gamma burst theory that emerged a couple of years after the publication of the paper, the conclusions of the meta-analysis are still valid.

Broadly, the theoretical explanations of NDEs divide into two categories: psychological and neurophysiological. In both cases, the discussion is framed by the neuroscientific consensus referred to at the beginning of this article. Also, fragments of psychological and neurophysiological reasoning may be combined in various constellations to achieve greater flexibility and credibility. However, the main types of arguments in both categories have remained relatively unchanged over the course of the entire discussion. The stalemate derives from the fact that even though some elements of NDEs seem to be explainable in terms of unusual death-related brain functioning, some of these experiences take place under conditions in which any conscious experience should be precluded *by the same neuroscientific consensus*.

Let me now highlight how this stalemate figures in Greyson and colleagues’ list of NDE theories. Starting from the psychological explanations, these authors divide the theories into four groups: (a) those based upon **expectations** (the idea that NDEs reflect culturally acquired expectations about death and are

essentially a psychological defense mechanism against the threat of death); (b) those based upon **depersonalization** (the idea that alienation from one's body helps alleviate the stress of death); (c) ones relating NDEs to **birth experiences**, and (d) ones based upon specific **personality traits** (the idea that people with NDEs have personality traits that favor vivid fantasies) (Greyson, Williams Kelly, and Kelly 2009, 214–17).

Greyson and colleagues reject all of these theories. As to (a), the contents of NDEs are often in strong conflict with the experiencer's previous beliefs. As to (b), while NDEs do often contain a sense of separation from one's body, they do not lead to alienation from reality. Instead, a *heightened* sense of reality is reported. In addition, depersonalization is usually perceived as frightening, while NDE-related episodes are not. Group (c) is related to Stanislav Grof's (1975) controversial theory of basic perinatal matrices. The idea is that the bright light at the far end of a tunnel typical of NDE phenomenology represents a reactivation of one's experience of birth. The main objection, of course, is that with the normal birth position, one should have no recollection of seeing a light at the end of a tunnel. Also, if this were *the* explanation for NDEs, those born by Cesarean should not have the relevant memory imprint. As to group (d), even if people with NDEs did have an above-average imagination, this would not disqualify the authenticity of their NDEs (Greyson, Williams Kelly, and Kelly 2009, 214–17).

Even if one were to ignore the nuances of Greyson and colleagues' well-weighed objections, there is a more fundamental problem with all the psychological theories of NDEs. Namely, they all assume that except for the unusual death-related conditions in the brain, the psyche is relatively intact, trying to make sense out of what's happening. But this is a huge leap of faith given that following CA, the brain flatlines in ten to twenty seconds. What, exactly, would hold the psyche up and running through CA? Some of these fragments of theory might be applicable to situations *close* to death. But they fail to seriously address the question of how hyperlucid consciousness can be present when brain function is severely compromised or lost. In the aforementioned terms, all of these theories only make sense if one assumes that except for this-or-that aspect, the rest of the brain/mind works more or less normally. In the case of CA-induced electrocerebral (near) silence, this is simply not the case.

With the neurophysiological explanations, the situation is more complex. Based on Greyson, Williams Kelly, and Kelly's (2009, 217–22) analysis, three main lines of reasoning stand out: (a) those based on CA-related anoxia/hypoxia and/or hypercarbia; (b) those based on perimortem chemical changes in the brain (the effect of various psychoactive substances in the dying brain); and (c) those based on epileptic-like (hypersynchronous) activity in the temporal lobe. The common denominator of these theories is that, essentially, they all reduce NDEs to hallucinatory episodes created by the dying brain. The strength of

the first type of theories is that they take seriously the radical effects CA has on the brain. If consciousness is indeed what brains do, then clearly, if the brain is cut off from normal metabolic “fuel,” one should expect radical alterations in consciousness (in fact, its rapid loss). As Greyson and colleagues point out, the theory of hypoxic hallucinations relies on parallels between these and the dreamlike episodes experienced by fighter pilots under rapid acceleration (e.g., tunnel vision, bright lights, a sense of floating). However, the primary features of hypoxia do not correspond to the rich phenomenology of NDEs. Hypoxia results in fragmentary, memory-compromising, and confusing effects for the experiencer. In addition, it rapidly leads to loss of consciousness. NDEs, on the other hand, are hyperlucid, deeply meaningful to the experiencer, highly structured, and profoundly emotional (Greyson, Williams Kelly, and Kelly 2009, 217–18). This is in stark contrast with what one would expect from a hallucination. The same is true for theories based upon the hypercarbia resulting from cessation of blood flow in the brain. In addition, if the hypoxia/hypercarbia hypotheses were true, people should have NDEs whenever there is hypoxia or hypercarbia, which is not the case.

As to the theories of psychoactive substances, there are plenty available. Numerous studies have been conducted, for example, on the phenomenological parallels between NDEs and ketamine-induced experiences (Muetzelfeldt et al. 2008; Sweeney et al. 2022). There is no doubt that various psychoactive substances can produce altered states that have phenomenological parallels with NDEs. However, there are two things to keep in mind here. First, parallels and similar effects are not the whole story. For example, Mary Sweeney and et al. (2022, e0271926) have thoroughly compared NDEs to states attained via various psychedelic substances. Bruce Greyson (2014a, 298–310) has compared mystical experiences and NDEs, finding large overlaps in their phenomenology. However, one should be very careful not to ignore the *differences* between NDEs and other human experiences. As Greyson himself writes: it is easy to explain NDEs away by ignoring features we do not understand. He adds, “[O]f course there is nothing paranormal about near-death experiences if one ignores all the paranormal features” (Greyson 2014b, 127). After all, it is not at all surprising that CPR (combined with the huge dosages of various substances administered) can induce various hallucinatory episodes similar to psychedelic ones, delirium, etc. But fragmented hallucinatory episodes are nothing like the highly structured and multidimensional core NDE. Using artificial intelligence and content analysis, Parnia shows that it is impossible to ascribe the clearly structured and meaningful elements of NDEs to hallucinatory episodes or the like (Parnia 2024, 167–83).

Second, many of the existing studies conducted on the parallels between NDEs and psychedelic substances fail to take seriously the loss of brain activity during CA. There is no point in talking about the effects of ketamine

in inducing NDEs when the brain upon which ketamine should act has shut down. As Greyson, Williams Kelly, and Kelly (2009, 219) put it, “Furthermore, ketamine typically exerts its effects in an otherwise more or less normal brain, whereas many NDEs occur under conditions in which brain function is severely compromised.” It is easy to see from this quote that all of the explanatory hypotheses in this class are examples of the another-day-at-the-office model. They ignore the highly unusual state of the brain during CA and its implications for consciousness.

The last theory Greyson and colleagues address in their meta-analysis is that of perimortem epileptic activity in the temporal lobe. I have analyzed the theory in my previous paper on ecstatic seizures within the context of mystical experiences (Karo 2014). Intriguingly, in the same year, Greyson (2014a) published a paper in which he compared the phenomenology of NDEs with that of mystical experiences. As already pointed out, he found wide overlaps between the two. This suggests there might be ways to experience something similar to NDEs while one is still alive—an idea to which I return later. In addition, AWARE-II did find perimortem epileptic activity in 5 percent of the dataset (Parnia et al. 2023, 109903). This seems to lend support to the general idea. However, Greyson and colleagues firmly reject the conjecture. In discussing the related idea of trying to evoke NDEs by electrical stimulation of the temporal lobe, they argue:

However, electrical stimulation of the cortex is *not* like physiological electrical activity and does *not* result simply in localized “activation” of the stimulated region . . . [I]ts predominant effects are disruption of electrical activity in the immediate vicinity of the electrode, accompanied by abnormal patterns of discharge into additional cortical or subcortical areas to which the stimulated cortex itself is linked. These remote influences, moreover, may be *either* excitatory or inhibitory in character. The net result of electrical stimulation, as with epileptic seizures, is a poorly controlled, poorly characterized, and spatially widespread pattern of abnormal electrical activity. (Greyson, Williams Kelly, and Williams 2009, 219)

The latter results in fragmentary, dreamlike, and often frightening hallucinations rather than coherent, hyperreal experiences. According to the authors, the fact that the vast majority of patients with right mesial temporal lobe epilepsy do not experience anything even remotely resembling an NDE in connection with their seizures speaks strongly against the epilepsy model (Greyson, Williams Kelly, and Kelly 2009, 222). In other words, while epileptic-like activity in the mesial temporal lobe might somehow be correlated with both mystical and death experiences, it cannot be their root cause. The general conclusion of the meta-analysis is:

While physiological, psychological, and sociocultural factors may indeed interact in complicated ways in conjunction with NDEs, theories proposed thus far consist largely of unsupported speculations about what might be happening during an NDE. *None* of the proposed neurophysiological mechanisms have been shown to occur in NDEs . . . Furthermore, some of these proposals, such as the role of expectation or the presence and effects of anoxia, are *inconsistent* with what few data we do have. (Greyson, Williams Kelly, and Kelly 2009, 225)

Fifteen years later, and especially after AWARE-II, some emphases in the field have shifted (see following section) but fundamentally, the diagnosis of stalemate still stands. The existing consensus posits that conscious activity relies on precisely coordinated interactions of groups of neurons all over the brain. During CA, this is not possible. Even if there is some residual subcortical activity around the brainstem, this cannot be made responsible for hyperlucid and life-changing NDEs. Yet, people place their vivid death-related experiences precisely into periods when they could not, in medical terms, be conscious. The usual tactic to get around this problem has been to attribute NDEs to something that happens either prior to actual CA or hallucinations and delusions associated with regaining consciousness (e.g., Martial et al. 2022, 12). But this—to refer to Parnia and colleagues' definition cited earlier—should be precluded from the very start. CA-related NDEs are not another day at the office. People have them while their brains are flatlined or seriously compromised. To deny that is to go directly against existing empirical evidence. Unless . . .

### **The Zombie Scenario: Dead Brains Back Online**

. . . Unless one is ready to accept that the brain can be active without normal metabolic input from bloodstream. This idea runs directly against the existing neuroscientific consensus, but there is a growing body of evidence for it. Recall the earlier quote on brain activity during CA (from AWARE-II). The brains of the patients flatlined as expected. But paradoxically, measurable activity reappeared for as long as sixty minutes into CPR. One possible explanation is that this activity is the result of CPR itself. However, there is evidence that such perimortem activations are also detectable when no CPR is involved, and not only in humans.

In 2013, Jimo Borjigin et al. (2013) published a paper in which they introduce a novel theory for the neurophysiological basis of NDEs. It is based upon paradoxical post mortem bursts of high-frequency electrical activity in the brains of rodents. In commenting their results, the authors write:

These data demonstrate that cardiac arrest stimulates a transient and global surge of synchronized gamma oscillations, which display high levels of interregional coherence and feedback connectivity as well as cross-frequency coupling with

both theta and alpha waves . . . [T]he data suggest that the mammalian brain has the potential for high levels of internal information processing during clinical death. (Borjigin et al. 2013, 14435–36)

Today, this is known as the gamma burst theory of NDEs. In fact, one of the reasons Parnia and colleagues wanted to measure brain activity on CA patients was to find evidence for this theory. While they did not find activity in the gamma bandwidth, they did find measurable electrical activity. One of the most commented on cases that has been used as evidence for gamma bursts in humans is Raul Vicente et al.'s (2022) case report from a eighty-seven-year-old patient who died under controlled conditions and in whose brain the researchers registered perimortem activity in the gamma bandwidth. In fact, though, evidence for such bursts of activity was already forthcoming in 2009 when Lakhmir Chawla et al.'s (2009) published a case report on seven patients who showed brain activity after CA and clinical death.

Generally, researchers in the field now more or less agree that paradoxical perimortem bursts of activity are a mammalian universal (see Shaw 2024, 674). The real question, however, is what to make of these bursts. The crucial problem is: Can these bursts explain the multidimensional, deeply structured, and hyperreal phenomenology of NDEs, or are they simply random residual activity in the dying brain (that may or may not have something to do with conscious experience)?

To my best expertise, existing evidence favors the second option. First of all, as Parnia elegantly argues, if one were to maintain that these perimortem bursts of activity come together to form an integrated and hyperlucid conscious experience, then according to textbook neurology, the brain would need a lot of energy and metabolic input. But during CA, there is none. Unless one speculates that the needed energy comes from an unknown external source (which is actually the view Parnia himself defends), this argument runs directly against everything we think we know about the basics of human physiology (Parnia 2024, 104–5). Metaphorically, accepting this hypothesis would mean buying into the argument that a car with an empty tank, dead battery, and missing driver can still go for a ride. Moreover, going along with this explanation would render the whole scholarly pursuit for the neural correlates of consciousness useless. Because the entire program relies on close correlations between patterns of cerebral blood flow and differential activity in particular brain areas.

In fact, I suspect that buying into this hypothesis leads to a *reductio ad absurdum* of the naturalist explanations of consciousness. Because essentially it would mean that live brains and dead brains can create similar consciousness, where dead brains may actually be better at it, given the hyperlucid quality of NDEs in comparison with normal waking consciousness. For the naturalist

interpretation of the gamma burst theory to work, its proponent should (a) show that the perimortem bursts of activity are really gamma, clearly and recognizably patterned and engaging the whole brain; (b) prove that these bursts are comparable in intensity to the electrical patterns typical of normal waking consciousness; and (c) explain how the brain can give structured and continued output with no metabolic input.

A successful naturalist answer to (c) would be a pyrrhic victory because it would result in having to rewrite the basics of textbook neurology. As to (a) and (b), the existing evidence is controversial, to say the least. As pointed out earlier, the whole theory is derived from Borjigin's et al.'s (2013) original experiments with rodents. The importance of gamma in the theory—as Parnia (2024, 67) puts it—lies in the (reasonable) speculation that hyperlucid consciousness should be associated with even higher frequencies of electrical activity in the brain than the normal beta rhythm of everyday waking consciousness. However, as Nigel Shaw (2024, 674) points out, the etiology and electrogenesis of the gamma rhythm is unclear. So is its relation to cognitive processes. There exists a body of experimental results that links hyperlucid consciousness to slow theta activity instead (for a relevant discussion and further references, see Bajjal and Srinivasan 2010). While *AWARE-II* revealed some measurable activity during CA, none was in the gamma spectrum. Moreover, as Greyson and Pim van Lommel (2024, 109924) argue, in all likelihood, this activity was a measuring artifact related to chest compressions, because none of the subjects in whom Parnia and colleagues found perimortem electrical brain activity actually reported an NDE. From Chawla and colleagues' aforementioned case report on seven dying patients, only one is said to have had activity in the “high” frequency range.

As to Vicente and colleagues' famous case report, it has been heavily critiqued. Greyson, van Lommel, and Peter Fenwick (2022) have shown that the gamma activity in the patient was not, in fact, a burst. What is reported by the Vicente and colleagues is rather enhanced gamma in comparison with alpha, beta, and theta, which was, further, only measurable against the background of the relative electrocerebral silence associated with CA. They also hypothesize that the gamma activity the researchers found may not have been at all be related to cognitive functions. Again, it may just as well have been related to residual muscle contractions in the body of the patient. In addition, different measures used in the case report cannot be precisely time matched, and it is difficult to decide when exactly the heart stopped relative to the enhanced gamma activity (Greyson et al. 2022, 1–2). Shaw also suspects that the perimortem bursts of activation may be artifacts reflecting residual muscle tensions. His own proposal is that the gamma bursts reported by the researchers are actually of amygdalar origin. If so, it is highly unlikely they can be used to explain the nuanced and lucid phenomenology of NDEs (Shaw 2024, 674).

Taken together, I do not think the naturalist interpretation of the gamma burst hypothesis is defensible. It is much more likely that the perimortem bursts represent (random?) residual activity in the dying brain that may or may not have something to do with consciousness. Greyson et al. (2013, 47) are even more skeptical, arguing that Borjigin's original findings and the resulting explanatory hypotheses have no relevance to NDEs at all. The core NDE is far too multilayered, complex, and nuanced to be explained away by random(ish) flashes of dying neurons (in other words, dismissed as complex hallucinations created by the dying brain). Also, if viewed in the light of the another-day-at-the-office model, it is at once clear that the naturalist interpretation of the gamma burst theory also falls into this class. But, to repeat it one more time, NDEs are not another day at the office. They deserve much more credit than the naturalists are willing to grant them.

### **Occam's Razor and the Inverted View**

My own proposal is that in order to arrive at a workable framework for analyzing CA-related NDEs, we need to turn to what I call the "inverted view." The idea is that some mental states may be better understood in terms of deactivations rather than activations. Recall from Greyson, Williams Kelly, and Kelly's (2009, 219) earlier quote: brain activity may be inhibitory as well as excitatory. As a matter of fact, normal waking consciousness can be seen as the end product of a series of perceptual filters that sort out which bits of information get through. Parnia calls these filters braking systems and points out that they are of vital importance to how we make sense of the world. Without these brakes, one's consciousness would at once be overloaded, and concentration on anything would be impossible (Parnia 2024, 90).

However, there are states during which some of these brakes are released temporarily. Intriguingly, one such state is orgasm. While the more recent data on this are controversial, Janniko Georgiadis et al. (2006) have published a paper in which they claim that the female orgasm is better described in terms of what brain areas are deactivated than in terms of those activated. In fact, the authors use the metaphor of blackout to summarize the effects of orgasm on the brain. While most existing neuroscientific studies on religious and spiritual experiences have been concerned with what brain areas are active during various spiritual practices, Andrew Newberg and colleagues have for thirty years been developing a theory that explains mystical and other spiritual altered states in terms of deactivations in areas of the brain that are implied in maintaining our sense of self. In his recent book *Sex, God, and the Brain*, Newberg (2024, 76–78) reports deactivations in the superior parietal lobule, precuneus, frontal areas, anterior cingulate cortex, and the insula related to a spiritual practice called orgasmic meditation. These are all regions that have previously been linked to the formation of our sense of self (McNamara 2009, 60–61) and that have

also come up in Newberg's own earlier studies. This may mean that the brain mechanisms of deep spiritual ecstasy and orgasmic bliss are closely related and can be described in terms of a temporary release of perceptual brakes with regard to normal waking consciousness. This view has recently been corroborated by Woollacott and Weiler (2025, 4–10) in a paper in which they argue that deep meditative states, the influence of certain psychedelic compounds, and NDEs can all be explained in terms of reduced activity in what they call the default mode network.

Returning now to NDEs: the loss of consciousness following CA is the most radical blackout there is in the aforementioned sense. Whatever perimortem activations have been observed in existing studies, they have only come forth against the relative electrocerebral silence associated with CA (Shaw 2024, 674). While usually this silence has been assumed to mean the loss of consciousness, Parnia thinks otherwise. He views the relative electrocerebral silence in terms of the release of everyday perceptual brakes and hypothesizes that CA induces a vast expansion of consciousness rather than its loss. The idea being that the blackout associated with CA allows the deeper layer of who we are to emerge into consciousness (Parnia 2024, 103).

In making his point, Parnia refers to the experiences of his colleague Bob Montgomery upon several consecutive episodes of CA: with every successful resuscitation, Montgomery felt how the vast and utterly real expanded consciousness was “drowned out,” collapsing into a shrunken and limited state. Montgomery recalls that it feels “as if my whole earthly experience comes rushing back into this body vessel and fills it, and that transcendent consciousness starts to get drowned out and disappears into the background” (Parnia 2024, 117). In short, the idea is that at least in its early phase, death is associated with a vast expansion of consciousness enabled by the release of perceptual brakes that are essential for coping in everyday life but no longer necessary in death.

I do not necessarily agree with Parnia's further interpretation of AWARE-II findings. But I do find it useful to conceptualize both NDEs and various spiritual states in terms of the release of perceptual brakes (the inverted view, as I call it). Because this may provide a solid basis for the claim that brains do not create consciousness. Rather, they mediate and modulate it. I pointed out earlier that a naturalist interpretation of the gamma burst theory may lead to a *reductio ad absurdum* of the materialist hypotheses on the nature of consciousness. I will now try to show why I think substance dualist arguments are more viable within this context.

Starting from the obvious: ten leaking buckets put together do not hold water better than one. In discussing Greyson and colleagues' meta-analysis of the older theories of NDEs, I showed that none of those theories is satisfactory. While anoxia/hypercarbia and various endogenous psychoactive substances may have a part in facilitating death-related phenomena, they fail in taking

seriously enough the very unusual state of the brain during CA. Again, there is no point in discussing the mind-altering effects of ketamine when the parts of the brain sensitive to it have shut down. Further, yes, epileptic-like patterns may be traceable in patients during CPR, but it is difficult to see how these could result in lucid and hyperreal experiences that would normally imply a brain that is more active and functional than during usual everyday consciousness.

As to the gamma burst theory, even if one were to be able to show that the brain creates specific and recognizable patterns of gamma waves following CA, the questions would still remain: Are these patterns related to conscious experience at all? And, more importantly, how would this kind of activity be possible (given our current knowledge of how the brain works)? The empirical evidence we currently have tends to rather favor the hypothesis of residual activity in the dying brain.

Of course, investigators are not unaware of these difficulties. In trying to meet this challenge, they often link existing fragments of theory together to achieve greater explanatory power and credibility. But again, ten leaking buckets brought together are just as useless as one. In terms of Occam's razor, each of the discussed theories would be simpler and therefore preferable to dualist arguments if they worked. But they do not. Linking them together, therefore, means trying to fix a leaking bucket with another leaking bucket. From this perspective, the resulting set of explanations is no longer simpler and therefore preferable to dualist arguments. In fact, from this perspective, these naturalist attempts to account for consciousness during CA start to look like defective ad hoc means to avoid the dualist implications of the existing evidence (i.e., the first-person accounts of NDEs). And this is certainly no sign of good science.

Instead, I think what is needed is taking the witness accounts seriously and leaving open the possibility that consciousness can indeed continue in some form during CA and clinical death. If not for anything else, then for the fact that even though the naturalist theories may be simpler, they are utterly unconvincing from the perspective of the current neuroscientific consensus. The paradoxical conclusion that live brains and dead brains can come up with the same kind of consciousness is, to my mind, the final nail in the coffin of simplistic materialist reasoning. We need to do better and go back to the drawing board. Revisions should start from the slogan "consciousness is what brains do." A better starting point would be "consciousness is what gets through the system of our physiological perceptual filters/brakes." Their fundamental basis may or may not be in the brain, but NDEs are living witnesses to the conclusion that there is more to human psyche than our current consensus grants.

A good and workable theological framework for such a revision comes from Robert John Russell. In discussing the empty tomb tradition, he argues that resurrection should be viewed from the double perspective of both continuity

and discontinuity between Jesus of Nazareth and the risen Christ. Russell (2012, 999) writes:

In this view, the empty tomb plays a key role in pointing to an irreducible element of *physical/material continuity* within the overarching presence of *discontinuity*. By analogy, the transformation of the world happens not only synchronically at the end of time but also diachronically throughout the entire course of world history.

I believe the same idea can be fruitfully applied to NDEs as well. As pointed out, the existing fragments of naturalistic explanations of death-related phenomena have serious shortcomings, and almost all of them imply tacitly that in one or another way the brain operates more or less as usual in creating them. In Russell's terms, the naturalist explanations try to do away with the core NDE by viewing it only from the continuity axis. But if Parnia is right in that CA actually triggers a vast expansion of consciousness facilitated by the release of normal perceptual brakes, then this allows for an interpretation that the core of NDEs is the breakthrough of our deepest, not necessarily material, essence into consciousness. In Russell's terms, this would be represented by the axis of discontinuity in the phenomenology of NDEs.

This is not to say that the continuity axis is irrelevant. After all, people who have come through CA and NDEs mediate their experiences via their normal physiological perceptual apparatus. Also, investigating how the brain acts (or does not act) during CA is highly important in understanding how it mediates and modulates our experiences. But limiting the study by the assumption that whatever the phenomenology of NDEs is, it must at all costs be explainable only in terms of brain activity is bad science. Because it involves prioritizing a metaphysical assumption over first-person accounts. In my view, not only NDEs but also altered states attained via, say, meditation or yoga may be explainable in terms of the release of the usual perceptual brakes that normally filter out the direct experience of who we are on a deeper level. The slogan should be "more credit to firsthand accounts and fewer metaphysical assumptions." If this slogan is taken seriously, then the age-old idea that we are more than our bodies gains fresh credit from the documented cases of CA-related NDEs.

### **Earthbound Animals and Skybound Lovers: A Theological Sketch**

I'm not offering good old substance dualism as a replacement for the existing naturalist consensus. Doing that would mean simply changing one (poorly founded) metaphysical framework for another. But I do find it interesting that developmental psychologists hold belief in souls to be a human cognitive default (Bering 2006; Bloom 2007). I also find it intriguing that people tend to

be entirely okay with the phrase “I have a body” but not with the phrase “I am a body.” In the firsthand descriptions of NDEs, the discovery that “I’m still here but no longer connected to my body” is one of the most frequent elements. Recall also the earlier quote by Bob Montgomery. Our normal (?), everyday consciousness may essentially be a very limited and filtered shadow of who we really are.

Serene Jones has offered a beautiful metaphor for *conditio humana* along the same lines. According to her, we are at the same time both earthbound animals and skybound lovers (Jones 2010, 301). Substance dualism or not, I think Jones has hit something fundamentally important about human nature with this metaphor. The original context of Jones’s sentence is Christian sexual theology. But I think the idea can be generalized to NDEs and some other unusual states. The existing theories of NDEs usually only address the earthbound animals (or the axis of continuity, in Russell’s terms). But that is not all that we are. We are just as fundamentally skybound lovers. Intuitively, we all know that. But until very recently, science has more or less ignored it. The result of this in Western countries has been an epidemic of alienation and mental health issues. Carl Jung (1988, 101–3) speculated already in the middle of the twentieth century that ignoring the transcendent function of the psyche leads to shallow and unhealthy thinking and, ultimately, broken souls. Within the context of the foregoing, I think it is the ultimate time to take Jung seriously on this. What if Plato (2003, 69e–84b) was correct right from the beginning in *Phaedo* that our essence is not from this world? What if St. Paul’s words “for now we see only a reflection, as in a mirror, but then we will see face to face; now I know only in part; then I will know fully” in 1 Corinthians 13:12 are literally true? In the aforementioned light, it is certainly not unreasonable to think so.

In fact, I think the metaphor of earthbound animals and skybound lovers can be used, within the context of NDEs, to sketch a wider theological framework within which to view various spiritual experiences and the problem of transcendence versus immanence. Karl Barth (2013, 295) once famously remarked, “[A]s theologians we should speak of God. But we are humans and as such cannot speak of God. We need to be aware of both, our duty and our inability, and so give God the glory.” When it comes to the discontinuity elements in NDEs, one is faced with the same dilemma. Again, there is nothing paranormal about NDEs if one ignores all the paranormal features (Greyson 2014b, 127). But it is precisely these features that make NDEs interesting, both neuroscientifically and theologically. Russell’s quote on the empty tomb and Jones’s metaphor seem to offer at least a hint of a way out of this impasse.

The context of Russell’s point is the friction between eschatological hopes and scientific scenarios for the end of life on Earth. Just like I have argued in this article, he also points out that the problem is not in scientific data but in hidden metaphysical assumptions, specifically the idea that events predicted by

theories must come to pass. He asks if the laws of nature are descriptive or prescriptive and then argues for the former. The idea is that the eschatological New Creation is not, in fact, entirely new—elements of it are already traceable in the existing world (Russell 2012, 1006–7). Just as there is both a continuity and discontinuity between Jesus and the risen Christ, there is also both a continuity and discontinuity between the existing world and the New Creation.

Now, NDEs and the metaphor of earthbound animals and skybound lovers can be viewed in the same framework. While it is true that it is nearly impossible for an earthbound animal to directly understand her skybound nature (Barth's problem), the continuity elements between the two may give her insights into it. In other words, there is every reason to believe that there might be traceable skybound elements in the earthbound animal. If I were asked what these were, I would point at the theological discussion of the so-called signs of transcendence and the related arguments from desire. A thorough analysis of these is found in Joe Puckett's (2012) *The Apologetics of Joy*, but in short, as I have argued previously, these signs are humor, beauty, play, and love (Karo 2017, 248–49).

Especially important among these—when it comes to the discontinuity elements in NDEs—is love. The vast majority of NDE descriptions are rife with various hints to all-encompassing love as the core element of the experience. My (and not only my) suggestion is to view love as the already present “foretaste” of what will be finally revealed about our deeper nature once we depart from this world. In this view, love is a basic force of nature and also our own basic core. Naturally, for an earthbound animal, it is always tainted by selfish motifs, but could it be that what people with NDEs report is a direct “flash” of what our deeper nature truly is? Into who we really are deep inside? And what God is?

## Conclusion

When I subtitled my article *Near-Death Experiences in their Procrustean Bed of Nothing-Buttery*, I had two things in mind. First and foremost, I wanted to clearly expose the tacit (and scientifically unnecessary) presumptions behind existing neuroscientific theories of NDEs. To my best understanding, most of these theories truly are what is sometimes called nothing-buttery. I am also firmly convinced that to approach NDEs with a materialist mindset is a bad strategy because it draws attention away from the central problem in investigating NDEs—the discontinuity elements in them. Woollacott and Weiler's concept of perceptual brakes and their release during NDEs and other non-ordinary experiences seems much more promising because it leaves the door open to other possibilities.

My second main point—not explicitly discussed in the text but palpable behind it—is that not only are NDEs in an uncomfortable Procrustean bed, but

so are we. It is truly amazing that in the wake of twentieth-century behaviorist science we are still okay with people explaining away our own basic nature. Quoting Jung (1988, 102), “Man’s greatest instrument, his psyche, is little thought of, and is often directly mistrusted and despised. ‘It’s only psychological’ too often means: it’s nothing.” If we continue to downplay the fundamentality of our psyche and the related spiritual “drive,” it is likely that the current pandemic of mental health issues will continue. Yes, we are cute earthbound animals. But we are also skybound lovers. We are *not* another day at the office.

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