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The case for pluralism in death determination: From empirical data to a policy proposal

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Abstract

The article defends the pluralist policy of death determination. According to this view, competent persons should be free to choose the criteria under which they should be diagnosed as dead. Our argument partly relies on the diagnosis of the current state of the discussion in the bioethical literature on death determination and partly on empirical evidence that lay intuitions about death determination differ, i.e., that there is interpersonal psychological pluralism about death determination. The article then introduces empirical evidence for intrapersonal psychological pluralism about death determination. We argue that intrapersonal psychological pluralism strengthens the case for the pluralist policy of death determination.

Keywords: death, death determination, pluralism, Veatch

I. INTRODUCTION

In 1968, the *Journal of the American Medical Association* published a report of the *Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death* titled "A Definition of Irreversible Coma" (Ad Hoc Committee, 1968). The report suggested that death should be understood in neurological terms, as the irreversible cessation of all brain activity. Nowadays, diagnosing death by neurological criteria (DNC) is an almost universally accepted criterion used by physicians worldwide (Greer et al. 2020; Lewis et al. 2020).[1] Although the report described a new criterion of death, it did not explain in detail why the irreversible cessation of all brain activity should be considered a criterion of death. During the following years, several accounts were proposed to address this question (Bernat and Lewis 2022, 2). Still, the most influential treatment of the topic was given by James L. Bernat, Charles M. Culver, and Bernard Gert in their seminal paper "On the Definition and the Criterion of Death". The paper defended the view that death is "the permanent cessation of functioning of the organism as a whole" and that "The criterion for cessation of functioning of the organism as a whole is permanent loss of functioning of the entire brain" (Bernat, Culver, and Gert, 1981, 390–91). A similar account around that time was also endorsed by the authors of the report of the *President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research* (United States President's Commission, 1981).

Since its introduction, however, DNC has been attacked from at least two different directions. Some authors have argued that the whole brain criterion of death is philosophically indefensible, and we should go back to the good old heart and lungs criterion of death (Truog, 1997; DeGrazia, 2005). On the other hand, several authors have argued that DNC doesn't track the concept of death relevant to self-conscious or conscious beings (McMahan, 2002; Glannon 2006). They suggested that we should be considered dead as soon as we irreversibly lose the capacity to have conscious states. At the same time, there are signs of growing dissent within the general population as more and more people disagree with the diagnosis of brain death being a diagnosis of death (Pope, 2017, 2018). In light of the philosophical and legal disagreements, some prominent participants in the debate have described the current consensus on the brain death criterion as unstable (DeGrazia, 2005, 121; McMahan, 2007, 96–97; Singer, 1995, 35–37). Some authors - most notably Robert Veatch - have suggested that we can overcome this impasse by accepting that a clear-cut answer based on finding out scientific facts about the issue is out of our reach. Physicians, philosophers, bioethicists, and ordinary citizens might have different views on what it means to be dead, and - within reason - those differences must be respected by allowing people to choose from a set of possible criteria (Lachs, 1988; Sass, 1992; Emanuel, 1995; Bagheri, 2007; Zeiler, 2009; Veatch, 2019; Ross, 2018). These authors claim we should accept pluralist policy regarding death determination. We share this view, and in what follows, we will give our arguments. In the next section, we will argue that pluralism about death determination is the most reasonable view, given the circumstances.

Our argument, in part, relies on the empirical evidence that lay intuitions about death determination differ, i.e., that there is *interpersonal* psychological[2] pluralism about death. However, available evidence for *interpersonal* psychological pluralism is compatible with two different possibilities. On the one hand, different people may have different concepts of death. On the other hand, people may be *intrapersonal* psychological pluralists in that they simultaneously operate with more than one concept of death. Section III provides empirical evidence for *intrapersonal* psychological pluralism about death determination. We end the paper by discussing the implications of *intrapersonal* pluralism and arguing that it strengthens the case for allowing people to choose their preferred concept of death.

II. THE CASE FOR PLURALIST POLICY IN DEATH DETERMINATION

To determine the criterion of death, one should establish what it means to be dead. Now, who has the relevant epistemic and semantic authority on that issue? There are good reasons to think that the concept of death is not a question of medical science. Medicine certainly can claim authority in telling us what methods we should use to determine whether, for example, all brain activity has irreversibly ceased, but whether the cessation of the function of the whole brain means that a person is dead is not strictly speaking a medical question. This does not mean physicians cannot discuss these issues and have arguments favoring a particular position. But it does mean that physicians, as experts who possess medical knowledge, have no special authority in this case (Rodríguez-Arias, Molina-Pérez, and Díaz-Cobacho, 2020). To whom one might turn then? This, it seems, depends on what kind of concept one takes the concept of death to be.

The defenders of the whole brain criterion of death usually start from the assumption that death is a biological concept. For example, when Bernat, Culver, and Gert define death as the permanent cessation of functioning of the organism as a whole, they point out that "Death is considered a biological occurrence not unique to humans, and other higher animals would be considered dead according to the same definition. As a biological phenomenon, death should apply equally to related species" (Bernat, Culver, and Gert, 1981, 390). Now, it might seem that our task is not that difficult. If death is a biological phenomenon and if the brain death criterion is understood as the criterion of cessation of the organism, then it follows that as soon as we are provided with a robust concept of an organism, we will be able to arrive at an equally robust conception of what it means for an organism to cease to exist. This conception can then be used to formulate the criterion of death. However, there are at least two issues with this strategy. First, not every participant in the debate would agree that death is a purely biological phenomenon. Second, and more importantly, it seems that theoretical biology cannot help us either. In a recent paper, Nowak and Stencel have argued that despite the widely shared assumption in bioethical literature that there is a univocal biological concept of an organism, this is not the case. They show that there are multiple concepts of an organism in biology and in the philosophy of biology used for addressing a particular issue at hand, and each would give potentially different verdicts about death. Nowak and Stencel conclude that:

> [P]hilosophy of biology and biology, just like bioethics, cannot currently deliver either a universal concept of an organism or one of death. However, this does not necessarily mean that the concept of an organism is waiting to be developed. Perhaps pluralism is to be expected? (Nowak and Stencel, 2022, 143)

If Nowak and Stencel are right, then the hopes to find the hard ground for the criterion of death in biology should be abandoned. But if so, what are we left with? As we have just mentioned, not everybody agrees that death is just a biological occurrence. Some authors have proposed alternative ways of conceptualizing death. For example, Michael Green and Daniel Wikler have famously argued that those diagnosed as brain-dead are dead, not because their organisms have ceased functioning as wholes, but because they ceased to be persons (Green and Wikler, 1980). Similarly, Jeff McMahan has claimed that we are dead as soon as we cease to exist, but as we are not organisms, the concept of the death of an organism does not apply to us. According to McMahan, we are embodied minds; accordingly, our death should be conceptualized in terms of ceasing to exist as a mind (McMahan, 2002, 423–50).

Even more radically, Robert Veatch proposed that death should be understood in a normative way, namely as a loss of moral and social status (Veatch 2003, 2015).[3] These and similar proposals merit careful attention and study. However, it seems clear that none of them might claim a more or less general appeal and become a consensus account on the issue.

One could point out, however, that a critical stakeholder still needs to receive a hearing. Namely, non-experts, who are the majority. It might be objected that there is no need to inquire what lay people think about how death should be determined in medicine. If we don't do that in the case of other medical diagnoses, then why should death be an exception? However, this objection misses the point because the question we consider is not how physicians should diagnose death - we already pointed out that doctors indeed might have the right expertise regarding whether particular diagnostic criteria of death are met in a specific case - but what death is. And there are, we think, at least two good reasons why lay views on this issue matter. First, judgments of death determination have practical, social, and moral implications. Therefore, these judgments should be understandable to the public and must at least broadly align with how people understand death. Second, "death" is (also) a folk concept; therefore, non-experts might have some epistemic authority on how the concept of death is applied. For any theoretician about death, it would be arrogant to ignore that. We assume that for this reason, many participants of the debate about the criteria of death emphasize that the account they defend reflects how ordinary people think about death. For example, when Bernat, Culver, and Gert defended the whole brain criterion of death, they explicitly pointed out that their proposal aligns with how people understand death. According to them, "The definition of death must encompass the common usage of the term 'death', for 'death' is a word used by everyone, and not primarily in the fields of medicine and law" (Bernat, Culver, and Gert, 1981, 389–90). And shortly after they propose their definition of death as the permanent cessation of functioning of the organism as a whole, they point out that they believe that "this definition encompasses the traditional meaning of death." Gert, Culver, and Clouser argue against definitions of death that are not in line with the ordinary use of the term:

> If a term plays an important part in social and legal practices as "death" does, then the greater the change in the meaning of the term the greater the likelihood that there will be significant social and legal problems. (Gert, Culver, and Clouser, 1997, 252)[4]

Similarly, they also emphasize that "the definition of death must capture our ordinary use of the term, for "death" is a word used by everyone, and is not primarily a medical or legal term"(1997, 256). The same kind of concern is stressed by the authors of the President's Commission report on defining death when they write that "The Commission believes that its policy conclusions [...] must accurately reflect the social meaning of death and not constitute a mere legal fiction" (United States President's Commission, 1981, 31).[5]

We salute the sentiments expressed in the quotations above. However, it seems that so far, the only evidence about how the "term "death" is used by everyone" has been either language dictionaries or authors' intuitions but this can hardly give us a complete picture of how people think about death. To find out how non-experts think about death determination, Dranseika and Neiders (Dranseika and Neiders, 2018) conducted a vignette-based study where the participants were offered a possible description of the process of dying divided into several stages that were designed to mimic conceptions of death discussed in the bioethics literature. Study participants widely differed in their views about death determination, and a considerable proportion preferred each of the three criteria of death discussed in the literature. Similar results were obtained in a different population (Neiders and Dranseika, 2020) and using a different methodology (Neiders and Dranseika, 2023). These results suggest that there is no such thing as a unified understanding of what it means for a human being to be dead. Instead, we have a plurality of death concepts that differ from person to person.

If we want our medical and legal practices to align with the common understanding of death, then those practices must accept the evidence that people differ in their beliefs about death. In this case, the most appropriate solution is the one Robert Veatch and other pluralists suggested. Namely, competent persons should be free to choose the criterion according to which they should be diagnosed as dead, with – according to Veatch – the choice set including the three main accounts discussed in bioethical literature (circulatory-respiratory, whole brain, and higher brain). Not everyone, of course, will choose the criterion in advance. Therefore, there must be a default criterion of death that doctors can use in situations where no additional information is available on how to proceed. The whole brain death account is – according to Veatch – well suited for that role.[6] Finally, in those cases where patients have not made their stance on the criterion of death clear while being competent, the decision should be made by their legal representatives as it is already sometimes the practice in similar situations (Veatch and Ross, 2016, 111–26; Veatch, 2019, 395–96). The pluralist policy on death determination might raise some concerns, but as other authors have already addressed them, we will not discuss them here (Veatch and Ross, 2016, 126–39).

At the same time, the policy could potentially solve some problems we currently face. For example, Berkowitz and Garrett recently wrote a paper arguing for the necessity of obtaining consent for apnea testing in brain death declaration (Berkowitz and Garrett, 2020). In practice, the requirement of consent is often used as a tactic to challenge the diagnosis of death by neurological criteria (DNC) by people who are skeptical about these criteria (and underlying identification of death with brain death). We suggest that this tactical move becomes obsolete if we admit that DNC is not the only valid way to diagnose death and that identification of death with brain death is not the only valid understanding of death.[7] This solution might have some social costs, but they should not be radically different from those of the requirement to acquire consent for apnea testing. If respect for patients' autonomy justifies those costs in the case of apnea testing (and Berkowitz and Garrett argue that they are justified), the same applies to patients' rights to choose the criterion of death determination. Furthermore, this policy might have some indirect social and moral consequences. Namely, it might promote patient autonomy and avoid conflicts between patients and physicians.

III. EVIDENCE FOR *INTRAPERSONAL* PSYCHOLOGICAL PLURALISM ABOUT DEATH DETERMINATION

In the previous section, we argued for a pluralist policy on death determination. Given that people have different views about what criteria should be used to determine death and that there is no proper external authority regarding this issue, the folk views should be considered in framing the policy. However, some evidence indicates that there might also exist *intrapersonal* psychological pluralism in addition to *interpersonal* psychological pluralism.[8]

Namely, it seems that some people operate with more than one conception of what it means to be dead. To test that hypothesis, we first conducted two simple studies. In each of the studies, we provided study participants with a short vignette involving PVS or what is currently referred to as (irreversible) *unresponsive wakefulness syndrome* (UWS) (Laureys et al. 2010) - a scenario where the capacity for consciousness is permanently lost while circulatory-respiratory functions remain intact - and asked whether the character should be described as dead, not dead, or dead in one sense and not dead in a different sense.[9]

Study 1.

Participants. 635 online participants were recruited on Prolific (UK or USA nationals whose first language was English). Twenty-seven participants were removed from the study for failing at least one of the two comprehension checks, resulting in a final $N = 608$. $M_{age} = 33.8$, $SD_{age} = 12.3$, age range 18-77, 53% identified as women, 47% as men, and 1% as non-binary.

Materials. Study participants were asked to read the following scenario about themselves or about a close relative [differences between conditions in brackets]:

> Imagine that [you have / a close relative of yours has] suffered a car accident. Due to a severe head injury, [your / his] cortex is damaged, and [you have / he has] lost [your / his] ability for consciousness, and [you / he] will never regain it. That means that [you / he] cannot sense, feel or think, although [you / he] are still breathing and [your /his] heart is still beating.

After reading the scenario, study participants indicated to what extent they agree or disagree with the following three claims (on the scale from a scale from 1 to 7, where 1 means 'Completely disagree' and 7 means 'Completely agree'), presented in randomized order:[10]

> 'In this situation, [I am / my relative is] clearly dead.'
>
> 'In this situation, [I am / my relative is] clearly not dead.'
>
> 'In this situation, there's a sense in which [I am / my relative is] not dead, but there is also a sense in which [I am / my relative is] dead.'

Results. No differences were observed in responses to either of the three claims between self / relative conditions (Mann-Whitney U tests, all *p*s > .10). Thus, the data were collapsed across conditions for further analysis.

Friedman test indicated that study participants agree with the three claims to different degrees, $\chi^2(2) = 349$, $p < .001$. Durbin-Conover post-hoc tests indicate that study participants were more likely to agree with the pluralist option ($Mdn = 6$) than with the person being dead ($Mdn = 4$, $t = 18.21$, $p < .001$) or being not dead ($Mdn = 4$, $t = 19.96$, $p < .001$). The latter two options did not differ, $t = 1.74$, $p = .082$. Indeed, 7 (Completely agree) was the modal response to the pluralism claim, selected by 46% of participants. Responses to all three questions are plotted in Figure 1.

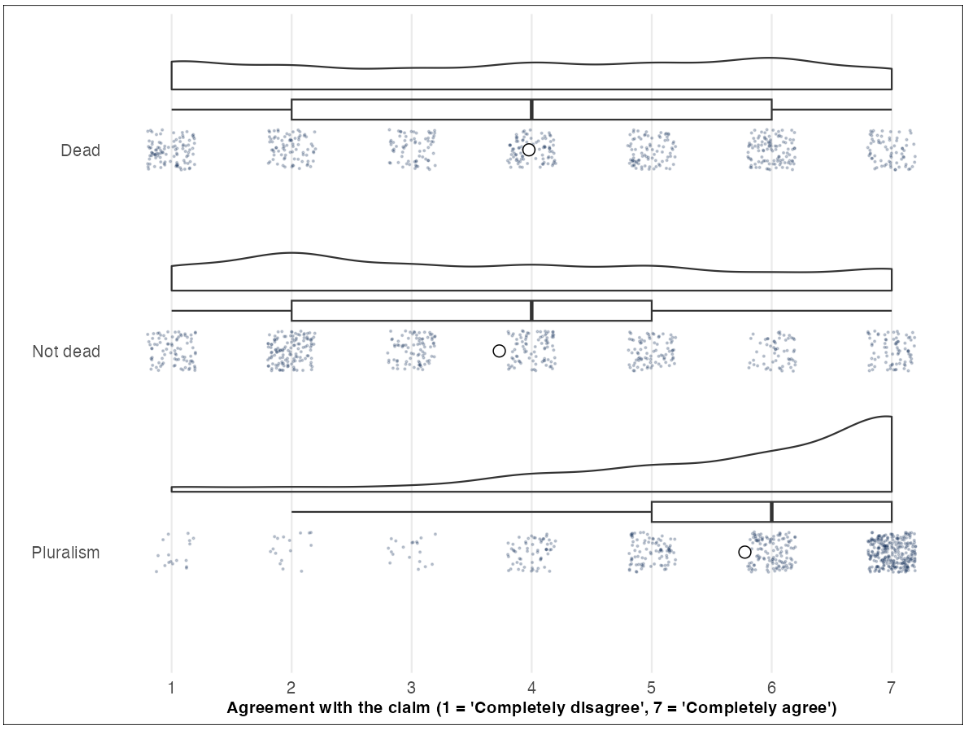

Fig. 1. Results of Study 1. Study participants' agreement with the three claims about death. Responses are on the scale from 1 to 7, where 1 means 'Strongly disagree' and 7 means 'Strongly agree'.

Discussion. The present study suggests that study participants are drawn to a pluralist option when evaluating a case of irreversible UWS. They tend to agree that in this situation, there's a sense in which one is not dead, but there is also a sense in which one is dead. This preliminary result suggests that study participants have the conceptual resources to formulate this ambiguous ascription of death. Arguably, in most cases, the (at least) two senses of death do not diverge - one is either dead in both senses or alive in both senses. However, in some borderline scenarios – including the one used in Study 1 – the two senses of death may diverge.

Study 2.

Participants. Seventy-two online participants were recruited on Prolific (UK or USA nationals whose first language was English). Two participants were removed from the study for failing at least one of the comprehension checks, resulting in a final $N = 70$. $M_{\text{age}} = 38.6$, $SD_{\text{age}} = 12.1$, age range 18-64, 47% identified as women, 53% as men.

Materials. Study participants read the same scenario as in Study 1 (version about the self), followed by the same comprehension checks.

After reading the scenario, study participants had to choose which of the following three claims is the best description of this imagined situation (claims presented in randomized order):

In this situation, **I am dead**. There is no sense in which I am not dead.

In this situation, **I am not dead**. There is no sense in which I am dead.

In this situation, there's a sense in which **I am not dead**, but there is also a sense in which **I am dead**.

On the next page, study participants were asked to explain their response to the previous question in one or two sentences.

Results. A chi-square test of goodness-of-fit was performed to determine whether the three descriptions were equally preferred. Answers were not equally distributed in the population, $\chi^2(2, N = 70) = 82$, $p < .001$. 84% of participants answered, "In this situation, there's a sense in which I am not dead, but there is also a sense in which I am dead." A binomial test indicated that this was significantly more often than would be expected by chance alone (which would be 33.3%), $p < .001$, 95% CI = [74%; 92%]. The other two options were selected less frequently than could be expected by chance alone. The next most common response was that I am not dead (10%; $p < .001$). The remaining 6% of participants chose "I am dead", $p < .001$. Results are plotted in Figure 2.

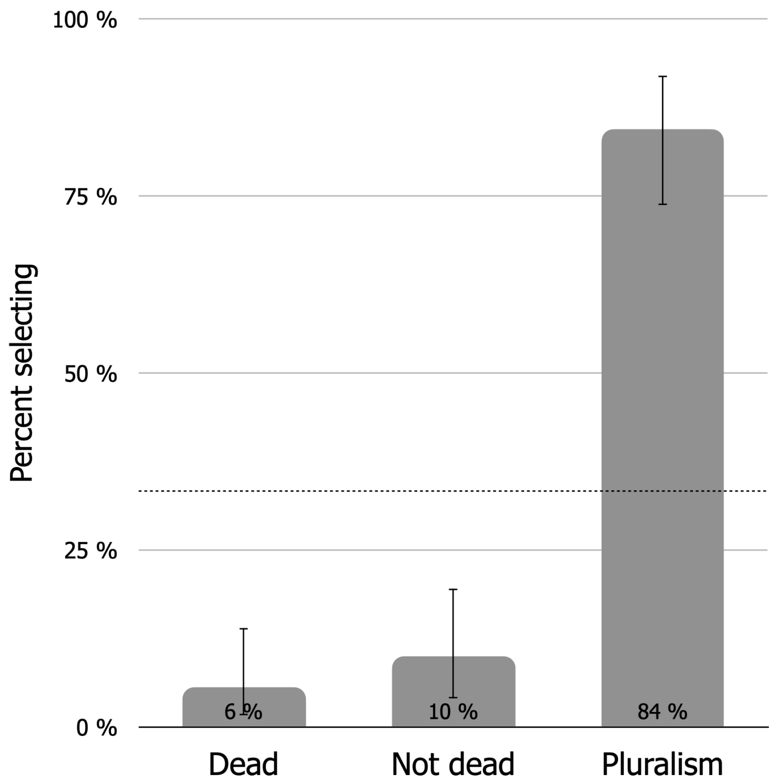

Fig. 2. Results of Study 2, showing the percentage of participants who selected each of the three descriptions of the situation. The dotted reference line indicates the percentage of responses that could be expected by chance (33.3%). Error bars represent 95% CIs.

Qualitative examples. We asked study participants to provide short explanations why they answered the way they did. Here are some typical explanations provided by the participants who said that in the described scenario, they are not dead in one sense but dead in another: “Because my heart is still beating, then I am not technically dead, but I am also not conscious so therefore I'm not living a life.” (F, 47) “Your heart is still beating, therefore biologically you are still alive. However, without your mind and consciousness, you are unable to have a good quality of life and make memories with your friends and family, and in this situation, your life is over." (F, 30) “You’re not dead in that your body is still alive, but you are dead in that you’ll never wake up and be able to live your life.” (F, 32) “I would say that I am technically brain dead in this situation. I am not all the way dead because my heart is still beating, but every other aspect of myself is dead. My soul is dead.” (F, 22) "You are alive, strictly speaking, but would have zero quality of life and nothing to gain from or contribute to society, so you are effectively dead." (M, 53) The use of such adverbs as “biologically”, “technically”, “strictly speaking” suggest that the participants in their explanations tried to specify the meaning of a particular concept of death that they think does not apply to the case described in the vignette (we can label it “biological death”) and which they want to contrast with another concept of death (we can label it “psychological death”), that according to them, fits the case.

This mental aspect of death is often interpreted in the broader context of what it means to live a life. In this sense, psychological death could also be understood as social death, as losing the capacity to engage with life’s projects. Therefore, it seems that the participants are aware that they are operating with two different concepts of death, and they can articulate them.

Discussion. As the previous study, Study 2 also suggests that in evaluating a case of irreversible UWS, study participants are drawn to a pluralist option. If the participants are forced to choose between the three different options (dead, not dead, in one sense dead, but in another sense not dead), an overwhelming majority of participants choose the pluralist option. The explanations provided by the participants show that they understand they are operating with two different concepts of death.

Furthermore, explanations provided by the participants suggest that while they operate with several concepts of death, they may attach different value to different concepts. Consequently, their preferences about death determination may track a specific concept of death while they at the same time recognize that there are other conceptualizations of death. This potential divergence considerably differs from the stance assumed by most authors in the philosophical literature on death. Namely, there is a common assumption that one needs to determine the fact that somebody is dead, and only then do evaluative attitudes follow. Let’s label it the “facts-first” approach. Study 2 signals that that is not how the study participants judge. To further explore this possibility, we conducted another small study.

Study 3.

Participants. 280 online participants were recruited on Prolific (UK or USA nationals whose first language was English). Five participants were removed from the study for failing at least one of the comprehension checks, resulting in a final $N = 275$. $M_{\text{age}} = 37.6$, $SD_{\text{age}} = 13.0$, age range 18-70, 51% identified as women, 49% as men, and one as non-binary.

Materials. Study participants read the same scenario as in Study 1, followed by the same comprehension checks. Half of the participants read the vignette about the self, while the rest – about a close relative.

After reading the scenario, study participants answered the following question:

> In this situation, would you be in fact dead or not dead? Is your preference that, in this situation, you should be declared dead or should not be declared dead?

The following four response options were presented in a randomized order (differences between self and relative conditions in the square brackets; curly brackets contain the shortened label of the response option (not shown to participants)):

> {FD & PD} (a) In this situation, [I AM / MY RELATIVE IS] in fact dead and (b) my preference is that, in this situation, [I / MY RELATIVE] SHOULD BE declared dead.
>
> {FD & P¬D} (a) In this situation, [I AM / MY RELATIVE IS] in fact dead but (b) my preference is that, in this situation, [I / MY RELATIVE] SHOULD NOT BE declared dead.
>
> {F¬D & PD} (a) In this situation, [I AM / MY RELATIVE IS] NOT in fact dead but (b) my preference is that, in this situation, [I / MY RELATIVE] SHOULD BE declared dead.
>
> {F¬D & P¬D} (a) In this situation, [I AM / MY RELATIVE IS] NOT in fact dead and (b) my preference is that, in this situation, [I / MY RELATIVE] SHOULD NOT BE declared dead.

Half of the study participants were also asked to explain their response to this question in one or two sentences.

Results. Independent samples chi-square test of association indicated that the pattern of responses differed depending on the condition, $\chi^2(3, N = 275) = 8.15$, $p = .043$. Therefore, we will present self and relative data separately.

Self. A chi-square test of goodness-of-fit was performed to determine whether the four descriptions were equally preferred. Answers were not equally distributed in the population, $\chi^2(3, N = 138) = 76.1$, $p < .001$. 54% of participants chose the answer "(a) In this situation, I AM NOT in fact dead but (b) my preference is that, in this situation, I SHOULD BE declared dead," (F¬D & PD). A binomial test indicated that this was significantly more often than would be expected by chance alone (which would be 25%), $p < .001$, 95% CI = [46%; 63%]. The other three options were selected at or below the chance level. The next most common response was F¬D & P¬D (23%; $p = .556$), followed by FD & PD (20%, $p = .238$) and FD & P¬D (3%, $p < .001$). Results are plotted in Figure 3a.

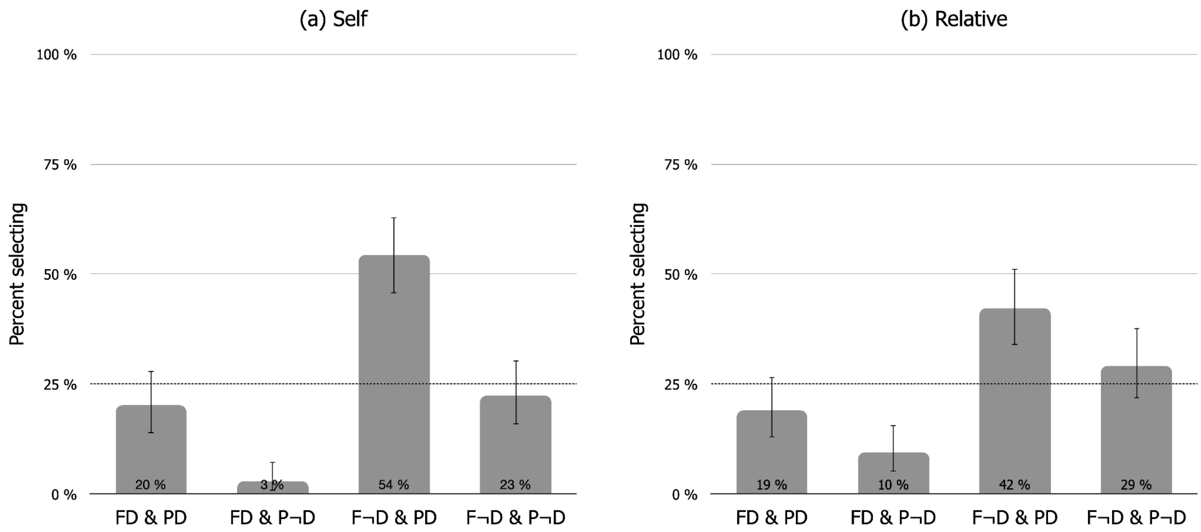

Fig. 3. Results of Study 3, showing the percentage of participants who selected each of the four response options in self (a) and relative (b) conditions. The dotted reference line indicates the percentage of responses that could be expected by chance (25%). Error bars represent 95% CIs.

Relative. A chi-square test of goodness-of-fit was performed to determine whether the four descriptions were equally preferred. Answers were not equally distributed in the population, $\chi^2(3, N = 137) = 32.6$, $p < .001$. 42% of participants chose the answer "(a) In this situation, MY RELATIVE IS NOT in fact dead but (b) my preference is that, in this situation, MY RELATIVE SHOULD BE declared dead," (F¬D & PD). A binomial test indicated that this was significantly more often than would be expected by chance alone (which would be 25%), $p < .001$, 95% CI = [34%; 51%]. The other three options were selected at or below the chance level. The next most common response was F¬D & P¬D (29%; $p = .277$), followed by FD & PD (19%, $p = .114$) and FD & P¬D (10%, $p < .001$). Results are plotted in Figure 3b.

Qualitative examples. To better grasp what motivates the study participants' answers, we asked half of them to provide short explanations. We were primarily interested in the explanations of those participants who chose the answer F¬D & PD either in the self or the relative condition. Overall, there were no considerable differences between the reasons given in the relative and the self condition. To justify their answers, the participants tried, on the one hand, to specify a sense in which they tended to describe themselves or their relative as not dead and, on the other hand, to justify why they still would prefer themselves or their relative to be considered dead. To explain why they think themselves (or a relative) alive, the participants used such words and phrases as "technically alive", "biologically alive", "medically alive", "alive in the most basic sense", and "scientifically alive". This, as we may label it, biological sense of being alive was contrasted with the sense in which they (or their relatives) should be considered dead, which in turn was framed in terms that referred to mental capacities and social interaction with others.

Thus, we observed a similar distinction between biological and psychological (and social) senses of death that we already saw in Study 2, albeit now it was used for a slightly different purpose. Here are a few typical examples: "I believe that even though my body is still technically functioning and alive, my personality and soul, arguably what makes me who I am, is not alive. Therefore, I believe I am dead, even though my body can still keep itself alive.” (M 31) I am still alive but not in the form that I want to be in. There is no point being alive where there is no hope of partaking in life in any form.” (F 48) “If you can never regain consciousness then I believe it is fairer for myself and my friends and family if I was pronounced dead.” (F 28) “The bare minimum is what is keeping me 'alive', but it would only be a shell of whom I used to be. Without senses and consciousness, a body is just a body with no soul and thus should be declared dead. I wouldn't want the last memories of me to be just that.” (F 32) “I wouldn't be completely dead, but I might as well be declared dead as I am brain-dead and won't regain consciousness.” (F 26) “I think that if a body is still able to be alive on its own, it is technically alive (there was no mention of life support etc.). However, there is no quality of life.” (F 38) “While my relative is not technically dead, they will have no meaningful life to live. While painful, it would therefore be easier for them to be declared dead.” (M 58) “My reasoning is that they are breathing so they are technically alive, but since they will be in unconscious for the rest of their life and cannot think or feel anything they should be legally declared dead.” (F 28)

Discussion. Study 3 provides some preliminary evidence that for many study participants, beliefs about facts about death diverge from beliefs about preferences about death determination. This is especially pronounced when study participants think about themselves (54% vs 42% of F¬D & PD responses in, respectively, self and relative conditions). The study's qualitative data indicates that for many participants, the judgments about death seem to diverge into a less demanding descriptive part and a more demanding normative part. While they recognize the basic descriptive truth of the thin biological notion of death, their preferences seem rooted in a more demanding psychological notion of death.

General Discussion

Studies 1 and 2 provide evidence for *intrapersonal* psychological pluralism. The folk seem to operate with at least two different concepts of death: a narrow biological one and a broader psychological one. Many participants in the debate about death determination are aware of this, especially those who argue for the cortical (or higher brain) criterion of death. So, for example, Jeff McMahan spends considerable effort to argue for the claim that we have two distinct concepts of death - “the death of the organism and the death of the person (or, more precisely, of the mind or self)” (McMahan, 2002, 439). Given that, in his view, we are not organisms but embodied minds, only the latter concept is relevant for determining our death. Therefore, McMahan ignores the biological concept at the expense of the psychological. Something similar takes place in the camp of the defenders of the biological concept of death. We already saw that when Bernat, Culver, and Gert tried to justify the whole brain criterion of death, they defined death as an exclusively biological phenomenon. Moreover, they presented their definition as reflecting the ordinary understanding of death. If our studies are on the right track, this is not how people think about death.

In this regard, our results concur with the view defended by Stephen Holland (Holland, 2010). Holland argues that our ordinary concept of death involves both biological and psychological aspects. He points out that this explains why the debate about death determination seems “intransigent and interminable.” According to Holland, the problem is not that the proposed biological or psychological definitions are wrong. The problem lies in the assumption that death must be defined exclusively in biological or psychological terms.

This assumption, Holland thinks, is mistaken (Holland, 2010, 115). We believe Holland's diagnosis has an important grain of truth. Empirical evidence suggests a considerable variation from person to person regarding when a person should be diagnosed as dead. Further, the evidence reported in this paper suggests that, especially in ambiguous cases, the study participants often use at least two distinct concepts of death simultaneously. Therefore, in addition to *interpersonal* psychological pluralism, we also have *intrapersonal* psychological pluralism. What implications might this evidence have for the normative claim introduced by Veatch and endorsed in this paper that people should be free to decide which criterion of death applies to them?

At first sight, it seems that an argument can be made that *intrapersonal* psychological pluralism threatens Veatch's pluralist account about death determination because if *intrapersonal* pluralism is true, that might mean that the judgments about the criteria of death made by non-experts are arbitrary as people don't have any stable views about death. However, we think that a defender of Veatch's pluralism should not be impressed by this argument. First, the fact that the participants operate with several concepts of death in ambiguous cases does not imply that their views about death are unstable. It rather shows that they can draw subtle distinctions and explain their reasoning about such cases. Further, we don't know what exactly drives the choice of the concept of death for each case. This is a matter for further research. It seems, however, that in this regard, the experts don't find themselves in a position that is relatively more privileged than that of non-experts. But if that is the case, then there is nothing that, all things being equal, can be said against a person's judgment that a particular criterion should be applied in their case. The fact that a person sees merit in and can apply several concepts of death does not imply that they will find it impossible - or even difficult - to choose which concept they prefer. Therefore, it looks like Veatch's pluralist account is not threatened by intrapersonal pluralism.

Furthermore, Study 3 demonstrates divergence between factual beliefs about death and preferences about death. This result, of course, does not provide independent evidence for intrapersonal pluralism.[11] However, in the light of the results of Studies 1 and 2 (as well as qualitative studies by Holland and his colleagues) which provide evidence for intrapersonal pluralism that does not rely on fact/preference distinction, we believe that intrapersonal pluralism provides a plausible interpretation of the fact/preference divergence observed in Study 3. Given that people seem to operate with at least two distinct concepts of death and given that they tend to assign one of them especial personal and social relevance, the two concepts can systematically support the fact/preference divergence observed in Study 3. A possibility to ascribe 'facts' and 'preferences' simultaneously provides study participants an opportunity to both signal that they recognize that a person in UWS is alive in a sense (and adjectives such as 'technically', 'scientifically', 'medically', 'biologically' specify that they consider this sense to be - while valid - pretty minimal) and also to root their preferences in a more demanding notion of being alive - the one that supports complex mental capacities and social interactions.[12]

Qualitative responses suggest that for many study participants, the more important judgments about death are rather a matter of preferences, not descriptive facts. This goes against the mainstream attitude in the philosophical literature on death that defends the "facts-first" approach. There are some dissidents, however. For example, when Jonathan Glover addressed the issue of competing criteria for death in his now-classical book *Causing Death and Saving Lives*, he pointed out that:

> The only way of choosing is to decide whether or not we attach any value to the preservation of someone irreversibly comatose. Do we value 'life' even if unconscious, or do we value life only as a vehicle for consciousness? (Glover, 1990, 45)

Similarly, Robert Veatch has argued that the debate about the determination of death is primarily moral. Veatch claims that the word 'death' should be defined as the name that is applied

> to the category of beings who no longer have full moral standing as members of the human community with all the rights of that community (including the right not to be killed). This is no longer a biological use of the term; rather, it is a moral and legal use, what I call the "social meaning of death." One first identifies who it is who is no longer part of the community in the full sense, that is, those not protected by laws against homicide, those who no longer can claim health insurance, those for whom life insurance should pay off, those whose spouses appropriately assume widowhood, etc., and then calls that group *dead* by definition. (Veatch, 2015, 297)

This account of death has received a lot of criticism from other philosophers. For example, David DeGrazia has criticized Veatch by pointing out that death, of course, is a morally important issue, but this does not make it a moral concept (DeGrazia, 2005, 139–41).[13] From the mainstream philosophical point of view, Glover and Veatch are approaching the issue from the wrong end. We should establish facts first, and then we can settle the attitudes. However, according to the account suggested by Glover and Veatch, it is the other way around, as the attitudes are now in the driver's seat, and they help to navigate the facts. Our Study 3 suggests that our study participants tend to be on Glover and Veatch's side on this issue. If we follow this line of thought, then it appears that the whole "facts-first" approach should be discarded because non-experts mostly don't care about thin descriptive facts. We should honor their preferences precisely because they are their preferences, not because they are grounded in beliefs about "facts". Or, perhaps we should say that they do care about facts. Not abstract facts of whether someone is technically alive, but facts about what kind of life is attainable in a given state. Whatever way one takes it, the outcome is still the same - the case for the pluralist policy becomes stronger.

While our approach is based on the premise that individual beliefs and preferences about death *should matter* in discussions about death determination policies, we do not claim that *only they matter*. While ordinary people are the most important stakeholders in end-of-life discussions, and their perspectives must be taken seriously, this is a start rather than the end of the discussion. While we are skeptical that scientists or philosophers should have a special authority on matters of life and death, they are important moderators of public discussion, and there are certainly open practical questions of how the pluralistic policy is to be (if at all) implemented. After all, we know too well that often people are extremely passionate about preferences of other people.

We started our discussion of the pluralist policy – following Veatch - from a rather rigid first-pass description: choice set should contain the three main accounts of death discussed in the bioethical literature, with whole brain as a default option.[14] This, however, is not an essential feature of the pluralist policy. Perhaps, sufficiently strong ethical, legal or policy arguments can be offered against including some of the options. At this moment in history, for example, higher brain death is bound to be the most controversial of the three options, not least because of a difficulty to reliably diagnose it. Furthermore, existing work on folk concept of death largely took the framework employed in bioethical and philosophical discussions for granted. It is possible that research conducted in a more bottom-up manner would introduce important correctives.[15]

IV. CONCLUSION

The paper's central argument can be summarized as follows. First, the academic debate about the criterion of death determination in medicine has produced an unstable consensus about whole brain death as the correct diagnostic criterion. Further, the pressure against the whole brain death is mounting within the academic debate and the general population. Next, empirical studies indicate that non-experts' views on death determination vary, and a considerable proportion of study participants support each of the three main accounts of death determination defended in the literature. Therefore, provided the disagreement between the experts and varying views of non-experts, the most reasonable solution to the problem of the criterion of death determination seems to be one proposed by Robert Veatch, according to which people should be allowed to choose the criterion of death that appears to them most acceptable. Veatch’s pluralist policy seems especially appealing if one aims to propose a solution that aligns with laypersons' views. As we indicate in our paper, it seems this was a theoretical desideratum of some authors who have defended the whole brain criterion of death. The pluralist account of death determination is further supported by the empirical evidence presented in the paper. First, there is evidence that non-philosophers simultaneously operate with more than one concept of death. Second, the study on differences between fact and preference judgments about death indicates that study participants’ preferences tend to track not the thinly biological notion of death but rather a much richer notion that understands death in contrast to continuous engagement with life’s projects.

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NOTES

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[1] For a short history of the acceptance of brain death see (Bernat and Lewis, 2022).

[2] We use phrase ’psychological pluralism’ to distinguish empirical claims that people interpersonally differ in their concepts of death and intrapersonally operate with several concepts of death from normative suggestions

about ’pluralist policy’ of determination of death. Our argument is that psychological pluralism strengthens the case for the pluralist policy.

3 A similar claim has recently been defended by Piotr Nowak (Nowak, 2023).

4 They raise the point of dangers of redefinition of death later when they argue against the proposal that death should be defined as “the irreversible loss of that which is essentially significant to the nature of person” (263). They note that there might be a practical advantage in regarding patients who have ceased to be persons as dead. Namely, in the procurement of organs for transplantation. Suppose physicians wait until the whole brain death is diagnosed (i.e., until the organism ceases to function as a whole). That would reduce the chances of a successful transplant. However, according to Gert et al., this kind of consideration should be avoided as “Changing the definition of death in order to gain some practical advantage in transplantation is exactly the kind of maneuver that concerns many people. If it is known that the definition of death has been changed to obtain better quality organs for transplantation, distrust of the medical profession is bound to increase. Changing the meaning of ordinary words for practical advantage is far too likely to be mistrusted and misused for it to confer any overall practical advantage” (264.)

5 See also pp. 36, 38, 40, 45.

6 This default status could be justified by appeals to the fact that the whole brain death criterion is already by default used by clinicians around the world as well as the fact that it was preferred by the largest proportion of study participants in currently available studies (e.g. Neiders and Dranseika 2020). While we are committed to the pluralistic policy, specific details of how it is to be implemented - including choice-set and the default criterion - can of course be revised in response to new evidence.

7 We admit though that this is not true in all cases. Somebody, who accepts brain death might still object to medical procedure that is potentially harmful and offers no benefit to the patient. We would like to thank an anonymous reviewer for pointing this out.

8 For qualitative evidence suggesting that people may simultaneously operate with several distinct concepts of death, see (Holland, Kitzinger, and Kitzinger, 2014) and (Kitzinger and Kitzinger, 2014). On intrapersonal pluralism about personal identity, see (Neiders and Dranseika, 2023, 209).

9 Study materials and data are available on Open Science Framework (https://osf.io/q9dpj/).

10 As a comprehension check, study participants were also asked to indicate whether the following claims are true in the imagined situation: ‘In the imagined situation, [your / your relative's] heart is still beating.’ and ‘In the imagined situation, [you / your relative] will regain consciousness.’

11 We thank an anonymous reviewer for pressing us on this issue.

12 Of course, Study 3 taken in isolation does not provide support for intrapersonal pluralism. One could argue - non-pluralistically - that what study participants mean by “should be declared dead” is simply “life support should be withdrawn” or “should be euthanized” (we thank an anonymous reviewer for pressing us on this issue). In the light of intrapersonal pluralism revealed in Studies 1 and 2, however, we believe that an interpretation of fact/preference distinction is available that maps this distinction on different conceptions of death.

13 For the criticism of Glover's account, see (Green and Wikler, 1980, 116–17).

14 Following Veatch (2019), it would be more correct to call them not accounts of death but major groups of positions as within each group there might be numerous separate accounts formulated.

15 We would like to thank anonymous reviewers for this journal for their encouragement to elaborate on the issues addressed in this and the previous paragraph.

REFERENCES

Ad Hoc Committee. 1968. A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death. *JAMA* 205 (6): 337–40. doi:10.1001/jama.1968.03140320031009.

Bagheri, A. 2007. Individual Choice in the Definition of Death. *Journal of Medical Ethics* 33 (3). Institute of Medical Ethics: 146–49. doi:10.1136/jme.2006.016014.

Berkowitz, I., and J. R. Garrett. 2020. Legal and Ethical Considerations for Requiring Consent for Apnea Testing in Brain Death Determination. *The American Journal of Bioethics* 20 (6). Taylor & Francis: 4–16. doi:10.1080/15265161.2020.1754501.

Bernat, J. L., C. M. Culver, and B. Gert. 1981. On the Definition and Criterion of Death. *Annals of Internal Medicine* 94 (3). American College of Physicians: 389–94. doi:10.7326/0003-4819-94-3-389.

Bernat, J. L., and A. Lewis. 2022. Historical Introduction. In *Death Determination by Neurologic Criteria: Areas of Consensus and Controversy*, edited by Ariane Lewis and James L. Bernat, 1–7. Advances in Neuroethics. Cham: Springer International Publishing. doi:10.1007/978-3-031-15947-3_1.

DeGrazia, D. 2005. *Human Identity and Bioethics*. Cambridge: Cambridge University Press. doi:10.1017/CBO9780511614484.

Dranseika, V., and I. Neiders. 2018. In Defense of a Pluralistic Policy on the Determination of Death. *Ethics & Bioethics* 8 (3–4): 179–88. doi:10.2478/ebce-2018-0016.

Emanuel, L. L. 1995. Reexamining Death The Asymptotic Model and a Bounded Zone Definition. *Hastings Center Report* 25 (4): 27–35. doi:10.2307/3562159.

Gert, B., C. M. Culver, and K. D. Clouser. 1997. *Bioethics: A Return to Fundamentals*. Oxford University Press.

Glannon, W. 2006. *Bioethics and the Brain*. Oxford, New York: Oxford University Press.

Glover, J. 1990. *Causing Death and Saving Lives: The Moral Problems of Abortion, Infanticide, Suicide, Euthanasia, Capital Punishment, War, and Other Life-or-Death Choices*. New Ed edition. London: Penguin UK.

Green, M. B., and D. Wikler. 1980. Brain Death and Personal Identity. *Philosophy & Public Affairs* 9 (2): 105–33.

Greer, D. M., S. D. Shemie, A. Lewis, S. Torrance, P. Varelas, F. D. Goldenberg, J. L. Bernat, et al. 2020. Determination of Brain Death/Death by Neurologic Criteria: The World Brain Death Project. *JAMA* 324 (11): 1078–97. doi:10.1001/jama.2020.11586.

Holland, S. 2010. On the Ordinary Concept of Death. *Journal of Applied Philosophy* 27 (2): 109–22. doi:10.1111/j.1468-5930.2010.00478.x.

Holland, S., C. Kitzinger, and J. Kitzinger. 2014. Death, Treatment Decisions and the Permanent Vegetative State: Evidence from Families and Experts. *Medicine, Health Care and Philosophy* 17 (3): 413–23. doi:10.1007/s11019-013-9540-y.

Kitzinger, C., and J. Kitzinger. 2014. 'This In-Between': How Families Talk about Death in Relation to Severe Brain Injury and Disorders of Consciousness. In *The Social Construction of Death: Interdisciplinary Perspectives*, edited by Leen Van Brussel and Nico Carpentier, 239–58. London: Palgrave Macmillan UK. doi:10.1057/9781137391919_13.

Lachs, J. 1988. The Element of Choice in Criteria of Death. In *Death: Beyond Whole-Brain Criteria*, edited by Richard M. Zaner, 233–51. Philosophy and Medicine. Dordrecht: Springer Netherlands. doi:10.1007/978-94-009-2707-0_13.

Laureys, S., G. G. Celesia, F. Cohadon, J. Lavrijsen, J. León-Carrión, W. G. Sannita, L. Sazbon, et al. 2010. Unresponsive Wakefulness Syndrome: A New Name for the Vegetative State or Apallic Syndrome. BMC Medicine 8 (1): 68. doi:10.1186/1741-7015-8-68.

Lewis, A., A. Bakkar, E. Kreiger-Benson, A. Kumpfbeck, J. Liebman, S. D. Shemie, G. Sung, S. Torrance, and D. Greer. 2020. Determination of Death by Neurologic Criteria around the World. *Neurology* 95 (3). Wolters Kluwer Health, Inc. on behalf of the American Academy of Neurology: e299–309. doi:10.1212/WNL.0000000000009888.

McMahan, J. 2002. *The Ethics of Killing: Problems at the Margins of Life*. Oxford Ethics Series. Oxford, New York: Oxford University Press.

———. 2007. The Metaphysics of Brain Death. *Bioethics* 9 (2): 91–126. doi:10.1111/j.1467-8519.1995.tb00305.x.

Neiders, I., and V. Dranseika. 2020. Minds, Brains, and Hearts: An Empirical Study on Pluralism Concerning Death Determination. *Monash Bioethics Review* 38 (1): 35–48. doi:10.1007/s40592-020-00114-0.

———. 2023. Death and Personal Identity: An Empirical Study on Folk Metaphysics. In *Experimental Philosophy of Medicine*, edited by Kristien Hens and Andreas De Block, 1st ed., 191–213. Advances in Experimental Philosophy. Bloomsbury Publishing.

Nowak, P. G. 2023. Death as the Cessation of an Organism and the Moral Status Alternative. *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine*, May, jhad018. doi:10.1093/jmp/jhad018.

Nowak, P. G., and A. Stencel. 2022. How Many Ways Can You Die? Multiple Biological Deaths as a Consequence of the Multiple Concepts of an Organism. *Theoretical Medicine and Bioethics* 43 (2): 127–54. doi:10.1007/s11017-022-09583-2.

Pope, T. 2017. Brain Death Forsaken: Growing Conflict and New Legal Challenges. *Journal of Legal Medicine* 37 (3–4). Taylor & Francis: 265–324. doi:10.1080/01947648.2017.1385041.

———. 2018. Brain Death and the Law: Hard Cases and Legal Challenges. *Hastings Center Report* 48 (S4): S46–48. doi:10.1002/hast.954.

Rodríguez-Arias, D., A. Molina-Pérez, and G. Díaz-Cobacho. 2020. Death Determination and Clinicians' Epistemic Authority. *The American Journal of Bioethics* 20 (6). Taylor & Francis: 44–47. doi:10.1080/15265161.2020.1754514.

Ross, L. F.. 2018. Respecting Choice in Definitions of Death. *Hastings Center Report* 48 (S4): S53–55. doi:10.1002/hast.956.

Sass, H. 1992. Criteria for Death: Self-Determination and Public Policy. *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 17 (4): 445–54. doi:10.1093/jmp/17.4.445.

Singer, P. 1995. *Rethinking Life and Death: The Collapse of Our Traditional Ethics*. Oxford, New York: Oxford University Press.

Truog, R. D. 1997. Is It Time to Abandon Brain Death? *Hastings Center Report* 27 (1): 29–37. doi:10.1002/j.1552-146X.1997.tb00021.x.

United States President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. 1981. *Defining Death: A Report on the Medical, Legal and Ethical Issues in the Determination of Death*. https://scholarworks.iupui.edu/handle/1805/707.

Veatch, R. M. 2003. The Dead Donor Rule: True by Definition. *The American Journal of Bioethics* 3 (1): 10–11. doi:10.1162/152651603321611791.

———. 2015. Killing by Organ Procurement: Brain-Based Death and Legal Fictions. *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 40 (3): 289–311. doi:10.1093/jmp/jhv007.

———. 2019. Controversies in Defining Death: A Case for Choice. *Theoretical Medicine and Bioethics* 40 (5): 381–401. doi:10.1007/s11017-019-09505-9.

Veatch, R. M., and L. F. Ross. 2016. *Defining Death: The Case for Choice*. Georgetown University Press.

Zeiler, K. 2009. Deadly Pluralism? Why Death-Concept, Death-Definition, Death-Criterion and Death-Test Pluralism Should Be Allowed, Even Though It Creates Some Problems. *Bioethics* 23 (8): 450–59. doi:10.1111/j.1467-8519.2008.00669.x.