

## DEFINING DEATH: BEYOND BIOLOGY

– John P. Lizza –

**Abstract.** The debate over whether brain death is death has focused on whether individuals who have sustained total brain failure have satisfied the biological definition of death as “the irreversible loss of the integration of the organism as a whole.” In this paper, I argue that what it means for an organism to be integrated “as a whole” is undefined and vague in the views of those who attempt to define death as the irreversible loss of the integration of the organism as a whole. I show how what it means for a living thing to be integrated as a whole depends on the sortal (kind) concept by which it is identified. Since interests, values, and ontological considerations besides strictly biological ones affect the concepts by which we individuate and identify living things, those non-biological considerations have a bearing on what it means for a particular kind of living thing to exist as a whole and thus what it means for one of us to die. Even if our bodies may remain organically integrated in some sense despite total brain failure, this fact should not lead us to reject brain death as death. Artificially sustained brain-dead human bodies are not human beings, but the remains of them. While such bodies may be alive in some sense, they are not human beings or human persons. They are not one of us.

**Keywords:** death, definition of death, brain death, neurological criterion for determining death.

Many of those engaged in the debate over the definition and criteria for determining death work within what James Bernat has called the “biological paradigm” of death.<sup>1</sup> They accept the idea that our death may be defined in strictly

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<sup>1</sup> Bernat (2002): 329–330. The “biological paradigm” is a set of assumptions that Bernat believes frames any meaningful talk about death. It consists of seven assumptions:

- (1) *Death* is a non-technical word that we all use correctly to refer to the cessation of an organism’s life.
- (2) *Death* is a biological concept and not one that is socially constructed; the event of death is an objective, immutable biological fact that can be studied, described, and modeled, but cannot be altered or contrived.
- (3) *Death* should be univocal across higher animal species and not defined idiosyncratically for *Homo Sapiens*.
- (4) Because the concept of death is biological, it may be applied directly only to organisms: all living organisms must die and only living organisms can die. Any other use of *death*, such as the death of a person or culture, is a metaphorical use of the term.
- (5) “Alive” and “dead” are the only two fundamental underlying states of any organism. All organisms must be alive or dead; none can be both or neither.
- (6) Death is an event and not a process.
- (7) Death is irreversible.

biological terms as the irreversible loss of the integration of the organism as a whole. However, they differ on whether individuals who have irreversibly lost all brain functions are dead. Defenders of the whole-brain neurological criterion for death, such as Bernat, argue that the brain is the critical control center for the integration of the human organism as a whole.<sup>2</sup> Thus, because individuals with total brain failure lack organic integration, they are dead. Critics of the neurological criterion, such as D. Alan Shewmon, on the other hand, argue that the brain is not necessary for the integration of the organism as a whole.<sup>3</sup> Pointing to cases of artificially sustained whole-brain-dead pregnant women and the extraordinary case in which a whole-brain-dead human body was artificially sustained for over twenty years, these critics argue that brain function is not necessary for human organisms to be alive. They accept only the traditional criterion of irreversible loss of circulation and respiration for determining death. The 2008 U.S. President's Council on Bioethics agrees with the critics, that artificially sustained whole-brain-dead bodies may have a degree of internal organic integration and are not just collections of disintegrated organic parts. However, the Council essentially defines organic integration of the human organism as a whole, not internally in terms of the coordination or integration of its parts, but externally in terms of its having a "spontaneous drive" and "felt need" to interact with its environment in a life-sustaining way.<sup>4</sup> In the Council's view, because individuals with total brain failure lack this "drive" and "felt need" to breathe and consciously interact with the world, they are no longer integrated organisms as a whole and are therefore dead.

In this paper, I will argue that what it means for an organism to be integrated "as a whole" is undefined and vague in the views of those who attempt to define death as the irreversible loss of the integration of the organism as a whole. Indeed, there may be no univocal notion of what it means for any organism or even just "higher order" organisms to be integrated as a whole, as assumed in the

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<sup>2</sup> Bernat (2006).

<sup>3</sup> Shewmon (1998, 2001, 2004a).

<sup>4</sup> The President's Council on Bioethics (2008): 61 states:

The work of the organism, expressed in its commerce with the surrounding world, depends on three fundamental capacities:

1. Openness to the world, that is, receptivity to stimuli and signals from the surrounding environment.
2. The ability to act upon the world to obtain selectively what it needs.
3. The basic felt need that drives the organism to act as it must, to obtain what it needs and what its openness reveals to be available.

Appreciating these capacities as mutually supporting aspects of the organism's vital work will help us understand why an individual with total brain failure should be declared dead, even when ventilator-supported "breathing" masks the presence of death.

biological paradigm of death. Instead, what it means for an organism to be integrated as a whole may differ among kinds of organisms. In particular, for organisms whose kind may be defined in part by a potentiality for consciousness and social interaction, what it means for them to be integrated as a whole may differ from organisms whose nature is not defined by such potentiality. In short, what it means for a living thing to be integrated as a whole depends on the sortal (kind) concept by which it is identified. Since interests, values, and ontological considerations besides strictly biological ones affect the concepts by which we individuate and identify living things, those non-biological considerations bear on what it means for a particular kind of living thing to exist as a whole.

I will also argue that, even if our bodies may remain organically integrated in some sense despite total brain failure, as critics like Shewmon argue, this fact should not lead us to reject the neurological criterion.<sup>5</sup> Even if certain life functions remain in what was once the organic body of a human being or human person, those remains cannot be identified with the human being or human person.<sup>6</sup> Just as an inanimate corpse of a human being is the remains of a human being, an artificially sustained body that was once the body of a human being is the remains of a human being. Neither the corpse nor the artificially sustained body can be identified with the human being. Technology has enabled us to intervene in the process by which a human being is normally transformed into an inanimate corpse at death. Artificially sustained brain-dead human bodies are not human beings, but the remains of them. While such bodies are alive in some sense, they are not human beings or human persons. They are not one of us.

The view that I defend is often referred to as a “higher-brain” or “consciousness-related” formulation of death. It distinguishes the death of the human being or human person from the death of an organic body. In this view, death is understood as the irreversible loss of the psychophysical integration of the human being or human person. It accepts the irreversible loss of consciousness and every other mental function as the criterion for determining our death. Normally, unless we are considering some extremely unusual or hypothetical case, the irreversible loss of circulation and respiration and the irreversible loss of all brain function may serve as criteria for determining death insofar as they entail the irreversible loss of consciousness and every other mental function. This view has been held in

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<sup>5</sup> For further support of this claim, see Lizza (2006a, 2011).

<sup>6</sup> Lest I be accused of equivocating on the terms “human being” and “human person,” throughout this paper I treat these terms as synonymous insofar as they serve as the fundamental, substantive concept by which we are individuated and identified over time.

various forms by others, including Engelhardt,<sup>7</sup> Gervais,<sup>8</sup> Green and Wikler,<sup>9</sup> Veatch,<sup>10</sup> Machado,<sup>11</sup> and McMahan.<sup>12</sup> The main idea is that if a person suffers a brain injury that destroys any potential for consciousness and other mental functions, the person's life is over. The person has died.

In my view, it is a mistake to think that decisions about the definition and criteria for determining human death are simply matters for biology and can be made independent of philosophical, axiological, and cultural considerations. To try to do so is to ignore the practical and cultural context in which these issues are addressed. As Daniel Callahan pointed out many years ago, in his discussion of when human life begins,

Biological data, however great the details and subtlety of scientific investigation, do not carry with them self-evident interpretations. There are no labels pasted by God or nature on zygotes, primitive streaks, or fetuses that say "human" or "non-human." Any interpretation of known facts is going to be the result not only of our particular interests as we go about establishing criteria for interpretation, but also of the kind of language and the type of analytic-conceptual devices we bring to bear to solve the problems we set for ourselves. This is only to say, at the very outset, that a purely "scientific" answer to the question of the beginning of human life is not possible. "Science" itself is a human construct – a set of methods, terms, and perspectives – and any use of science to answer one particular question, particularly when the answer has moral implications, will be a human use, that is, a use subject to human definitions, distinctions, and decisions. The language of science is a human artifact; the word "life" is a word devised by human beings in order to refer to certain phenomena which can be observed in nature. Scientific method can classify and analyze the phenomena and draw certain "scientific" conclusions (e.g., establish empirical correlations, causal relationships, etc.). But the conclusions it draws will be a result of the humanly devised conceptual schemes used to approach the phenomena in the first place.<sup>13</sup>

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<sup>7</sup> Engelhardt (1975).

<sup>8</sup> Gervais (1986).

<sup>9</sup> Green, Wikler (1980).

<sup>10</sup> Veatch (1975, 1993).

<sup>11</sup> Machado (1995).

<sup>12</sup> McMahan (2006).

<sup>13</sup> Callahan (1988): 32.

Callahan's remarks about the beginning of life apply equally well to the end of life. In defining and determining criteria for death, we need to interpret biological data in light of views about what it means to be the kind of being that we are and the context in which we are determining what it means for one of us to die.

It is worth noting that in its influential 1981 Report, *Defining Death*, the President's Commission for the Study of Ethical Issues in Biomedical and Behavioral Research averred that the matter of defining death is "fundamentally a philosophical matter."<sup>14</sup> However, after admitting this fundamental philosophical dimension, the Commission immediately states that, given its charge to propose a uniform statutory definition of death, it did not have time to "journey down arcane philosophical paths."<sup>15</sup> Without going down the philosophical paths, it adopts the strictly biological definition of death as "the irreversible loss of the integration of the organism as a whole" and proposes biological criteria for its determination. However, the Commission's position is neither value neutral nor metaphysically neutral in how it treats the kind of being for which it proposes to define death. It is not metaphysically neutral because it treats the human being as simply a biological being (an organism) and rejects alternative metaphysical views about its nature. It is not value neutral because the meaning of the "irreversibility" of circulation, respiration, and brain function in its proposed criteria for determining death is not value neutral. As I<sup>16</sup> and others<sup>17</sup> have argued in other work, ethical considerations about whether to apply or to continue to apply life-sustaining treatment in part determine whether a condition is "irreversible" and thereby whether someone has died.

Although Shewmon has been the most influential critic of the neurological criterion for determining death, he appears to follow Callahan's advice about paying attention to our interests and language when we approach questions about when our lives begin and end.<sup>18</sup> Shewmon claims that it is a linguistic illusion to think that "death" has a univocal, biological meaning. Instead, he believes that there are multiple points along a continuum of biological states from sickness to decomposition that could be chosen as the point of "death." Because we have only the one word "death" in English, Shewmon argues that we may incorrectly as-

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<sup>14</sup> President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research (1981): 55.

<sup>15</sup> *Ibidem*.

<sup>16</sup> Lizza (2005, 2014, 2017 – forthcoming).

<sup>17</sup> Robertson (1999); Tomlinson (2014).

<sup>18</sup> Shewmon (2004b).

sume that it refers to a single state of all organisms, and that all diagnostic criteria must derive from that state. If there is a range of biological phenomena that may be equally good candidates for “death,” then other factors may influence our choice of which criteria for determining death we accept.

More recently, Shewmon proposes a “synthetic paradigm shift” involving a “semantic bisection” of the concept of death.<sup>19</sup> Instead of understanding death as a single phenomenon or event, he claims that there are two death-related moments or events, “each deserving of its own distinct death-word.”<sup>20</sup> Paralleling the distinction at the beginning of life between birth (“entry into society as a new member”) and conception (“the coming to be of a new organism”), Shewmon distinguishes between “passing away” or “civil death” (“the end of the organism’s relation to the rest of the world”) and “deanimation” (an organism’s “metaphysical” end).<sup>21</sup> In his view, “civil death” is the more appropriate meaning of death in the ordinary contexts and in special contexts, such as organ donation after circulatory death. Finally, Shewmon believes that the difference between “passing away” and “deanimation” is captured by the temporal distinction between the permanent versus irreversible cessation of the integration of the organism as a whole.<sup>22</sup>

Shewmon grounds this semantic bifurcation on a number of considerations, but the main one involves a “catalyzing” personal experience that he had with his family when they witnessed the death of his beloved dog. He recounts the experience and his immediate reflections:

A small but significant shift in paradigm was catalyzed by the recent experience of the euthanasia of my family’s beloved dog Soran, who had cancer and had reached the point where continued existence was no longer appropriate. As a physician, I have witnessed deaths in hospitals, but this canine death made a particular impact because it was my first occasion to witness the death of a close family member, and it occurred right after participating in two conferences on the moment of death. The whole family was present. When we felt ready, the vet injected a general anesthetic, followed quickly by the lethal drugs. First, his breathing stopped, and very soon after, the heartbeat, which we could feel with our hands. From that moment on, we had a very clear sense that what lay before us was no longer Soran, but the remains of Soran. If death is an event (which I take it to be), it was

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<sup>19</sup> Shewmon (2010a).

<sup>20</sup> Ibidem: 275.

<sup>21</sup> Ibidem: 276.

<sup>22</sup> Ibidem: 276–287.

obvious that the state-discontinuous moment separating the end of his dying process from the beginning of the decomposing process of his remains was the end of that last heartbeat. There was nothing dubious, nebulous, or mysterious about it. Any moment afterward would have been an arbitrary and vaguely identified point along a continuum of physical changes, not an instantaneous radical change. Our grieving process quite appropriately began at that moment.

As I reflected on the experience, I realized how preposterous it would have been to wait to begin grieving until some other, theoretically hypothesized, moment of death, such as the point beyond which autoresuscitation would have been impossible (had quick-acting antidotes for the drugs been administered), or the point beyond which anoxia-ischemia rendered his brain totally and irreversibly nonfunctional, or the point beyond which respiration and circulation could not be reestablished even with technological assistance, or any number of other putative moments of death that have been proposed over the last four decades. The more I thought about it, the more conceptually coherent, and the more true to the physically observable phenomena it seemed, to place the moment of Soran's death at the cessation of his last heartbeat, even if that meant abandoning my previous conviction that a correct concept of death had to include irreversibility and the idea that death is a single phenomenon.<sup>23</sup>

Shewmon thinks that this experience not only shows that death need not be an irreversible state (an intervention could have taken place to resuscitate Soran), but that it is a kind of anomaly that more broadly challenges what James Bernat has called the "biological paradigm of death," i.e., a set of assumptions that frames meaningful talk about death. Two other assumptions in the paradigm, besides death being an irreversible state, are that death is a single biological phenomenon for all organisms or at least for all higher-order organisms and that, in Shewmon's words, "there should be no distinction in reality (only logical distinctions) between what might variously be called legal, medical, philosophical, and religious deaths." According to Shewmon, both of these assumptions are challenged by recognizing that Soran's death occurred at the moment of his last breath. Soran was able to die in a way that other organisms are not able to die.<sup>24</sup>

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<sup>23</sup> *Ibidem*: 273–274.

<sup>24</sup> This should be no surprise, since advances in medical technology have now made it possible for us and other conscious beings to live in ways that were previously impossible. As long as our consciousness can be sustained, regardless of the extent of life support, we would not be dead. If the continuation of our consciousness enables us now to live in ways that were previously impossible, there is reason to think that there are new ways in which we can die when our consciousness and

Moreover, as Shewmon maintains, there is no reason to think that this phenomenon of “passing away” is any less real than Soran’s subsequent “deanimation.”<sup>25</sup> Shewmon is describing a common experience that others have when they realize that they will never be able to consciously interact again with their loved one and that their loved one will never have another thought about them or anything else, because their body has been so significantly destroyed. Nothing can or will be done to bring them back. The experience of watching someone take his or her last breath, i.e., witnessing the radical break with the person’s having any further conscious interaction in the world and transitioning from being a living person to the remains of one, has long been descriptive of death. There is no reason to think that the concept of death linked to these descriptions is any less real than the concept of death linked to the descriptions of deanimation. In the past, these two death events were coincident. What has changed is that there are new possibilities and phenomena brought about by technological advances that now make it apparent how these two different events may not coincide.

Finally, death in the sense of “passing away” does not mean that this death is not a biological event or that biology is irrelevant to determining when it occurs. Indeed, the destruction of the psychophysical integration of the organism marked by total brain failure can serve as a criterion for when this occurs.<sup>26</sup> The irreversible loss of consciousness destroys our biological, social nature. It is a biological event and not one that is simply “socially constructed.” It is very unlike the presumption or “legal fiction” that someone who has been missing for seven years is “dead.”<sup>27</sup>

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interactions with others permanently cease, even though certain bodily functions may remain or could resume. For further support for this claim, see Lizza (2009, 2011).

<sup>25</sup> Ibidem: 273–274.

<sup>26</sup> In principle, individuals in a permanent vegetative state, i.e., individuals who have no realistic potential for the resumption of consciousness or any other mental functioning, have also sustained the destruction of their psychophysical integration and therefore have passed away or died in this civil sense. However, there are some issues concerning whether we have clear enough diagnostic criteria for determining when such destruction has taken place and therefore we probably cannot at this time operationalize a diagnosis of a permanent vegetative state as a practical criterion for determining death. As research proceeds on the more specific neurological requisites for consciousness, we should be able to refine such a criterion so that it can be used in the determination of the death. Thus, for now and to err on the side of caution, we should retain total brain failure as the neurological criterion for determining death.

<sup>27</sup> For the claim that brain death is a “legal fiction,” see Shah, Miller (2010) and Miller, Truog (2014). My remarks about how the destruction of psychophysical integration is a biological event also challenge Shah, Miller, and Truog’s claim that brain-death is a “status” legal fiction.

Shewmon is correct that we need to reject and go beyond the biological paradigm of death. Indeed, I have long advocated such a move.<sup>28</sup> Like him, I have also argued that there are two, temporally distinguishable, real death events. However, I have characterized this distinction as involving the “death of the person” versus the “death of the organism.” Shewmon is correct that non-biological considerations ground the distinction between the two events. However, he draws the distinction at the wrong point along the biological continuum.<sup>29</sup> The distinction between the two death events does not hinge on the distinction between the “permanent” versus “irreversible” cessation of the functioning of the organism as a whole, although that distinction may be relevant to the criteria for determining when each distinct event occurs. Instead, the distinction hinges on an understanding of what it means for someone to no longer count as a living member of the community as a result of the destruction of the individual’s psychophysical integration versus an understanding of what it means for an organism to cease to exist as an organic whole of some sort. I say “what it means for an organism to cease to exist as *an organic whole of some sort*,” because what it means for an organism to exist “as a whole” is vague. Not only is the “irreversibility” for determining when this occurs temporally nebulous, but the concept, as Shewmon himself points out, is undefined.<sup>30</sup> This is evident in the disagreement between those who do and do not accept the neurological criterion for determining death. Shewmon and others believe that the brain is not necessary for the integration of the human organism “as a whole,” whereas many others who accept total brain failure as death do. Others, such as myself, hold that human persons who have permanently

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<sup>28</sup> My book, *Persons, Humanity, and the Definition of Death*, is a broadside attack on the assumptions in the biological paradigm of death.

<sup>29</sup> It is puzzling that Shewmon does not recognize that the semantic distinction does not hinge on the temporal distinction between the permanent and irreversible cessation of the organism as a whole. His and Elizabeth Shewmon’s earlier collaborative work on the semiotics of death in 2004 led him to the conclusion in his later paper that “our concepts in general, including death, are unconsciously influenced by the language we grow up in; just because English has the one word death, that does not necessarily mean there has to be a single, all-encompassing death concept,” (2004): 19. In the earlier paper, they mention that in Polish there are different words for “death.” Whereas *śmierć* may be used to refer to the death of human and non-human beings, *zgon* may be used only in reference to humans. Also, different words are used for “to die.” *Umrzeć* is used only in reference to human beings, whereas *zdechnąć* is used in reference to animals or derogatorily in reference to human beings. This linguistic distinction in Polish has nothing to do with whether the cessation of the organic functioning as a whole is permanent or irreversible. Instead, I would suggest that it has to do with the fact that we treat human persons in radically different ways than we treat other animals due to the background beliefs about the differences in our natures and the social and cultural context in which we live and die. Human persons can die, i.e., “pass away,” in a way that most other organisms cannot.

<sup>30</sup> Shewmon (2010a): 6.

lost any potential for consciousness and any other mental functions no longer exist “as a whole” in any relevant, biologically informed, moral, social, or political sense.

What is most insightful about Shewmon’s proposal is that he seems to recognize, as many other participants in the debate over the definition of death have not, that any concept of death is determined by background interests, values, and beliefs reflected in our language. He is also correct that this does not entail a completely relativistic notion of death. Nor does it entail that “civil death” is not a real event or as “real” an event as deanimation. However, he errs in rejecting the Wittgenstein-Putnam-Kripke view, applied to the term “death” by Winston Chiong, that natural kind terms may not be defined in an essentialist way and that they have vague semantic boundaries.<sup>31</sup> Shewmon seeks to dispel the concern about relativism by suggesting that the two proposed terms, “passing away” and “deanimation,” have “perfectly sharp semantic boundaries.”<sup>32</sup> However, in his proposed definitions for both of these terms, he uses the notion of “organism as a whole.” However, earlier in his article, he states that “there has not been much development of a ‘philosophy of organism’ that would provide a reasonable nonarbitrary dividing line between mutilated organism and nonorganism along the continuum of imaginable mutilations.”<sup>33</sup> This suggests that “organism as a whole” is indeed a natural kind, cluster concept, rather than a term that can be defined in essentialist terms. Accordingly, if his definitions of “passing away” and “deanimation” rely on a cluster concept that may be indeterminate with respect to how it can be projected, there is no reason to think that he avoids the relativistic worry. Indeed, the “semantic nebulosity” surrounding “death” is not due to, as Shewmon claims, “attempts to gerrymander under one term ‘death’ disparate conditions that are considered desirable to conceptualize and legally define as ‘death’ for the sake of organ transplantation.”<sup>34</sup> Instead, the nebulosity stems from the fact that the concept of an organism as a whole does not have determinate boundaries and that death may be a process rather than a discrete event.

The fact that natural as well as artificial kind terms may not have necessary and sufficient conditions for determining their extension does not invite radical relativism, such that there are no rules for the use of the terms, that the terms can be used in whatever way one likes, or that there is no reason to think that one use

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<sup>31</sup> Chiong (2005).

<sup>32</sup> Shewmon (2010a): 20.

<sup>33</sup> Ibidem: 6.

<sup>34</sup> Ibidem: 20.

of a term is any better than another. As Chiong points out, a term like “adult” may admit borderline cases. However, when we introduce a cutoff at, say, eighteen years, he writes,

[...] the cutoff is not entirely arbitrary – it clearly fits better with the category than a cutoff at six years or thirty – but it is no more consistent with the original category than many other cutoffs, such as a cutoff at seventeen-and-a-half years. So, some ways of sharpening the indeterminate distinction are admissible, while others are not: a cutoff at seventeen-and-a-half years is admissible; a cutoff at six or thirty is not. For a cutoff to be admissible, it must agree with the original distinction in the determinate cases, and a seven-year-old is definitely not an adult.<sup>35</sup>

He later correctly observes that “some admissible cutoffs may be preferred to others on practical grounds (how easily and reliably they can be determined clinically, for example, and their degree of fit with longstanding cultural traditions).”<sup>36</sup> He refers to this process of drawing finer limits to the extension of the term as a “sharpening” or “precisification” of the meaning of the term.

However, when Chiong applies these ideas to “death,” he appears to restrict his consideration of what is relevant to the precisification of the term to biological considerations and ignores the practical and cultural concerns that may bear on the precisification. In other work I have criticized this move as exhibiting a “framing bias.”<sup>37</sup> Framing bias refers to the interests, values, and related ontological assumptions behind our classificatory schemes. Whereas Chiong is open to practical and cultural considerations sharpening the meaning of a term like “adult,” he is reticent about accepting that such considerations are relevant to sharpening the meaning of “death.” However, this reflects the mistaken assumption that defining death or sharpening the meaning of death is a strictly biological matter and ignores the practical context of why we are interested in sharpening its meaning. Since we are engaged in formulating a legal definition and criteria for determining death and not a definition and criteria for a biology textbook, there is no reason to exclude practical, moral, religious, philosophical, and cultural considerations from bearing on how we sharpen the term. Indeed, we need to sharpen the term precisely because the biological definition is indeterminate with respect to its extension to human persons in a moral, cultural, and legal context. This is why we have the current debate over the definition of death.

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<sup>35</sup> Chiong (2005): 27.

<sup>36</sup> *Ibidem*.

<sup>37</sup> Lizza (2006b).

Interestingly, in his commentary on Chiong's view, Bernard Gert points out that he and his colleagues, James Bernat, Charles Culver, and K. Danner Clouser, were never interested in defining "death" as a technical medical or scientific (natural kind) term, but as how the word has been used in common parlance.<sup>38</sup> Gert notes further that, although they originally thought that they could capture this ordinary meaning with the single biological feature, "permanent cessation of the integrated function of the organism as a whole," they later realized that "this single feature would not account for all of the ordinary uses of the term "death." As a result, they added that "in addition to the cessation of integrated function, there must also be 'the permanent absence of consciousness in the organism as a whole and in any part of that organism.'"<sup>39</sup> Gert, Culver, and Clouser added the clause about consciousness because the significance of consciousness in the life and death of human beings and perhaps other higher-order organisms, such as apes, has no counterpart in non-conscious organisms. However, at this point, they are recognizing the *value* that we place on consciousness in human lives as relevant to determining what it means for one of us to die. They are recognizing that values and ontological considerations about the kind of being that we are and not simply biological considerations are relevant to the ordinary understanding of death and therefore to the formulation of legal criteria for its determination.<sup>40</sup>

The need to invoke a more ontologically specific, value laden concept of the kind of being that we are is also supported by the consideration of Maureen Condic's recent challenge of Shewmon's claim that the functions that may remain in an artificially sustained brain-dead body are "integrative."<sup>41</sup> She distinguishes between activities or functions that are "coordinated" and those that are "integrat-

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<sup>38</sup> Gert (2006).

<sup>39</sup> Gert, Culver, Clouser (2006): 292.

<sup>40</sup> Chiong expresses some sympathy but also concern that, if moral, ontological, and cultural considerations play a role in defining and determining the boundaries of "death," we may have to give up a realist view about death, i.e., that our account of death actually captures real distinctions in the world, rather than simply being a projection of our values. It is well beyond the scope of this paper to fully address this concern, given the multitude of views that are at play in the debate over scientific realism. For now, it is worth making some general observations. First, if one accepts moral realism, as well as scientific realism, then there is no antirealist concern. We seek to develop a view consistent with all scientific and moral truths. In defining and determining death, we should aim for a reflective equilibrium (to borrow a term from John Rawls) between our scientific and moral considerations. Second, if one rejects scientific and moral realism, then there is no realism. We seek to develop some coherentist view of our scientific and moral beliefs. Third, if one accepts scientific realism but rejects moral realism, the scientific realist must give an account of how all valuations are excluded from science - a difficult task, as the debates over scientific realism have evinced.

<sup>41</sup> Condic (2016).

ed,” arguing that either mental functions or the autonomous persistence of the somatic functions are needed for the kind of somatic functions that Shewmon identifies in the brain-dead bodies to be truly integrative and to constitute the life of a human organism.

Condic argues that the kind of emergent functions that Shewmon appeals to as indicative of the persistence of the human organism as a whole in an artificially sustained brain-dead body, e.g., homeostasis, elimination and detoxification, energy balance, temperature regulation, wound healing, immune defense, fever, stress response, gestation, sexual maturation, and proportional growth, can be duplicated in a laboratory setting in cells and tissues. For example, as Robert Veatch has also pointed out, a perfused, artificially supported amputated arm could demonstrate wound healing.<sup>42</sup> In fact, we can describe the arm as “alive” as opposed to “dead,” as it may be a live part of a human being that can maintain a degree of homeostasis and resist entropy. However, we would not identify it with a human being. Just because Jones’s arm may be alive does not mean that Jones is alive. Condic argues that the artificially sustained brain-dead body is a mere aggregation of “coordinated” living human cells, tissue, and organs but that they lack the level of organization to be an integrated human organism. According to Condic,

[...] what differentiates genuine organismal integration from the coordination which occurs at the cell and tissue levels is that organismal integration is both global and autonomous. It is global in the sense that the activities of all the vital parts are regulated and organized to promote the health and survival of the whole (rather than just the survival of the parts themselves). It is autonomous in the sense that this regulation and organization is carried out by the organism itself.<sup>43</sup>

Condic points out how discriminating between the living and the dead is “complicated by the fact that many biological functions that are naturally required for human life can be replaced (perfectly or imperfectly) by artificial interventions.”<sup>44</sup> According to Condic, “The challenge in defining death is to determine when the activity observed in the biologic system is self-regulated in the service of the ‘whole’ and when it merely reflects the intrinsic properties of cellular parts.”<sup>45</sup> Since functional criteria alone cannot reliably distinguish parts from whole human

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<sup>42</sup> Veatch (2015): 307.

<sup>43</sup> Condic (2016): 260.

<sup>44</sup> *Ibidem*: 263.

<sup>45</sup> *Ibidem*.

beings (consider how the wound healing in a perfused amputated arm may be functionally equivalent to that in an attached arm), we need some understanding of what it means for the human to exist “as a whole.” At this point, Condic invokes the Aristotelian definition of a human being as a rational animal and the idea that animality and rationality are “rooted in the soul, understood as the unifying vivifying, organizing principle of a living being.”<sup>46</sup> She then goes on to claim that a human life continues if either mental function or global, autonomous integration of vital functions persists.

I will not comment on the merits of an Aristotelian view of our nature and how successful Condic’s defense of brain death is. At this point, I simply want to note that she has raised an important issue in her critique of Shewmon’s claims that the functions evident in artificially sustained brain-dead bodies are “integrative functions” as opposed to “coordinated functions” and that the human organism as a whole may continue to exist despite total brain failure. These judgments depend on what is meant by “human organism as a whole,” i.e., some theory about the kind of being that we are. With the Aristotelian understanding of our nature as rationally ensouled, which clearly goes beyond strictly biological considerations, Condic argues that the brain dead are dead because they lack mentality and global, autonomous integration. If we need to invoke some conception of the kind of living being that something is in order to explain what it means for that being to be integrated as a whole, we should not expect there to be some univocal biological definition of death for all living beings. The definition of death for any living being will depend on a conception of the nature of the kind of being that lives and dies. As Hans Jonas pointed out very early in the debate over brain death, the definition of death ultimately depends on “a definition of man and what life is human.”<sup>47</sup> What is the nature of a human being is a philosophical question that goes beyond strictly biological considerations. It requires an ontological argument and must be addressed in the moral, social and cultural context in which we ask the question. That context in which there are interests, values, and metaphysical presuppositions at work frames any acceptable answer to the question.<sup>48</sup>

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<sup>46</sup> *Ibidem*: 264.

<sup>47</sup> Jonas (1974): 136.

<sup>48</sup> In its defense of total brain failure as death, the 2008 President’s Council on Bioethics relied on the concepts of an internal, spontaneous “drive” and “felt need.” The Council argued that because individuals with total brain failure lack such spontaneous “drive” and “felt need,” they are dead. However, in Lizza (2016), I point out that these concepts are not biological concepts at all and therefore cannot explain in modern biological terms what it means for an organism to be integrated internally and externally with its environment. These concepts do not appear in modern biology

If we are interested in what it means for a human person as a whole to die in a “civil sense,” then the relevant meaning for a human person to exist “as a whole” should consider the person’s moral, social, or political nature in addition to his or her biological nature.<sup>49</sup> This is the force of Justice Stevens’s observation in his *Cruzan* dissent, when he wrote:

[...] for patients [...] who have no consciousness and no chance of recovery, there is a serious question as to whether the mere persistence of their bodies is ‘life’ as that word is commonly understood, or as it is used both in the Constitution and the Declaration of Independence.<sup>50</sup>

As I have pointed out elsewhere,<sup>51</sup> while Stevens was considering individuals in permanent vegetative state, his remarks apply equally well, if not more so, to the whole-brain-dead. Stevens’s question is not framed in strictly biological terms. When we ask for a definition and criteria for determining death, it is not in terms of human beings as strictly biological beings that we are interested in an answer to the question. We are interested in the life and death of human beings understood as psychological, moral, and cultural beings, as well as biological beings. Indeed, if we try to frame the question in strictly biological terms, we rule out the psychological, moral, and cultural dimensions of human beings from the start and thereby distort the purpose of why we seek to answer the question in the first place.

Shewmon has identified a commonsense understanding of death that is widely shared. “Civil death” or in my terms the “death of the person” has always been what has mattered to us about our own death and that of a loved one. I do not mean to suggest that Shewmon’s sense of “deanimation” or my sense of the “death of the organism” has not always been part of our understanding of what our death involves. Indeed, beliefs in the biological paradigm of death are widely shared. However, technology has introduced new phenomena that call into question some of the assumptions in the paradigm. Like Shewmon, I believe that we should recognize these anomalies and how a single concept of death can no longer coherently hold together the various intuitions we have about death in view of the

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textbooks. Instead, “drive” is a stand-in or “functional shorthand” for the metaphysical concept of the soul (*anima*). Under the guise of biological talk about an organism’s integration with its environment, the Council is in effect defining death as the departure of the animating or vital principle from the body.

<sup>49</sup> Soran was able to “pass away,” i.e., have a “civil death,” because he was the kind of being that was able to consciously and socially interact with others.

<sup>50</sup> *Cruzan* (1990).

<sup>51</sup> Lizza (2011, 2016).

new phenomena created by advances in medical technology. We should bifurcate the concept of death in a way that will make better sense of our different and in some ways inconsistent beliefs about death. In the past, we may have assumed that the death of the human person and the death of the human organism were the same event, because we were not faced with phenomena in which these events appear more clearly distinguishable. We were not faced with cases in which certain biological life functions continue but we correctly perceive that a death has occurred because our relationship to the other has been permanently severed by the permanent loss of the biological means for such a relationship. Shewmon asks: Why should we abandon what has always been a commonsense understanding of death that did not depend on knowing a point at which the cessation of functions was truly irreversible, simply because the technology and knowledge has advanced where we can more clearly but still not accurately distinguish permanent loss of function from irreversible loss of function? I would ask: Why should we abandon what has always been a commonsense understanding of death that did not depend on knowing a point at which the organism has irreversibly lost its integration as a whole, but has always involved recognition that conscious interaction with the human person is no longer physically possible?

The fact that we can now artificially sustain bodies in unprecedented ways does not actually introduce a new meaning of death for human persons. The civil meaning of death has always been a part of what the single word “death” has meant to us. As the anthropologist Clifford Geertz has shown, human beings have always been cultural beings coincident with their being biological beings.<sup>52</sup> Our death has always been a “cultural” and biological event. However, in light of how technology can separate the state of civil death from what Shewmon calls “deanimation” or what I call the “death of the organism,” we need to distinguish “deanimation” from the death of the human being or human person. Before the advent of life-sustaining technology and artificial means of resuscitation, we probably assumed that the organic body was “deanimated” at the same time we identified the “civil death.” So, to retain the concept of death that has always mattered to us, a semantic bifurcation is needed.

In conclusion, advances in life-extending technology have created new biological phenomena that challenge our understanding of what it means for one of us to die. In the past, bodily functions could not be sustained in human beings who had lost all brain functions and therewith any potential for consciousness and social interaction. However, such loss has always been part of what it has meant

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<sup>52</sup> Geertz (1965).

for a human being – and perhaps other beings with such natural potential to die. Indeed, such potential has always in part defined the kind of being that we are. We are thus faced with a choice of whether to project the term “death” to cases in which a human being has lost all brain functions but other biological functions continue. Appealing to some notion of what it means for any organism to be integrated “as a whole” is insufficient, since it is unclear whether any such account can be given independent of a concept of the kind of organic being that we are. However, the concept of the human being that we bring to bear to interpret the biological data is not strictly biological but rather informed by multiple disciplines, including zoology, biology, psychology, anthropology, philosophy, and religion. These disciplines provide the conceptual framework for what it means to be a human being and thus must be given equal consideration in deciding the borderline cases, i.e., whether a human being continues to live or has died. In addition, we must consider *why* we are asking whether we should project the term “death” to the new phenomena, since the context provides the framework for any meaningful answer. Our interests, purposes, and values affect any interpretation of the phenomena. Indeed, we commit the old error in bioethics if we think that an issue as fundamental about our nature as whether we live or die can be resolved by biology alone. Considerations of our nature that go beyond strictly biological ones strongly support the acceptance of brain death as death. Even though certain bodily functions may remain integrated, without any potential for consciousness and social interaction we no longer exist as the kind of being that we are.

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