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Recollected experiences of death as boundary situations

Introduction

Jaspers introduced the technical term “boundary situations” into the vocabulary of intellectuals, far beyond the realm of psychology and psychiatry. Unfortunately, this has led to an inflationary use of the term. It often means little more than “a transformative experience”. For Jaspers, however, the term is much more specific. Death, despair, and radical failure (Scheitern) are boundary situations. In the boundary situation, the human person undergoes a dramatic shift, an awakening, which Jaspers calls “existence” (Existenz). Existence is necessarily antinomic. In boundary situations, the shell that protects humans from the contradictions of existence breaks down. The continuity of life as it has been is suddenly interrupted, the uncertainty of existence is revealed.

A boundary situation is thus not something entirely objective which can be fully described from a detached external perspective. The boundary is an existential experience, a break-through situation. It is through this experience that humans transcend the limitations of everyday life and enter the realm of true existence as a self-determined individual. “To experience boundaries and to exist is the same” (PhII: 204). It is easy to see how despair and failure can be experienced in a way that dramatically interrupts the flow of everyday life. In those situations, a person has to transcend the shattered certainties of everyday life in order to find meaning in a transcendent way. It is much more surprising that death is also considered a boundary situation. Death, as opposed to despair and failure, is never experienced. So, what is the experience associated with the boundary situation of death? I will argue that in the boundary situation of death there is indeed no experience of death. Death is rather represented as an inescapable event in the future. There is however a boundary situation in which death is being experienced. It is not included in Jaspers’ list of boundary situations. And it is exactly this boundary situation overlooked by Jaspers that is the topic of this paper.

The experience of a boundary

How is a limit, a border experienced? What is a boundary in experience?

The conceptual definition of the border has a dual character. On the one hand, the boundary marks an end. A movement, mental or physical, encounters an obstacle and cannot be continued. It comes to an abrupt halt. A river encounters an obstacle, a dam, which represents an impenetrable resistance. A train of thought leads to an impasse which does not allow it to be continued. Mathematically speaking, a limit value is one that can be approached, but not be fully reached. In that sense the limit is simply a stopper. This is the first sense of a boundary. However, the mathematical limit can be either “zero” or “infinite”. In the latter case, the limit is not an end, but the transcending of any end. One difference between Heidegger’s and Jaspers’ concept of “Dasein”, the relevance of which can hardly be underestimated, is that for Jaspers, Dasein necessarily implies a reference to transcendence. This lies in the nature of the boundary experience, which implies both an ending and the transcendence of a limitation. This dual character of the end on the one hand and the transcending of an end is implicit in every existential boundary experience. The existential boundary can therefore only be experienced in “floating suspension” (*Schwebe*). A natural boundary, for example between two spatial regions, is always both an end and a transition to what lies beyond the boundary. In a similar way a boundary experience is also the experience of that which lies beyond the boundary. Hermeneutically, one can say that a border can only be recognised as a border if one has at least the idea of something which lies beyond the border. Otherwise, it would not be a border, but a mere ending. However, the positive content of the other side beyond the boundary can be minimal, perhaps presenting itself only as a possibility, but not as actuality. In any case, it is a form of transcendence.

Human existence is by its very nature transcending all boundaries, even the radical division of subject and object, that marked modern post-Cartesian philosophy. The human mind aims for the all-encompassing (*das Umgreifende*) which is transcended. Jaspers develops the notion of a boundary situation most profoundly in the second volume of his “Philosophy” (PhII) which is entitled “The Elucidation of Existence”. Here, Jaspers develops his account of “existence”: freedom, boundary situations, and unconditional action are all modes of the elucidation of existence. But the second volume is followed by the third volume on “Metaphysics”. Human existence necessarily progresses from the level described in the second volume to the questions of the third volume. It is the experience of a negation, the experience of failure, the being caught up in unresolvable antinomies that leads to transcendence. At this higher level of experience and reflection, existence encounters the questions of metaphysics. But it cannot be the pre-Kantian metaphysics. Reflection that is not based in experience is empty, not only for Kant, for Jaspers as well. We can only enter the realm of metaphysics if the experience of a boundary contains in itself an experience of the transcendent. Only if an experi-

ence of the transcendent is an intrinsic part of human experience, then metaphysical thinking is not an empty play with words but in itself an integral part of the elucidation of existence.

Death as boundary situation

The ultimate limit of man is death. No limit challenges people more than death. Death is primarily a brute limitation without any experience of transcendence. Nobody has ever experienced death, or so it seems. Death lies outside of all possible experience. Jaspers states that “my death is un-experienceable for myself” (PhII: 222). How can death then be a boundary situation? Jaspers claims that “we become ourselves when we enter the boundary situation with open eyes” (PhII: 204). But how can we enter death with open eyes? The mere thinking about one’s own inevitable death is not an experience of death. The transcendence of death, which has always been a major focus of religion and philosophy, is anything but directly given as regards to its content. Again, if the experience of a boundary intrinsically contains the experience of its transcendence, then death is not the experience of a boundary.

Is death simply the end of a biological process? For Jaspers, death is not merely the end of a biological being, but death is also the intentional object of human and personal existence. Humans are the only beings known to us who, with the awakening of self-reflection, are aware of death as a limit of their own existence. As already Heidegger pointed out: death and existence are deeply connected, human existence is reflective “being towards death”. But where do we find the experience of death as a boundary that contains in it already the transcendence of the boundary? Is it the hope for survival after death? It is at least a logical possibility that our consciousness can continue to exist without the biological body. We cannot discover any compelling logical connection between the existence of our bodies and the existence of our consciousness (Descartes). Therefore, my experience could continue even if my body disintegrates. This possibility has been considered in all cultures and civilisations: death not only as an end, but as a border to another dimension to which we do not yet have access except through our imagination.

Religions have given different answers to this boundary question. However, religions are abstractions of experiences. But what is the experience here? How is death experienced as an existential boundary situation open to transcendence? Are there common, cross-cultural experiences in human history that allow us to experience death as a boundary? Where is the phenomenal place where we can experience this boundary in its double form as end and transcendence? The death

of another cannot be experienced as a boundary in this sense. It is simply experienced as a radical end.

There is no experience of something that transcends the death of another person. Transcendence might be found in the hope that the deceased person will continue to live in the hereafter. Here belief in transcendence is the last resort in the fight against despair and nihilism (PhIII: 233). But we cannot experience this transcendence. What if we first experienced the death of a person and then, while still being in this world, were able to communicate with the deceased in the beyond? There are people who claim to have communicated with the deceased. Such communication, if it were possible, which can be doubted with good reason, would not be the experience of a boundary, but the experience of the absence of a boundary. The dead person is back among the living, albeit in an extraordinary form. Contact with the deceased is not an experience of death, and it is also not a boundary situation. Only one's own experience of a limit, which on the one hand is experienced as hard and insurmountable, but which on the other hand is overcome at least in an initial experience, is really a boundary situation. A boundary experience must encompass the aspects of ending and transcendence. Religious hope in an afterlife undermines, according to Jaspers, the experience of death as an ending. Bravery in the face of death, the end of everything that is important to me, is greatly reduced when notions of the afterlife remove death as a boundary and turn it into a mere transition. Death has thus lost the terror of non-existence. For Jaspers, the hope for a continued existence in an afterlife destroys death as a boundary situation. Similarly, in failure (*Scheitern*), the boundary that is experienced because of the lack of what has not been achieved, i.e. what lies beyond the limitation. The boundary is transcended in failure because its negativity is only experienced as a contrast against the background of the hoped-for fulfillment. If the fulfillment was taken as a given, the border would vanish.

Conscious experience presupposes a contrast. An object is experienced as what it is by contrasting it with what it is not. Our awareness is heightened when things prove to be "unruly", when they confront us with a boundary. Sequences of automatic movements can remain unconscious precisely as long as they are not confronted by any unexpected situations. Consciousness as an act of attention becomes necessary when these self-evident facts are no longer available for pre-conscious experience. For this reason, persons can only advance to full human existence in Jaspers' sense when the self-evident, the commonplace has been cracked to create an opening for something unexpected. This includes the experience of failure and the moment of the contrast of failure with a reality beyond that what has just been lost. This includes also the experience of hope against despair.

But what is the content of such transcendence? Is it a mere subjective feeling without and objective reference? The recognition of reality beyond the boundary goes beyond the subjective experience as a mere phantasma, it contains a metaphysical realism. This is the very dynamics of moving from the elucidation of existence to metaphysics. The transcendent is not merely a regulative ideal of thought. Its recognition is the affirmation of a reality that eludes us. Mere world orientation (Phi) remains on this side of the border. Transcendence lies beyond the boundary. Existence as self-elucidation is realised precisely in this field of tension. If one were to remain in the space of the intersubjectively recognisable, i. e. in the space of knowledge of nature, the boundary would not really be experienceable. The subjective experience, which cannot be reduced to the scientifically given, makes the end of the scientifically explainable tangible. It therefore marks the negative aspect of the boundary experience: the recognition of a limitation. Only the recognition of transcendence, however, reaches beyond the limit. But how can we reach beyond the limit of world-orientation? If intersubjective knowledge in the sense of classical metaphysics were possible beyond the boundary, then the boundary would only be a fence that is overcome by mere thinking. This is not the boundary that corresponds to Jaspers' concept of the boundary. It would be too easy, there would be no failure (Scheitern). In this sense, Jaspers is post-Kantian. He does not want to bring back classical metaphysics. No philosophical system can step into the realm of the transcendent by mere a priori thinking. Experience is needed, and the boundary situation is both an experience of an ending and the experience of that which transcends the end. Jaspers does not want to remain in the realm of the subjective. Our experience does lead us into the realm of the transcendent and the metaphysical. This search for a post-Kantian metaphysics runs through Jaspers' thinking. It is itself a torn thinking, a thinking at the boundary. It cannot remain on this side of metaphysics in pure knowledge of nature, nor can it ever reach a metaphysical knowledge beyond empirical reality. It remains in "limbo" (in der Schwebe). The thoughts of classical metaphysics are "final thoughts" (Abschlussgedanken) that would allow the activity of transcending to reach a goal where it can rest in theoretical contemplation. This is not Jaspers' account of metaphysics.

It is the boundary experience that makes what lies beyond the border tangible, but without ever being able to put it into concepts and words in such a way that it can then belong to the realm of intersubjective knowledge. However, what is grasped in the act of transcending is also not purely subjective. Subjectivity alone cannot establish transcendence. Subjectivity is first and foremost the experience of a boundary in the sense of a double limitation. It is my own experience that must be recognised as such and therefore sets a limit to intersubjective scientific knowledge which cannot grasp my subjective experience. But it is also

only *my* subjective experience and therefore limited by this very subjectivity. This limitation is overcome in the experience of transcendence. It is still my subjective experience, which cannot be objectified. But the content of the experience goes far beyond my subjectivity.

What Jaspers understands by the philosophy of “existence” is neither a retreat into a purely subjective view, nor the renaissance of classical metaphysical objectivism. Rather, there is a dimension of objectivity that is only accessibly in subjective experience. The boundary situation reveals something objective presents in subjective experience. If we were to remain in the purely subjective or the purely objective, there was no experience of a border. There is no satisfactory explanation in scientific thinking for the experience of despair, failure and death. The subjective experience marks a boundary. But in the experience of despair, failure and death, a dimension can open up that extends beyond the subjective experience. The experience of a meaning, a significance that is no longer purely subjective. In Jaspers’ sense, “existence” means living in this tension. To exist in this sense means to have experiences in boundary situations that open up the dimension of transcendence.

But the question remains: Can death really be *experienced* as boundary? Death is arguably the most radical boundary situation. It is a radical limit. But one must argue with Epicurus and Wittgenstein that we do not experience our own death at all, so we can safely banish it from our own existence. But precisely this cannot succeed without self-deception. Even though death cannot be experienced in our daily life, the passage of time can be experienced. Together with the epistemic certainty of the inescapability of death, the passage of time is indeed an experience of loss. Step-by-step, I will eventually lose everything. Death calls into question everything that concerns me existentially: my life goals, my interpersonal relationships and my subjective experience of the world. Everything is destroyed by death. If death is only understood as an end, its destructive power is so unbearable that we must turn away from it. We prefer to turn to the experienced moment in the present and forget the inevitable end in the future. Death is then no longer a boundary situation. If, on the other hand, death is seen as a gateway to another world, then it also loses its character as a boundary, at least in the sense in which we have defined it here. If what lies beyond the limit is already accessible to knowledge, then the dimension of transcendence is missing. Death – or better: living with the certainty of death – is a boundary situation, an intense form of existence.

So, can we normally experience death? No! What we experience is the prospect of death, because we can become aware of our mortality. This is already an experience of transcendence in Jaspers’ sense. Death, the way Jaspers speaks about is the *anticipated* death, the death that enters the realm of the living as a

terrifying *thought*. Death in itself, however, cannot be experienced. Strictly speaking, death remains a radical end. Everything that lies on the other side of death remains unknown to us. No one who has been truly dead has ever returned. Only religious faith might introduce an exception here, but we cannot build a philosophical argument on it. Philosophical belief must do without revelation. And, as we have seen, the certitude of survival given by religious belief system undermines death as a boundary situation, according to Jaspers.

In the following, I will try to make an argument that builds on Jaspers' account by adding a boundary situation related to death that is distinct from Jaspers' analysis of death. While I agree that death cannot be experienced in normal everyday life, I will argue that many human beings are quite familiar with the inner perspective of dying, the experience of one's own death. An important basis for this familiarity is the so-called near-death experience. In them the boundary between life and death becomes permeable. A realm between life and death is experienced that has precisely the character of the experience of a boundary: the experience of a radical border and at the same time the transcendence of this border; and conversely the experience of transcendence without ever completely overcoming the border. It ultimately remains in suspension (in der Schweben). This state of suspension is what constitutes the near-death experience. In it the subject breaks through into existence (Existenz). The true meaning of life is revealed in this situation at the border between life and death. Earlier we noticed that despair and failure as boundary conditions can be experienced, whereas death can only be experienced as an anticipation of the future. Death provokes a boundary situation only by being anticipated in thought and imagination. For Jaspers, death is a boundary situation not because the boundary is fully experienced but rather because the boundary is anticipated. But death can be experienced. There are millions of people who have experienced death and have, in that very experience, broken through into existence (Existenz). According to Jaspers "Existence" and being in a boundary situation are the same. I will thus argue that in addition to despair, failure and death, near-death experiences are genuine boundary situations. So, there are two distinct boundary situations of death: death as anticipated, and death as experienced.

Near Death Experiences (NDE) as recollected experiences of death

In the following I use in selected and adapted form some material from a recent German-language article of mine (Brüntrup 2023) on near-death experiences and

apply it to Jaspers' notion of a boundary situation. People who are on the brink of death due to a medical emergency report intense experiences that lie outside the normal states of consciousness. The frequency of such experiences can only be roughly estimated, as many of those affected do not survive a cardiac arrest. However, empirical data suggests that approximately 20 % of patients in cardiac arrest have such extraordinary states of consciousness (Parnia et al. 2023). Due to advances in intensive care medicine, millions of people who have survived resuscitation and had these profound experiences are alive today in technologically advanced societies.

The term “near-death experience” (NDE) has become established. The term was introduced by Raymond Moody, whose book *“Life after Life”*, which sold 13 million copies, made the phenomenon known to the general public in 1975. Well over 1,000 relevant articles can now be found in medical, psychological and philosophical journals. Unfortunately, the question of the interpretation of near-death experiences has developed into an emotionally charged battlefield. On the one hand, there are reductionist interpreters who only want to see the NDE as a meaningless “bedtime story” of the brain. On the other hand, there are vehement advocates of a supernatural interpretation who want to use the phenomenon of the NDE to prove the existence of an otherworldly afterlife. In what follows I will interpret NDEs as special and existentially highly illuminating cases of experiences in a boundary situation. I will argue that the situation of a NDE is indeed a boundary situation. It is not the boundary situation of death Jaspers spoke about (death as anticipated), it is rather a boundary situation related to dying, but *sui generis* and unique.

Recently, guidelines for the scientific treatment of NDEs were published in the *Annals of the New York Academy of Sciences* in 2022 (Vol. 1511: 5–21). Because the term “near-death experience” is ideologically charged due to disputes over interpretation, the authors propose the term “recalled experience of death (RED)”. In the following the traditional name “NDE” is preferred. It is initially defined by the following six criteria:

(1) a relationship to death, (2) a sense of transcendence, (3) an ineffability of the experience, (4) a positive transformative impact (in terms of meaning and purpose of existence), (5) a severity of illness leading to loss of consciousness, and (6) the absence of features of other coma-like experiences (such as conventional dreams, delirium, and delusions in the ICU or elsewhere). The authors emphasise that a uniform meaningful “narrative” sufficiently distinguishes this experience from other experiences that are similar in some respects to be able to speak of NDEs as a *sui generis* type of experience.

These experiences are strikingly similar across all cultures, religions and ethnicities, across gender, age and educational level.

The narrative content of the experiences contains these elements:

An awareness of being dead; a sense of peace and great mental calm and clarity; a sense of liberation and weightlessness; out-of-body experiences such as perceiving one's own body from the outside; a bird's-eye view; a detailed life review that illuminates one's existence; experiencing oneself from the perspective of other people; insight into the consequences of one's actions; an experience of being immersed in a tunnel; a sense of transition; a sense of leaving one's body behind; the feeling of detachment from events in the world; a rapid movement towards a strong light; the feeling of being spiritually attracted; the feeling of entering another reality and being at home in a spiritual sense; the experience of help and support; spiritual communication with "beings of light"; gaining deeper insight into the meaning of human existence; broadening of spiritual horizons; the feeling of immersion in unconditional love; *approaching a boundary*; a reluctant return to the biological body and associated pain.

Not all experiencers recall all these elements. But a profound experience encompasses many of the elements described. Greyson developed a scale that can be used to quantify the intensity of such an experience. Cognitive, affective, paranormal and transcendental aspects of the NDE are queried in a standardised procedure and the answers are evaluated quantitatively. An NDE achieves a high score if as many of the listed experiences as possible are reported (Greyson 1983).

The phenomenal content of the NDE

After an initial phase of experiencing fear and the realisation that their own life is coming to an end, people suddenly find themselves in a different world, which they perceive so intensely and vividly that even afterwards they are usually unable to doubt the reality of what they have experienced. They experience happiness, serenity, love and other positive feelings to such an extent that all previous experiences are eclipsed in an unspeakable way. The mental processes take place with such inner clarity, presence and intensity that normal waking consciousness seems bland and sluggish in comparison. The reality of what is experienced is described by those affected as "more real than the everyday world". This impression of hyper-reality is typical of mystical experiences or experiences of transcendence. Although the reality experienced is strange and unfamiliar, it differs from bizarre dreams or intoxication through its inner coherence, its clear existential meaning, the inner style of a journey into another dimension, the reaching of a border that cannot be overcome, and a return.

NDEs often contain the experience of leaving one's own body. After leaving the body, the normal everyday world is perceived from a different perspective.

The persons usually experience themselves as floating above the events. For example, their own body and the efforts of the emergency physicians are the subject of perception. Even blind people report detailed visual perceptions (Ring & Cooper 1999).

It is striking that the reality experienced is not delusionally distorted, but that the real event is often observed precisely, down to the smallest detail, and often remains stored in memory for a long time. This allows for later comparison of what was remembered to the testimony of third parties. Some of these cases have been well documented (Rivas et al. 2016). Up to this point it is unclear how the brain could achieve this formidable task under the circumstances of a cardiac arrest. The first AWARE study already described a patient who was aware of his surroundings even three minutes after cardiac arrest, although this did not appear to be neurophysiologically possible according to current knowledge and, according to this view, he had to be in a state of deep unconsciousness (Parnia et al. 2014). The aforementioned AWARE II study seems to suggest that the dying of the brain takes much longer than previously assumed.

Another core phenomenon is usually described as going through a tunnel: an accelerated and dramatic movement towards a point of light and a loss of spatial orientation. A tunnel is a powerful symbol of a *boundary and a transition*. At the other end of the tunnel the experienter is immersed into another world. A peaceful, light-filled and calm environment is described by most, in stark contrast to the excitement that surrounded them in the hospital or at the scene of the accident. In this other world, many then describe encounters with beings of light, i.e. beings that are visually perceptible to them but do not have a normal biological body. After initial fright, there is often a spiritual exchange with these persons or beings, who are then experienced as pleasant and helpful. This also involves encounters with deceased family members and friends, even with people who have already died without the knowledge of the person making the experience (Greyson 2010). In addition to deceased relatives, people often encounter other personal beings at this stage of the experience, which they sometimes interpret in religious terms. However, it is important to separate the culturally colored patterns of interpretation from the phenomenal content of the experience itself, which, struggling to find the right words, tends to be described as “beings of light” or “energetic beings” with whom people communicate by a kind of telepathy. There may be an exchange with them about the life of the dying person, the *meaning and purpose of their life*, and later an invitation to return to the body. This element of the NDE is what Jaspers calls “elucidation of existence” (Existenzerhellung). The true purpose of one’s existence is found and affirmed. This is to be distinguished from a mystical experience of immersion in an all-encompassing love, which is also reported by many of those affected and is sometimes interpreted as an experience of God.

For others, the perception of a divine presence or closeness is weaker, more distant. Practically all who made this experience return from it with the deep conviction that love is the most important force in the universe and that love is the ultimate goal of their own existence. Finally, after these existential insights, many experience a boundary, a border, and a desire to go beyond it without being able to do so. *Even in the NDE, the experience of death is the experience of a border.* But not as an anticipated border, but rather as an experienced border. The experiencers often claim to have encountered a glimpse of the transcendent reality, but they also sensed that there was more, there was a limitation which they could not overcome. This is clearly the experience of a boundary situation in Jaspers' sense. There is transcendence and the experience of a boundary at the same time.

Another central element of the experience is the life review. In a kind of 360-degree panoramic view, those affected relive their entire life in detail. It is experienced in such a way that one learns the undisguised truth about oneself, which can be perceived as shocking. Again, the Jaspersian idea of existential enlightenment comes to mind. Light is shed into all aspects of one life. The intensity of feeling and empathy is greatly enhanced. Experiencers can sense where they have loved in the past and where you have hurt others. This perception is often described as transpersonal in the sense that one empathises with the injuries one has inflicted on others. This clear focus on the interpersonal ethical dimensions of one's own life is remarkable. While an undifferentiated flooding by an abundance of stored memories could be explained by a last burst of activity of a dying brain, this strict focus on the ultimate moral meaning of one's own life is not easy to understand if reduced to a random and incoherent neuron fire. There is a clear semantic emphasis here, a laser-sharp focus on the ethical consequences of the live one has lived.

The recollected experiences of death often concluded with the realisation, gained in the exchange with the persons and beings present, that one must return to the body, that earthly life is not yet over. Sometimes it is accompanied by the thought that certain unfinished tasks still need to be dealt with, and that presence in the normal "earthly" environment is therefore morally required. Here, too, the focus on the normative question is striking.

The long-term effects of an NDE

The near-death experience does not end with successful resuscitation. In normal everyday life, many people feel the near-death experience for years like a "background noise" that can be perceived immediately if you focus your attention on it.

From then on, they feel like citizens of two worlds, the normal earthly world and the other world that they have come to know. They are no longer present in their concrete everyday existence in the same unbroken way. A new dimension has broken into their lives, which makes their previous existence appear one-dimensional. It is as if they found a new way of existing. Sometimes they experience their life as split into two existences, the one before the recollected experience, and the one after it.

This brings us to another important aspect of the recollected experiences of death: the consequences for the life lived after the experience. A most striking one is that practically all experiencers who have NDEs lose fear of death. For Jaspers, the terror of death is essential for death's being a boundary situation. The NDE is also a boundary situation related to death. But it weakens fear of death.

Also, there is almost always a permanent change in the ordering of values: love, deep personal relationships and the acquisition of wisdom are at the centre of life. Money, career, power, recognition, sensual satisfaction, pleasure, but also superficial pastimes and the consumption of material goods become less attractive. In a large-scale study, Dutch cardiologist Pim van Lommel classified these changes in character and attitude and showed that near-death survivors with NDEs differed from control groups who had also experienced a life threatening cardiological emergency but had no recollection of an NDE (van Lommel et al. 2001). These long-term personality changes therefore do not occur in a comparable way in people who have experienced a cardiac arrest and resuscitation but do not remember an NDE. It is the NDE and not the traumatising caused by the medical emergency that triggers the profound personality changes. As mentioned above, it is striking that those who have an NDE often completely lose their fear of death, whereas this cannot be observed in the control groups. Other changes are an altered self-image, more compassion for others, a stronger intuitive sensitivity for the needs of others, and an increased spirituality. In van Lommel's landmark study, patients were interviewed three times in 8 years, with a matched control group. It could be shown that patients with NDEs experienced profound changes in their outlook on life, their value system, their attitude towards death, their spirituality and their religious views that not only persisted over many years but were increasing in intensity.

A more recent study by Greyson has shown similar results over a period of twenty years (Greyson 2022). Greyson used the "Life Change Index" (LCI) to document character changes over a period of 20 years after the initial NDE. The subjects reported increases in their appreciation of death and in the quest for meaning and purpose in life, more self-acceptance, religiosity, concern for others and increased concern for social and planetary issues, while at the same time experiencing a sharp drop in their concern for worldly achievement. These changes

were persistent over an average of 20.5 years. These changes in personality can be described as a break-through from mere human living to human existence (Existenz) in the sense of Jaspers. The experiencer of an NDE is an existentially enlightened person. The dimension of transcendence has entered and transformed their former life which lacked true existence (Existenz). This change is profound and permanent. One possible counterargument against this interpretation of NDEs is the claim that they are simple physiological occurrences without any openness to a transcendent dimension. To deal with this objection, we must deal briefly with different strategies of interpreting NDEs.

Two strategies for interpreting NDEs

The first strategy acknowledges the existence and importance of the phenomenon in question but claims that there is no significant problem in explaining the occurrence of such experiences within the framework of established scientific theories. The second strategy of dealing with a hitherto unexplained phenomenon is to regard it as something that cannot be explained within the prevailing scientific paradigm. Only a novel theory, a paradigm shift, could explain the phenomenon. Which of these two strategies is appropriate for dealing with NDEs? I will claim that the answer to this question is neutral to my interpretation of NDEs as experiences in boundary situations.

Strategy 1: Near-death experiences have been studied scientifically for decades. A series of surveys and statistical studies have concluded that several million people in a country like Germany have had a near-death experience (Schmied et al. 1999). We therefore not only have anecdotal reports of individual near-death experiences, but we also have the methodologically sound studies in several countries that prove the existence of the phenomenon (the most important studies are: Parnia et al. 2001, and van Lommel et al. 2001). But even though many causal mechanisms have been suggested, none has found widespread acceptance and can account for the full range of the experiences. To what extent can the NDEs be fully explained within the framework of established natural science? It has been shown that there are certain phenomenal similarities to the NDE after exposure to the drugs ketamine and DMT. This might suggest a common neuronal mechanism. However, some fundamental problems remain. The greatest difficulty is the possibility of perceiving the outside world in circumstances in which the person should not actually have access to this information. One such case was documented by the doctors treating a patient in Canada in 2008 (cf. Beauregard et al. 2012). A woman who was admitted to hospital for an emergency delivery was found to have a pathological change in her aorta that required major surgery

immediately after delivery. The woman did not see the surgical team or speak to the people involved. When she was wheeled into the operating room, she could not see the machines behind the operating table. During the procedure, she was under general anesthesia and her eyes were taped shut. Her heart stopped for 15 minutes during the operation. She reported a pronounced NDE, during which she also left her body. From a point outside her physical body, she saw a nurse passing surgical instruments to the cardiothoracic surgeon. She also perceived anesthesia and echography equipment behind her head that she could not have seen during the surgery or when she was rolled into the room. The medical staff present at the operation were able to confirm that her descriptions of the nurse, equipment and machines were accurate. Such a report would perhaps be counted as a freak anomaly if there were not hundreds of them. Questions remain despite these impressive reports. The biggest problem is the exact timing of the NDE. Was the experience really made during the cardiac arrest, or did it occur somewhat before or after? Was the brain still somewhat active during the experience so that the experience could be explained as a temporary wakefulness during anaesthesia? But how did the patient know parts of the room that she could not have seen according to her physical position in space? Was she simply speculating successfully? Survivors of resuscitation without a near-death experience have been compared with those who claimed to have observed the process of their own resuscitation through an out-of-body experience during a near-death experience. The latter group was able to describe the resuscitation process statistically significantly more accurately and correctly than the first group, who had been subjected to the same procedure themselves but had no out-of-body observation of it and therefore had to refer to background knowledge from TV series and the like (Sabom 1982: 84–86). This is indeed astonishing and provokes further questions.

The other difficulty in embedding the NDE in the existing scientific world view is the possible breakdown of normal psychophysical supervenience. “Supervenience” is a philosophical term for a correlation of one-sided dependence. We believe that conscious experience is dependent on the occurrence of complex functional states at the neuronal level. You need a brain that functions at a very high level of complexity to sustain consciousness. Consciousness needs neural correlates. There is no change in consciousness without a change in neural information processing. This is called psychophysical supervenience. The mind supervenes on the brain.

If neuronal activity gradually comes to a gradual standstill, as can be expected in the case of cardiac arrest due to a lack of oxygen supply, what happens to the mental states that supervene on brain activity? Neural activity appears to be particularly high shortly before and shortly after cardiac arrest. At least that is what

measurements on a dying patient suggest (Vicente et al. 2022; Chawla et al. 2009). Just 30 seconds after cardiac arrest, brain activity decreases significantly. According to the supervenience theory, consciousness should then also decline significantly. How brain activity declines in the dying process, as well as when and by how much it does so, has still not been clearly researched, as even a flat EEG is no guarantee that brain activity has come to a standstill at all levels. What is clear, however, is that brain activity is quickly impaired without the nutrient supply from the circulatory system. One would assume that a process as complex as conscious experience would increasingly lose its functional basis as brain activity decreases, i.e. that – speaking from an internal perspective – complicated conscious processes would be replaced by simpler ones until the “light” finally is turned off.

But the opposite is the case. And that is the problem of collapsing supervenience. The inner experience drastically increases in content, clarity and richness of meaning, even though the brain is no longer supplied by the circulatory system (Batthyány 2015). As already mentioned, in the AWARE I study an out-of-body experience could be dated three minutes after cardiac arrest. However, according to current knowledge, the brain must have already shut down its activity massively by this time. Deep unconsciousness would be expected. If the near-death experiences took place in these phases of minimal brain activity, then a strange picture emerges. Although the brain could not maintain the complex neural networks that are necessary for waking or dream consciousness, it was precisely during this time that the subjects had conscious experiences that clearly surpass normal waking consciousness in terms of intensity, complexity and meaning. Just think of the holistic and transpersonal empathic life review. If all this can happen at times of greatly reduced brain function, then much of what we previously thought we knew about the connection between the brain and consciousness is wrong or at least very incomplete. Perhaps conscious experience does not depend on the large-scale neural architecture at all, but has physical foundations on a deeper, more detailed level that can be maintained for longer than 30 seconds after cardiac arrest. However, we do not yet know this micro basis of consciousness. There is still a lot we don't know about consciousness.

Strategy 2: This brings us to the second strategy. Perhaps a scientific revolution is needed to understand near-death experiences. Some authors suspect that the emergence of consciousness is linked to structures that are smaller than neuronal networks. Hameroff and Penrose have proposed a theory according to which the microtubules in the dendrites of nerve cells function as tiny quantum computers and are linked to the emergence of consciousness (Hameroff & Penrose 2014). According to this view, orchestrated reductions of many quantum mechan-

ical superpositions in these systems are moments of conscious experience. These processes could still take place if nothing could be seen at the level of the EEG.

In a completely different way, Tononi argued in his theory of integrated information (IIT) that a functioning nervous system is not required in order to sustain consciousness. According to his theory, even unicellular organisms have minimal consciousness. This theory sounds revolutionary but is currently one of the most discussed theories of consciousness and is supported by leading brain researchers such as Christof Koch (Tonino & Koch 2015). Both theories, mentioned as examples, contain considerable extensions to our standard picture of the relationship between the brain and consciousness. If such a theory or a similar one were to prevail, a scientific paradigm shift would be initiated that would perhaps allow us to come closer to solving the mystery of the NDE than we have done so far. It may indeed be the case that consciousness is not simply a by-product of a complex interaction of higher level brain states. It may be that the lowest level of consciousness is located at a much deeper and more fundamental level of nature (Brüntrup & Jaskolla 2016). If this were the case, then conscious experience could possibly survive brain impairment at the higher cortical levels where we normally measure EEG. It could then possibly penetrate a deeper cosmic dimension.

An existentialist approach

At this point, it becomes clear that currently we have no accepted theory of how consciousness arises at all. How does the mind enter nature? If the mind-body problem has not been solved, we cannot expect to scientifically understand a specific sequence of conscious states, such as the NDE. Philosophy can present speculative attempts at an answer, for example the monistic theory of identity of matter and mind, or the dualistic doctrine of two completely independent substances. But within the limits of human reason, there is no decisive method that could decide which of these alternative metaphysical stances is the right one. If this analysis is correct, we will still be speculating about different solutions to the mind-body problem centuries from now, without ever arriving at a uniform interpretation. It is possible that this ignorance remains insurmountable, so that the correlations that we discover in empirical brain research are not sufficient to fully explain the psycho-physical relationship. Even if we were to discover that a certain chemical substance can reliably and repeatedly produce near-death experiences, we would still have discovered an interesting connection only, but we would still not have understood how exactly nature produces this experience. Why do cells experience anything at all? This question remains unanswered. We do not

know how consciousness arises from matter. The hard problem of consciousness may never be completely solved.

It is this futility of metaphysical speculation that motivates Karl Jaspers to explore an existentialist path. Philosophy cannot tackle the metaphysical questions directly; Kant was correct in this respect. But the metaphysical questions can be addressed in as much as they are part of the self-illuminating existence. It is the experience of transcendence that anchors metaphysics in human experience. In this sense Jaspers allows for an existential metaphysics which arises out of self-reflective existence. In other words: Even if a “View from Nowhere” (Thomas Nagel) that explains profound NDEs is not in sight, and may not be found for a long time, the experience itself might still be metaphysically significant in this existentialist understanding of metaphysics. Even if we had an objective explanation (from nowhere), it would not help the individual who has had such an experience in the process of making sense of them. This is an existential undertaking that must be attempted from the first-person point of view. The richness of the experience itself should be placed at the centre of attention. The dispute as to whether there is a specific neurophysiological explanation for NDEs in current or a revolutionised science is irrelevant for understanding the mental content of the experience itself.

The philosophical movement of phenomenology recommended abstaining from ontological and metaphysical judgments in order to give space to the phenomena themselves. This was called the method of “epoché”. One should refrain from interpreting the experience and initially only perceive the experience itself. In the case of NDEs, this means first and foremost listening very carefully to the people who have had such an experience. It is almost impossible to listen to these people with an open mind without being deeply impressed. This is not about trivial stories or getting high on a party drug, but about fundamental human experiences about the meaning of life and what it means to be a morally self-determined personal being. Regardless of the historically developed doctrines of a particular religion, the NDE often has a distinctly spiritual content: the experience of a higher spiritual form of existence, the insight into deeper dimensions of reality, the experience of guilt, acceptance of reality and forgiveness, the experience of an ultimate feeling of safety, the experience of a love that transcends all human measure, the experience of a deep connection and unity. Jaspers might call this the experience of the “encompassing” (*das Umgreifende*).

All of this characterises the near-death experience as a peak experience, i.e. an experience of the spiritual dimension of human existence which, as a peak experience, transcends normal everyday consciousness. In the sense of Karl Jaspers, the experience of one’s own death is a boundary situation: “In boundary situations, either nothingness is revealed, or it becomes tangible what actually is despite and above all disappearing worldliness” (EP: 20). (In German: “In den Grenz-

situationen zeigt sich entweder das Nichts, oder es wird fühlbar, was trotz und über allem verschwindenden Weltsein eigentlich ist"). The experience of what is the *essence of human existence* despite the disappearing world is precisely the content of the NDE: the revelation of the essence of human existence. At the same time, the NDE is also an experience of transcendence, an experience that our everyday reality is only a part of reality. This is to be distinguished from death as anticipated loss of all relations and the end of all subjective experience. This anticipation is also a boundary situation. But its very phenomenal content is an anticipation of a future state, the anticipation of a loss. In Heidegger's philosophy, "running ahead toward death", recognising death as a possibility, is a central concept that concerns the very essence of human existence (*Vorlaufen zum Tode*). It means recognising death as one's own inevitable possibility and not avoiding it but facing it. This enables an authentic way of life, as existence becomes aware of its finitude and thus in a way transcends it. This allows death to be a boundary situation. NDEs are not a running ahead towards death, no "Vorlaufen" in Heidegger's sense, it is the experience of death itself. And this is a boundary situation *sui generis*, in addition to the ones found in Jaspers (death, despair, failure).

The NDE itself is the phenomenally rich experience of an absolute limit, namely the limit of death. Death is not experienced as an emptiness, but rather as phenomenally rich and meaningful in itself. It is a transcendence from ordinary life. But this transcendence is at the same time experienced as limited. It contains a limit within itself. Although it is an experience of one's own death, the person was not dead in an absolute sense, they were reanimated. But it is precisely for this reason that this person could truly experience death as a boundary experience. Death is not simply a conceptualised and anticipated wall behind which one no longer experiences anything. This contradicts a famous dictum of Wittgenstein's; "Death is not an event in life; we do not live experience death," argues Wittgenstein (Wittgenstein 1922: 6.4311). We can experience death. We are not talking about future death that can be experienced as a frightening thought. Imagined death is experienced in a way that is totally different from an NDE. The imagined death is a realisation of one's own finiteness. It is the experience of the recognition of one's own finiteness. Death can also become an experience of finiteness and contingency in the case of the loss of another person, especially the death of a loved one. But again, this is only the experience of death from the outside. It is an existential boundary situation primarily as an experience of loss. This helps in living an examined life, it is a form of "elucidation of existence" (*Existenzerhellung*). But it is *not the experience of my death*, nobody can die for me. It is only those persons who have experienced an NDE, who have this first-person familiarity with dying. This experience thus opens a unique pathway to transcen-

dence. In his “The Philosophical Faith” Jaspers stresses that we never fully enter the realm of transcendence. In our worldly existence we can achieve a status of “floating” (Schwebe) and it is there that we touch floor in the transcendence (“Zur Schwebe gelangt in allem Weltsein, berühren wir den Boden in der Transzendenz” PGO: 45). This idea of *touching the floor of transcendence while floating over the world* is in itself a fine description of an NDE.

Taking stock

I hope to have shown that NDEs are “boundary situations” in the sense of Jaspers. In them we break through to true existence (Existenz). Death, as Jaspers describes it, is a boundary situation as well, but in a more mediated and indirect way. I either contemplate my death as anticipated event in the future, or I experience death as the loss of another person. In both cases the experience of death is mediated and indirect. But it is still powerful enough to uplift the person into true existence and transcendence. It is a boundary situation. There is, however, another sense in which death is a boundary situation, a sense Jaspers did not see. It is the experience and recollection of my own death from the first-person point of view in and after an NDE. The NDE is a boundary situation in which a profound existential limit is experienced, then it is transcended in a surprising and phenomenally rich way, only to experience a boundary again. The experiencer is hovering in an existential suspense that lets them touch the floor of the transcendent.

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