

Chapter 2

Brain Death, Justified Killing and the Zombification of Humans – Does the Transplantation Dilemma Require New Ways of Conceptualizing Life and Death?

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2.1 Introduction

Medicine has not only saved the life of ethics, as Stephen Toulmin stated 30 years ago, but has also rejuvenated an old field of philosophy. As Toulmin claimed, it was clinical medicine with its growing ethical problems and new types of conflict situations that obliged philosophers to once again address “substantive ethical questions” (Toulmin 1982/1997, p. 101) by applying “principles to particular situations” (Toulmin 1982/1997, p. 107) instead of just practicing metaethics. The topic of organ transplantation is a very good example of what the reanimation of ethics by medicine could resemble. It is not only a current and controversial subject of applied ethics, namely medical ethics, but is also concerned with a subject from the heart of philosophy, which has been rejuvenated by the possibilities of modern medicine. This field of philosophical thinking refers to one of the presumably most existential topics overall in that its core lies in the question of the end of life and therefore, the question of death, that is: When is a human being dead? When does a human life end? What do such findings mean with regards to handling dying and dead bodies?

For almost half a century now, the field of transplantation medicine has raised and revitalized these questions in a distinctive and irrefutable way. Technologies for implantation of vital organs from dead donors demand a definitive answer to the question of how to draw the line between life and death. So we have to ask, what kind of signs and criteria could and should indicate that existential transition in a scientifically reliable and ethically responsible way, but also in a way that fits in – or challenges – our grown sociocultural understanding and phenomenological experience with dying and dead bodies? Lastly, it is the question of how to comprehend and how to conceptualize human life and death.

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2.2 Brain Death: Paradigm and Problem

In 1968, the *Ad Hoc Committee of the Harvard School* established the *brain death syndrome* to define and determine the death of individuals who are in a state of an irreversible coma and who manifest “the characteristics of a permanently non-functioning brain” (Harvard-Committee 1968, p. 85). Thus, not only was a condition pronounced which can be tested and clearly detected on the basis of a set of medical-diagnostic parameters and data, but also death was no longer a phenomenon encompassing the whole body with all its functions and life signs, but rather being dead became a question of the functioning of the brain. According to the new paradigm of specifying death, waiting for final cardiac arrest and other signs of death (such as livor mortis, apnoea, or rigor mortis) is dispensable if the brain is extensively and irreversibly damaged.

This manner of identifying the life of a human with the life of its brain represents nothing less than a historical shift in conceptualizing life and death – a historical shift that challenges the comprehension and acceptance both of the public and of a circle of experts. Since its introduction, the brain death criterion has been the subject of controversial discussion not only among physicians, neuroscientists, and nursing staff, but also between social scientists, ethicists, philosophers, lawyers, and the public. A series of serious objections to this stipulative definition of death, which was invented under pressure of organ transplantation in times of donor shortage, has been propounded.

One of the earliest critics of the criterion was the philosopher Hans Jonas, who condemned the new definition only a few months after the report of the Ad Hoc Committee was released as being a purely, pragmatically motivated redefinition and “antedating of the accomplished fact of death [...] with certain extraneous interests in mind” (Jonas 1969/2009, p. 503 f.), namely transplant interests. Aside from the risk of the immoral exploitation of helpless humans, according to Jonas the brain death criterion transports a dubious “revenant of the old soul-body dualism” (Ibid., p. 504) in the contemporary form of a soul-brain dualism. According to that, establishing the brain death criterion represents another form of overestimating the importance of the brain for life, identity, and the self-concept of man, which goes along with a degradation of the meaning of non-cerebral and bodily conditions. Thus, he took a very firm stand in the debate early on. From a realistic and unemotional perspective, it is worth mentioning here that in his rather provocative essays Jonas uses drastic and partially inadequate wording to depict the worst possible outcome of an unscrupulous introduction of the brain death criterion in favor of the procurement of vital organs. He fears that dying patients could be used “as a bank for life-fresh organs” (Ibid., p. 503) or “as a mine” (Jonas 1969, p. 244), and transplant surgeons are described as “executioners” (Ibid., p. 245).¹ However, even now, if one considers this criticizable linguistic sharpness, over 40 years after he

¹ For a modest but clear critique of Jonas’ vocabulary cf. Miller (2009).

wrote his essay, the essence of his concerns about a new way of defining death is still up-to-date.

As the German philosopher Petra Gehring recently pointed out in view of the historical, cultural, and political dimensions on the subject, the brain death criterion allowed some fundamental alterations in conceptualizing and dealing with death to take place. Mainly, she refers to the cerebralization, punctualization, and conventionalization of death (Gehring 2010). First, there is the fact that death is equated with – or reduced to – a state of the brain, and a cerebral condition (*cerebralization*). At the same time, death starts at a precise, determinable point in time, namely the moment the brain dead diagnosis is made (*punctualization*). Thus, the declaration of death no longer stands at the end of a more or less natural process – the process of dying – but it is a matter of reaching a decision, in which the criteria and preconditions are defined by a group of experts. So death has become a matter of specified tests and the adhering conclusion can only be arranged and performed by specialists (*conventionalization*). These points – cerebralization, punctualisation and conventionalisation, as features of the valid death criterion – are not *naturally given* and therefore indicate the arbitrariness of its stipulation.

The declarative moment of this new death designation is confirmed by difficulties within the everyday practice of handling brain dead individuals. We have to face the disturbing fact that massive conflicts exist in the perception of brain dead humans – or rather brain dead bodies. Such conflicts concern especially those people who work in hospitals and medical care units and have to deal with potential organ donors who are (brain) dead but, whose bodies are warm, who are still breathing, metabolizing, sweating and show nail and hair growth, not to mention that they could be pregnant and deliver a living child through a caesarean section. All of these are bodily functions, which are in some degree necessary to keep organs *alive* and transplantable.

This disturbing setting could get even more intense in the course of retrieval. To avoid bodily reactions by the donor, such as the remaining sensation of pain or indisposition, some argue for the anesthetization of brain dead patients. A concise statement is given by Philip Keep, an anesthetist at the Norfolk and Norwich Hospital (UK): “Nurses get really, really upset. You stick the knife in and the pulse and blood pressure shoot up. If you don’t give anything at all, the patient will start moving and wriggling around and it’s impossible to do the operation” (BBC News 2000). If you have to administer anesthesia to a dead body, it is not easy to understand and believe that the body is not alive, not even just a little bit. Linus Geisler, a German specialist in internal medicine and a critical voice, calls the medical-scientific fact that brain dead people “are only apparently alive but dead in fact (only feigned living)” a “massive violation of human intuition” (Geisler 2010, p. 2).

In addition to these aspects of handling people who are declared brain dead, in the more recent past strong doubts about the rightness of the brain death criterion came up in the light of new neuroscientific findings.² These doubts from the brain research camp arose mainly because the methods used to diagnose brain death are

² PCBE (2008); Müller (2010).

mostly clinical methods (this is the case in Germany), for example, determining apnoea and whether brain stem reflexes are still present. The diagnostic investigations do not require certain mechanical diagnostic procedures such as an Electroencephalogram (EEG) or angiography, which were apparently necessary to ensure that the patient is really brain dead. There have been reports of cases in which patients, who were clinically diagnosed with brain death exhibited persistent intracranial blood flow or electrical brain activity.³

On the one hand, serious concerns were raised about the difficulties of making a reliable brain death diagnosis, while on the other hand increasing doubts emerged about whether the connection between brain death and physical death is reasonable *per se* and empirically maintainable.⁴ So far, it has been assumed that immediately after brain death, *actual*, *real* or *physical* death – in the sense of cardiac arrest – would also occur. Nowadays that notion of a tight and inevitable connection can no longer be maintained. One case is known in which 14 years have elapsed between brain death and death.⁵ Furthermore, the proposition that the brain fulfills functions that maintain the integrity of the body as a living organism and the loss of which causes the body to disintegrate, leading to cardiac arrest over a period of days, has gone unchallenged for a long time and is one of the central arguments in defense of the brain death concept. However, this proposition is no longer maintainable. As the medical ethicists Franklin Miller and Robert Truog put it, “the human body does not need the brain to integrate homeostatic functions [...]. Patients who fulfill all of the diagnostic criteria for brain death remain alive in virtually every sense except for the fact that they have permanently lost the capacity for consciousness” (Miller and Truog 2008, p. 39).

Thus, the problems of the concept of brain death and its corresponding criticism, with or without neurological foundation, consists of two main questions. First, is the patient really brain dead? Second, is the brain dead patient really dead? Whereas the first question permits a more scientific-technical and neurological answer, the second one demands philosophical or anthropological, respectively ontological, considerations. Before turning to the latter aspects of the topic, the aspects of conceptualizing life and death, the ethical implications which both questions contain need to be given some thought.

2.3 Beyond Brain Death

In response to the diverse problems of the brain death criterion – the questionable diagnostic reliability, the equalization of death with the loss of certain brain functions, brain dead patients that are somehow still alive – some have asked: Why not abandon the cerebral criterion as a pre-condition for organ extraction and return

³ See references in Müller (2010).

⁴ Cf. PCBE (2008) and Müller (2010).

⁵ Müller (2013).

to the traditional cardiopulmonary standard of death? These approaches propose the traditional concept of *Non-Heart-Beating-Donation*. This practice is already permitted and exercised in some countries such as Switzerland, Spain, the United States, and the Netherlands.⁶ The retrieval of organs from Non-Heart-Beating-Donors requires the determination of death following cardiopulmonary criteria, i.e. the cessation of circulation and respiration, and therefore circulatory arrest. The delicate point of that kind of determination of death is the comprehension and the handling of irreversibility. In that context circulatory death results from the withdrawal of life-sustaining measures without attempts at resuscitation, the discussion here concerns the appropriate waiting time span after the withdrawal. Would it suffice to wait 5 min, 2 min, or even a mere 75 s after the onset of a systole to be certain that a heart rhythm and pulse will not resume spontaneously? Thus, it becomes obvious that proving lost reversibility is constituted by a decision the doctors make. To quote Truog and Miller again, “Whereas the common understanding of ‘irreversible’ is ‘impossible to reverse’, in this context irreversibility is interpreted as the result of a choice not to reverse” (Truog and Miller 2008, p. 674).

In the case of heart transplantations, that leads to a remarkable paradox, namely “the paradox that the hearts of patients who have been declared dead on the basis of the irreversible loss of cardiac function have in fact been transplanted and have successfully functioned in the chest of another” (Ibid.). In this case, the fundamental dilemma of the transplantation of vital organs is taken to the extreme: First, the transplantation dilemma consists of the ambition of getting functioning or living organs from dead donors. If the goal is to transplant a heart after cardiac arrest, the predicament occurs that the very organ whose failure – or death – is absolutely indispensable in order to start the whole procedure, in that it serves as the crucial condition for the explantation due to the pronouncement of the donor’s death. This necessary non-functioning or dead organ is intended to save another man’s life by functioning or living by itself.⁷

This paradoxical outcome makes some authors go one step further and consider slaughtering another sacred cow, namely abandoning the *Dead-Donor-Rule* for the removal of vital organs. This rule, which embodies perhaps the most fundamental ethical (and legal) principle of medical practice – and not only medical practice – stating that it is wrong to kill or cause the death of an innocent person even if that could save the life of another. In the domain of transplantation that means that patients must be dead (respectively declared dead) before the removal of any vital organ for transplantation.⁸ As already discussed above, by permitting the *dead-donor-rule*, conceptual extensions and even revisions of the definition of death seem to be inevitable (concerning the concept of brain death as well as cardiac death).⁹

⁶ Bos (2005).

⁷ Cf. Veatch (2008).

⁸ Robertson (1999).

⁹ As Truog and Miller put it: “In sum, as an ethical requirement for organ donation, the dead donor rule has required unnecessary and unsupportable revisions of the definition of death” Truog and Miller (2008, p. 675).

Therefore, the determinability of death is not the main problem for transplantation medicine, but rather the *dead-donor-rule*. For Miller and Truog, who admit to the weakness of the brain death criterion for pronouncing death, the current practice of vital organ donation already violates the dead donor rule anyway, so for them it is an imperative of honesty to face that fact and to accommodate to the ethical norms: “[I]n order to sustain the lifesaving practice of organ transplantation without moral obfuscation, we must face the fact that this requires extracting vital organs from living donors” (Miller and Truog 2008, p. 44). So why not abandon the *dead-donor-rule*? This would dissolve the transplantation dilemma.

Unsurprisingly, the proposition, which seems no less radical or antiquated than the brain death criterion, does not only receive approval within the discussion. Among the resolute critics is Linus Geisler for whom the fall of the *dead-donor-rule* would stand for “a fundamental break of taboo” (Geisler 2010, p. 3). For him it would be a “monstrosity that, for the first time in the medical history of the civilized world, doctors would be allowed to cause the death of a patient in order to make use of him for the benefit of other patients. [...] The license to kill would become a legal medical qualification” (Ibid.). These are sharp words, but one has to note that the vocabulary of *killing* is a result of the honesty that Miller and Truog have in mind. From their point of view, ending a patient’s life by withdrawing life support in favor of getting usable organs should be seen as a form of *justified killing*. Even if they try to avoid the expression *justified killing*, due to its “emotionally charged and value-laden language” (Miller and Truog 2008, p. 42), as mentioned in the recent debate, Robert Truog introduced the phrase almost 20 years ago when he claimed that, “the process of organ procurement would have to be legitimated as a form of justified killing” and concluded “that killing may sometimes be a justifiable necessity for procuring transplantable organs” (Truog 1997, p. 34 ff.). The key concepts and guiding principles for this purpose are patient autonomy and informed consent. The patient has to have given his consent to becoming an organ donor by ending life-sustaining treatment if they are “catastrophically brain-injured” (Miller and Truog 2008, p. 39). As Miller and Truog stated, under certain conditions causing a patient’s death could be part of the legitimate physician’s responsibility: “[W]e endorse life-terminating acts of vital organ extraction prior to a declaration of death, provided that they are tied to valid decisions to withdraw life support and valid consent” (Miller and Truog 2008, p. 45).

2.4 Betwixt and Between

The above-mentioned proposals for dealing with the fundamental and persistent transplantation dilemma – abandoning the brain death criterion, establishing non-heart-beating donation, giving up the *dead-donor-rule* – all these approaches suggest that perhaps conceptual changes on a more fundamental level could be helpful, and it seems to be necessary to extend our thinking on life and death. This raises the question of whether an indication could be made to abandon the claim of a clear

and unambiguous distinction – between being alive and being dead – if the matter in question requires it. Stephen Toulmin had a similar notion in mind when he emphasized the Aristotelean challenge and need for practical reasoning, which ethics and clinical medicine have in common: “Ethics and clinical medicine are both prime examples of the concrete fields of thought and reasoning [...] in which we should above all strive to be *reasonable* rather than insisting on a kind of *exactness* that ‘the nature of the case’ does not allow” (Toulmin 1982/1997, p. 104). Therefore, it seems to be an unavoidable demand of practical reasoning to transcend the concept of a strict dichotomy of *alive or dead*, if the nature of the case requires it. The case here is the question of the determinability of patients in an irreversible coma, patients whose hearts or brains have stopped functioning, but whose bodies are still living. This question is normally phrased as follows: are these individuals already dead (so that we can explant organs) *or* still alive (which would make it an illegitimate procedure)? Dead or alive – there seems to be no third option, *tertium non datur*.

Whereas Toulmin had the ethical conflicts of medicine in general in mind, his philosopher-colleague Hans Jonas voiced similar concerns about the inadequate exactness on the very occasion of the brain death criterion. According to this, he exclaimed the need for appropriateness when thinking about life and death: “Giving intrinsic vagueness its due is not being vague. [...] Reality of certain kinds – of which the life-death spectrum is perhaps one – may be imprecise in itself, or the knowledge obtainable of it may be. To acknowledge such a state of affairs is more adequate to it than a precise definition, which does violence to it. I am challenging the undue precision of a definition and of its practical application to an imprecise field” (Jonas 1969/2009, p. 500). So the fact that the transplantation-brain-death-problem is still a field of open and controversial questions, “an unsettled and unsettling situation” as Miller puts it (Miller 2009, p. 620), is the inevitable outcome of the intrinsic vagueness and imprecision of the life-death spectrum.

Now, in light of the transplantation dilemma and the problems of the approaches for a way out, it could be advisable to conceptualize a third category for the status of existence. A category, which puts humans in a new and ambiguous realm *between* life and death, as claimed by the requirements of the transplantation practice in compliance with fundamental moral commitments. Thus, brain dead patients whose bodies – respectively some relevant parts of their bodies – are in good, extractable shape but whose brains are irreversibly damaged, would be considered neither *still living* nor *already dead* or, what basically amounts to the same thing, they would be *both* already dead *and* still living at the same time. As the German philosopher Ralf Stoecker puts it, “these patients are in one respect still like living persons and in the other respect they are already like dead people” (Stoecker 2012, p. 5). The project of defining, introducing, and implementing this third category of living (or rather semi-living) in the complex medical practice of organ donation signifies a huge effort with no guarantee of success for many different reasons. One of the central obstacles here is the strangeness and anxiety of imagining the practice of explicit procedures dealing with human beings between life and death in a third state of existence.

2.5 The Zombification of Humans

Remarkably, the unease regarding living individuals who are brain dead found its own resolve in the consciousness – and rather unconsciousness – of the broad public right from the start of the medical discussion triggered by the report of the Ad Hoc Committee. It appeared on the silver screens of the western world where, since the late sixties, more and more protagonists appeared from an intermediate grey zone somewhere between the living and the dead. This zone is a sphere where a kind of no-more-living-but-not-yet-dead-state prevails, a territory where a special kind of creature walks around and causes trouble – creatures from the dark side of popular culture that are well-known, or rather notorious and dreaded: the undead or zombies. These figures from horror fiction, appearing mainly in comics and movies, are distinguished (in the classical model) by lacking any kind of consciousness and self-awareness, while being ambulant and able to respond to surrounding stimuli. Even if it is assumed that brain dead patients are not really or not completely dead, what they definitely do not possess any longer, is consciousness and self-awareness. With this in mind, the application of organ transplantation on the basis of the brain death criterion would, strictly speaking, amount to the *zombification of humans*.

That notion may lead to looking at both the case of transplantation (its philosophical or anthropological relevance) as well as at the meaning of the zombie narrative in a different light, especially the cinematic interpretations, and thus also the connection between these two fields. There is a significant amount of parallels between zombies and brain dead people; in fact there is a conspicuous and unlikely coincidental chronological link. In 1968, the B movie *Night of the Living Dead* directed by George Romero was produced and released, a movie that has not only revolutionized the horror film genre but also pushed the sub-genre of zombie movies in a unique way, which has remained unrivaled to this day. Movies with and about undead characters have existed since the nineteen-thirties, but with *Night of the Living Dead* the zombie genre got a huge boost and experienced a cinematic renaissance – the undead on screen were powerfully reanimated. It was in the same year, 1968, that the brain death criterion came into being and with it all the uneasiness, obscurities, and fears connected with the uncertainty of drawing the line between life and death in a new way. Now, given that film as an art form and mass medium always reflects on or even anticipates contemporary collective and societal issues and tensions, the metaphorical figure of the zombie could connect medicine with film in a way which could be enlightening for noting and comprising emotional abysses and personal fears, on a societal as well as on an individual level, which are evoked by dealing with this particular transplantation dilemma.

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