



Definitions of death: brain death and what matters in a person

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I. INTRODUCTION

Our concepts and practices relating to death will inevitably be influenced by our values and social practices. Our definitions of what constitutes death affect not only what we consider to count as death, but also questions of grieving, medical treatment, estate planning, organ donation, and a myriad of other legal and ethical issues. As I will argue, what we think of as constituting death is shaped by what we value in persons. However, there is a mismatch between our values and our legal definition of death. The current legal standard of total brain death is inconsistent with what we value in persons. In Section II, I discuss our legal and medical standards for what constitutes death. These definitions include historical and current standards, but also proposed alternative standards. In Section III, I examine what we care about in the death of a person. This will include not only what we currently value in persons, but also what we *would* value if our beliefs were fully consistent. Finally, in Section IV, I explore ways of synthesizing our definitions of death with what we care about.

II. DEFINITIONS OF DEATH

A. Early standards

Traditionally, death has been determined by the medical profession using basic assumed cardiopulmonary standards.¹ These standards took the form of using either a heart or lung functioning criteria for death.² To determine death, physicians would ‘feel for the pulse, listen for breathing, hold a mirror before the nose to test for

¹ PRESIDENT’S COMMISSION FOR THE STUDY OF ETHICAL PROBLEMS IN MEDICINE AND BIOMEDICAL AND BEHAVIORAL RESEARCH DEFINING DEATH: MEDICAL, LEGAL AND ETHICAL ISSUES IN THE DETERMINATION OF DEATH, [hereinafter COMMISSION] 13–16 (1981).

² *Id.*

condensation, and look to see if the pupils were fixed'.³ These medical criteria resulted in determinations which largely mirrored the popular conception of death,⁴ as there was virtually complete agreement and overlap between the state of medical technology and our conceptions of death. Death went hand in hand with the loss of the capacity to breathe or cessation of the heart pumping blood. However, as medical technology developed, a gap began to form between traditional cardiopulmonary standards and our conceptions of death. For instance, the traditional tests did not suffice as a standard for death in cases of heart transplants.⁵ Testing for a heartbeat would be unhelpful when a patient did not currently have a heart. Along similar lines, testing for breathing would be insufficient for patients who were in the interim period waiting for lung transplants. To further complicate matters, respiratory and circulatory bodily functions can now be performed artificially, for instance by use of a respirator.⁶

One of the most significant early pushes toward a precise definition of death occurred in the 1960s, when concerns about advances in technology led an ad hoc committee of Harvard Medical School to develop a set of criteria for what constituted a permanently non-functioning brain—what was called 'irreversible coma'.⁷ However, these 'Harvard criteria' came to be equated with criteria for brain death.⁸ The criteria included unresponsiveness and unresponsiveness, no movements or breathing, no reflexes, and a flat electroencephalogram.⁹ However, there was not 'scientific, philosophical, or logical justification for why the state of irreversible coma could be equated with death'.¹⁰ Several states were concerned with issues of transplantation and the legal battle concerning Karen Ann Quinlan, a patient in a persistent vegetative state.¹¹ The Harvard criteria then served as the inspiration for several state laws defining death in response to these issues.¹²

B. 'Total brain' standard

Further precision in our definitions of death occurred when the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research issued a report on defining death which called for a uniform definition of death based on a 'total brain' standard.¹³ This standard defines death as the death of the *entire* brain of a person. The Commission sought to address a need for a legal definition of death which could incorporate advances made by new technologies that could perform necessary bodily functions.¹⁴ There was a wide agreement between physician

³ *Id.* at 13.

⁴ *Id.*

⁵ *Id.* at 23.

⁶ *Id.* at 24.

⁷ See *id.*

⁸ See *eg* *State v. Fierro*, 124 Ariz. 182, 185–86 (1979) (holding that the Harvard criteria is a valid test for death in Arizona, in addition to the cardiopulmonary standard).

⁹ Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death, *A Definition of Irreversible Coma*, 205 JAMA 85–86 (1968).

¹⁰ Robert Truog, *Defining Death: Getting it Wrong for All the Right Reasons* 93 TEX. L. REV. 1885, 1888 (2015).

¹¹ COMMISSION, *supra* note 1, at 61.

¹² *Id.* at 62–63.

¹³ *Id.* It should be noted, however, that the President's Commission does not have the power to make laws. It is an advisory group to the president on bioethical issues.

¹⁴ *Id.* at 19–20.

testifiers to the Commission that a definition of death which referred to irreversible loss of brain functions was required.¹⁵ Among the reasons given for such a definition included the following:

- (i) Such a law would establish the legality of pronouncing death based on brain criteria.
- (ii) The use of the brain-based standard when the heart–lung standard is not applicable would protect patients against ill-advised, idiosyncratic pronouncements of death.
- (iii) Legal recognition of the brain-based standard would remove the doubt that exists in some states over the use of patients without brain functions as organ donors.
- (iv) A single set of standards for death pronouncements is appropriate for all legal purposes (encompassing inheritance, taxes and criminal trials, as well as medical treatment).
- (v) Maintaining a dead body on artificial support systems consumes scarce medical resources and may unnecessarily deplete the family's emotional and financial resources.¹⁶

It was thus legal problems in several fields which prompted the need for a definition of death, and in particular one which would be uniform throughout the 50 states. The Commission heard testimony from individuals in many disciplines, including medicine, religion, and philosophy.¹⁷ It then relied on wide agreement among the testifiers that total brain death is 'sufficient to determine death of the organism' to adopt total brain death as its definition of death.¹⁸

The Commission's definition of death as total brain death was considered to be 'sufficient' in part because 'patients declared dead pursuant to the statute recommended by the Commission would be also considered dead by those who believe that a body without higher brain functions is dead'.¹⁹ While total brain death may not be *necessary* for death, it may be *sufficient* in the sense that all cases of total brain death are cases of death. The reverse statement, that all cases of death are cases of total brain death, is thus not addressed. For practical purposes, cases in which there is total brain death can definitively be classified as cases of death, as anyone holding a brain-based standard would assent to such a classification. Every case of 'total brain' death would be a case of 'higher brain' death, in which case both standards would be met. The total brain standard is what every group espousing a brain-based definition can agree on, in which case it is adopted as a politically pragmatic way of distinguishing the dead from the living.

The Commission ultimately recommended a Uniform Determination of Death Act (UDDA) which aimed to make the total brain standard into law in the states.²⁰ This recommendation has been adopted by the American Bar Association and American

¹⁵ *Id.* at 10.

¹⁶ *Id.*

¹⁷ *Id.* at 9–12.

¹⁸ *Id.* at 41.

¹⁹ *Id.*

²⁰ *Id.* at 73.

Medical Association,²¹ and made into law in some form in all 50 states.²² The UDDA simply states: 'An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards'.²³ This standard, through (1), incorporates the traditional cardiopulmonary test into the modern definition of death. It is (2) which serves as the 'sufficient' definition of death which can address more complex cases. Incorporating the cardiopulmonary test thus allows the traditional medical standards to continue to operate, so that doctors need not do an EEG before issuing a death certificate in every individual case.

The total brain standard for death represents an advance in the precision with which we have defined death. The total brain standard even helps explain the relevance of the traditional cardiopulmonary criteria for death. As the Commission notes: "the traditional "vital signs" of heartbeat and respiration were merely surrogate signs with no significance in themselves."²⁴ On this view, the heart and lungs are not important as basic prerequisites to continued life but rather because the irreversible cessation of their functions shows that the brain had ceased functioning."²⁵ Insofar as the traditional criteria indicated the change that really mattered, they were helpful in determining death. With the further development of technology, these criteria have become more imperfect as measures of death. For instance, with the use of respirators and heart-lung machines, the traditional cardiopulmonary criterion is insufficient on its own as a definition of death, as heart and lung functions can now be performed artificially. As I will argue, the total brain criterion represents an advance over the old criteria in the sense that the brain is what matters in death. However, as we shall see, this does not definitively settle the question regarding death.

For instance, some states have taken an individualized approach to defining death, while keeping the UDDA as the baseline standard.²⁶ New Jersey has a Declaration of Death Act which provides a statutory exemption which allows religious individuals and families to halt official declaration of death under the brain death criterion.²⁷ The exemption states that:

The death of an individual shall not be declared upon the basis of neurological criteria ... when the licensed physician authorized to declare death, has reason to believe, on the basis of information in the individual's available medical records, or information provided by a member of the individual's family or any other person knowledgeable about the

²¹ *Id.*

²² RAY D. MADOFF, *IMMORTALITY AND THE LAW: THE RISING POWER OF THE AMERICAN DEAD* 37 (2010) ("This statute [UDDA] has been adopted in forty-three states. States that have not adopted the Uniform Definition of Death Act have either adopted their own statutes or developed case law that allows the use of brain death as a standard for death. Brain death has also been adopted as a standard throughout much of the rest of the world").

²³ Determination of Death, Uniform Determination of Death Act § 1 (2015).

²⁴ COMMISSION, *supra* note 1 at 34.

²⁵ *Id.* at 34.

²⁶ Maanvi Singh, *Why Hospitals and Families Still Struggle to Define Death*, NPR.ORG, Jan. 10, 2014, <http://www.npr.org/sections/health-shots/2014/01/10/261391130/why-hospitals-and-families-still-struggle-to-define-death> (last accessed Oct. 11, 2016).

²⁷ New Jersey Declaration of Death Act, N.J. Sess. Law Serv. Ch. 90, 26:6A–5 (1991).

individual's personal religious beliefs that such a declaration would violate the personal religious beliefs of the individual. In these cases, death shall be declared, and the time of death fixed, solely upon the basis of cardio-respiratory criteria ...²⁸

This exemption has earned New Jersey the dubious appellation of being the 'best place for brain-dead patients'.²⁹ While the state has retained the brain death standard, through this statute certain families are allowed to in effect change the legal definition of death in particular case to match the more traditional criteria. This has led to cases such as that of Jahi McMath, a 13 year old who was kept on a respirator in New Jersey despite brain death and a death certificate in California.³⁰ Jahi's father has also filed a medical malpractice suit, which alleges that Jahi is still alive even by California's standards, as Jahi retains hypothalamic function.³¹ This shows one of the flaws of the total brain standard, which requires the death of *every* part of the brain, regardless of the importance of any particular part.

By allowing for religious exemptions, New Jersey has created a situation in which 'At least in New Jersey there can be living people with dead brains'.³² Doing so confuses discussions about death that we should strive to make clear, and pokes holes in a definition that is most helpful when it is uniform.³³ More importantly, however, the New Jersey Declaration of Death Act provides an excellent illustration of what *kind* of issues are involved when we define death. The idea that what constitutes death can change with jurisdiction points to the role that individuals and institutions have in forming the notion of death. As I will discuss later in this paper, death is a value-laden concept, one which we form both explicitly and implicitly.

C. 'Higher brain' standard

Instead of looking at the death of the total brain, some standards look only to certain parts of the brain. Of this type of standard, I will focus on a common version which identifies cerebral death as the death of a person.³⁴ This version of the standard holds that key functions of the brain such as memory, consciousness, and personality are what make us a person, and since those functions originate in the cerebral hemispheres, it is the death of those portions of the brain that count as death of the person.³⁵ Robert Veatch helpfully summarizes this as the view that 'Death is the irreversible loss of that which is essentially significant to the nature of man'.³⁶ Veatch argues for the higher

²⁸ *Id.*

²⁹ Alex Napoliello, *New Jersey Best Place for Brain-dead Patients, Expert Says*, NJ.com, June 20, 2014, <http://www.nj.com/news/index.ssf/2014/06/new-jersey-best-place-for-brain-dead-patients-expert-says.html> (last accessed Oct. 11, 2016).

³⁰ Singh, *supra* note 26.

³¹ Complaint, *McMath v. Rosen*. (Cal. Super Ct. Dec. 09, 2015) (No. RG15796121).

³² *Id.*

³³ See COMMISSION, *supra* note 1, at 60.

³⁴ See Robert Veatch, *The Whole-Brain-Oriented Concept of Death: An Outmoded Philosophical Formulation*, 3 J. THANATOL. 13, 23 (1975). See also H. Tristram Englehardt, Jr., *Defining Death: A Philosophical Problem for Medicine and Law*, 112 ANN. REV. RESPIR. DIS. 587 (1975); Jeff McMahan, *The Metaphysics of Brain Death*, 9 BIOETHICS 91, 102 (1995).

³⁵ Veatch, *supra* note 34, at 23.

³⁶ *Id.* at 15.

brain standard in part through a comparison between human death and the death of plants or non-human animals.³⁷ As he argues:

When we say that an amoeba has died, we mean that cellular respiration has ceased, or mobility of the cellular protoplasm has ceased, and nothing more. When we speak of human death, however, we mean something radically different. We are making a practical statement with policy implications. We are saying that it is now appropriate to behave toward the individual in a different way.³⁸

Human death is described as being different from the death of other life forms, in part because of the different types of functioning that persons have and in part because of certain duties and customs we (at least in the West) have toward other persons.

Jeff McMahan further elucidates the higher brain standard for death; he summarizes the view by saying that ‘each of us is essentially a mind’.³⁹ As support for this view, he utilizes a distinction between the human self and the human organism.⁴⁰ The self is the person whom we are concerned with—who they are and whatever attributes make them a person. The organism is the physical body, the ‘housing’ of the person and what is left behind after a person dies. As McMahan says: ‘only the organism has biological life and only the self has a biography’.⁴¹ In a person the self is the mind, which in some way will be his brain. The organism is the body, which is not essential to who a person is. For McMahan, we are connected to, but not identical with, our organisms/bodies.⁴² For the higher brain theorists what matters is the death of a particular part of the brain, namely the death of the cerebral hemispheres, as those areas are what constitute the key parts of what make us into selves—our memories, consciousness, beliefs, desires, and overall psychology. The death of the total brain is sufficient for brain death, but under this standard, not necessary. The death of certain key parts of the brain is what matters.

III. WHAT MATTERS IN A PERSON

A. Personal identity

The higher brain standard of death identifies key aspects of what makes us persons, and then identifies the death of the source of those aspects as the death of the person. The higher brain account thus functions by identifying our personal identity with the cerebral hemispheres in some way. This is essentially an application of the identity theory of mind. The identity theory of mind holds that ‘states and processes of the mind are identical to states and processes of the brain’.⁴³ If ‘each of us is essentially a mind’,⁴⁴ and our minds are identical with our brains, then the death of the brain will be the death of the mind and by consequence also the death of the person. This will be true for the total brain standard when the entire brain is dead. For the higher brain standard, the death

³⁷ *Id.*

³⁸ *Id.*

³⁹ McMahan, *supra* note 34, at 102.

⁴⁰ *Id.* at 92.

⁴¹ *Id.* at 117.

⁴² *Id.* at 97.

⁴³ J.J.C. Smart, *The Mind/Brain Identity Theory*, THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY, <http://plato.stanford.edu/archives/win2014/entries/mind-identity/> (last accessed Oct. 17, 2016).

⁴⁴ McMahan, *supra* note 34, at 102.

of the cerebral hemispheres will be sufficient for the death of the person, as those are the parts of the brain which constitute the mind.

One of the fundamental problems with the identity theory of mind and thus with both the total brain and the higher brain standards is that the mind is not necessarily identical with the brain. The mind can be instantiated in more than one way.⁴⁵ This means that the mind and its operations can be produced in many ways, not just by the human brain. As an example of a particular mental state, pain seems multiply realizable because it is not produced only by the brain state in humans, but also by brain states in animals, and theoretically in computers.⁴⁶ In the same way, the mind is not produced only by our brains, but also in the brains of animals and theoretically in computers. It is this latter possibility in particular that highlights a fundamental problem with identity views such as the total or higher brain conceptions of death.

To see why this is the case, we must first start with a naturalistic conception of mind. A simple version of this would be to say, as Edward Wilson does, that 'every mental process has a physical grounding and is consistent with the natural sciences'.⁴⁷ Assuming this is the case, we may begin to see how the brain operates in ways that could occur in a different way. The aspects of the mind that we care about—personality, memory, consciousness, and so on—are thus traceable in some way to particular operations of the brain, operations which themselves can be performed in other ways. This could theoretically occur in the future by 'uploading' our minds onto cloud computers in a way that would allow our identities to survive even if our brain dies.

The idea would be that uploading our brains onto computers would be theoretically possible because our minds are in some way our brains and our brains operate through physical processes which can be duplicated electronically. Thus, the electronic process related to encoded memories, links between memories, predispositions, and even consciousness and pain—all the things that make us persons—could be replicated through computers and without brains. This possibility leads to functionalism—the theory of mind that 'what makes something a thought, desire, pain (or any other type of mental state) depends not on its internal constitution, but solely on its function ...'.⁴⁸ The functionalist theory of mind looks at the entire mind in this same way—the mind as a whole has certain functions and these functions are what matter, rather than the particular means by which those functions are carried out. That is, the mind is multiply realizable because it can conceivably be instantiated without a brain. The brain, then, is not what matters—what matters are certain functions the brain performs.

⁴⁵ See John Bickle, *Multiple Realizability*, THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY, <http://plato.stanford.edu/archives/spr2013/entries/multiple-realizability/> (last accessed Oct. 17, 2016).

⁴⁶ See Hilary Putnam, *Psychological Predicates*, in ART, MIND, AND RELIGION 37–48 (William Capitan & Daniel Merrill eds., 1967) (Making the original argument criticizing identity theories by pointing out their incompatibility with the intuition of multiple realizability).

⁴⁷ EDWARD O. WILSON, *CONSILIENCE: THE UNITY OF KNOWLEDGE* 105 (1999).

⁴⁸ Janet Levin, *Functionalism*, THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY, <http://plato.stanford.edu/archives/fall2013/entries/functionalism/> (last accessed Oct. 17, 2016).

IV. RECONCILING OUR DEFINITIONS AND OUR VALUES

A. Sufficient criteria

In the vast majority of cases, traditional cardiopulmonary standards for death will be sufficient.⁴⁹ Furthermore, as the Commission noted in its Defining Death report, ‘The [total] brain-based standard is after all, merely supplementary to the older [cardiopulmonary] standard, which will continue to be adequate in the overwhelming majority of cases in the foreseeable future’.⁵⁰ Indeed, it will be in the hard cases that a brain-based standard becomes necessary. Such cases will occur when medical technology creates a gap between the body and death. In these cases, the total brain standard serves a more precise definition of death given our currently existing concepts of death and what we value in persons. Further precision would be obtained if we were to one day move to utilize the higher brain criterion instead. As we have seen, this is because we do not value all parts of the brain, and thus total brain death is not necessary for death of the person, only sufficient. The higher brain standard will more closely mirror what we care about, as it tracks the portions of the brain which produce memories, consciousness, and personality, all of which constitute what we ultimately care about in persons. The personal identity standards come even closer to matching what we care about, and adherence to those standards would bring us perhaps as close as possible to adequate criteria for death.

However, there are practical problems with the various criteria once we go beyond the total brain standard. There are technological problems with verifying the higher brain criterion, let alone the personal identity criteria. The Commission recognized this in its report and seemed to base its decision to adopt the total brain standard tacitly on problems with the higher brain criterion.⁵¹ Higher brain standards face measurement problems given currently existing medical knowledge and technology. Total brain standards also face these measurement problems. Indeed, in 2008 the President’s Council on Bioethics went so far as to advocate for a ‘total brain failure/standard as opposed to the total brain death standard, in part for measurement reasons.’⁵² However, given the current medical technology available, it seems that neurological criteria represent the most pragmatic set of standards for what constitutes death. As James Bernat has argued, neurological criteria currently represent optimum policy as they encompass ‘the critical functions of the organism as a whole’.⁵³

Personal identity would be even more difficult to test for, and would in any case require value judgements regarding what matters in a person so that we would know what to look for in the first place. However, these and other practical problems in determining higher brain death do not prevent us from pragmatically defining death. In virtually every case death may be sufficiently determined by what I shall call the ‘death criteria trifecta’ of cardiopulmonary, total brain, and higher brain criteria. In simple cases, cardiopulmonary criteria suffice. In harder cases, total brain death would be sufficient, but higher brain death would be necessary. This is because, as has been noted, all cases of

⁴⁹ COMMISSION, *supra* note 1, at 59.

⁵⁰ *Id.*

⁵¹ *Id.* at 40.

⁵² PRESIDENT’S COUNCIL ON BIOETHICS, *CONTROVERSIES IN THE DETERMINATION OF DEATH* 17–19 (2008).

⁵³ James Bernat, *The Whole-Brain Concept of Death Remains Optimum Public Policy*, 34 J. L. MED. & ETHICS 35, 41 (2006).

total brain death will be cases of higher brain death. But higher brain death more precisely narrows in on what parts of the brain produce what we value in persons—namely our memories, consciousness, beliefs, desires, and overall psychology. Thus, for our current purposes and given the current state of technology, the increasingly precise trifecta of cardiopulmonary, total brain, and higher brain death suffice for determining. Even in harder cases such as proposed ‘head transplants’, the criteria suffice to determine what counts as death. The idea of these transplants, as of yet not successfully implemented, is to transplant a patient’s head on to the body of a donor (who is brain dead).⁵⁴ In such a case, the death of the brain in some way is what counts as the death of the person. This also help clears up some of the conceptual confusion as to whether such operations would be ‘head transplants’ or ‘body transplants’.⁵⁵ If the brain is in some way what matters, then what matters in such a transplant is the head, not the body. ‘Body transplant’ would thus be more apt, as the body would be another transplanted part (albeit majority part) such as a liver or hand.

While the death criteria trifecta currently suffice, they will not permanently be sufficient for determining death. Given that our concepts and practices relating to death are tied with what we value in persons, as our values change so too will how we relate to death. For instance, in a hypothetical future where experiences become more similar, memories will be similar as well. In such a future, it is conceivable that we may come to value the personality of persons more. Reacting to repetitive stimuli in new and creative ways may be increasingly valued and come to have a more important place in how we think of individuals. We may discover that this facet of persons is actually a collection of many separate facets and may for that reason be difficult or impossible to replicate artificially. It is conceivable that in such a world embodied persons may be thought of as the only ‘true’ persons and the gap between biological death and the death of persons will become narrower. Such a change in our values could also affect our perception of the status of persons who have disorders like dementia, as we may find that personality still shines through even when memory fades. If or when such changes in our values and practices occur, our conceptions of personal identity may thus shift as well.

B. Implications for organ donation

There are over 122,000 candidates awaiting organ donation.⁵⁶ As it stands, only 18,000 donations are made each year from deceased donors, despite a much larger pool of potential donors.⁵⁷ It is estimated that an average of 22 people die in the USA each day due to a shortage of organs that they desperately need in order to survive.⁵⁸ One of the largest obstacles in the way of increasing the number of donations is the dead-donor rule, which proscribes doctors from procuring organs for donation in a way which

⁵⁴ Sam Kean, *The Audacious Plan to Save This Man’s Life by Transplanting His Head*, THE ATLANTIC, Sept. 2016.

⁵⁵ See *Id.*; also see Nita Farahany, *Can You Legally Consent to a Head Transplant?*, THE WASHINGTON POST, Aug. 25, 2016, https://www.washingtonpost.com/news/voikh-conspiracy/wp/2016/08/25/can-you-legally-consent-to-a-head-transplant/?utm_term=.b75713e53b0d (last accessed Sept. 20, 2016).

⁵⁶ Health Resources and Services Administration, *Organ Procurement and Transplantation Network*, <https://optn.transplant.hrsa.gov/> (last accessed Dec. 17, 2015).

⁵⁷ *Id.*

⁵⁸ *The Need is Real: Data*, ORGANDONOR.GOV, <http://www.organdonor.gov/about/data.html> (last accessed Dec. 17, 2015).

causes death.⁵⁹ This rule requires death for organ donation and thus our conception of what constitutes death will be vitally important. Using the current total-brain death standard, legally a patient must be totally brain dead in order to donate organs that they would not be able to live without. However, if we were to use a higher-brain criterion for death, more organs would be available for donation given the less restrictive standard of what constitutes death.⁶⁰ Thus, our definitions of death literally make the difference between life and death for patients in need of organs. While the enormous need for organs does not influence the truth of the matters as to what we value in persons or what constitutes death, our legal and social institutions must take the need for organs into account in developing beneficent social policy.

V. CONCLUSION AND QUESTIONS FOR FURTHER CONSIDERATION

Changing medical technology poses new problems for our old standards of what constitutes death. Our values inevitably shape what we think of as the death of a person, and death is not merely a descriptive, scientific concept, but inescapably contains evaluative content. The changing frontiers of death force us to confront foundational questions of persons and values, hopefully in a way which will better prepare us to address future questions. It is vital that we examine the evaluative content in our concepts and practices relating to death, and reflect on what it is that we value or should value in persons. The neurological criteria for death represent a remarkable advance in our ways of responding to changes in death and dying. However, as medical technology and life extension techniques develop, we must also develop increasingly precise notions of what aspects of our neurological lives are the most important. While the current total brain death standard currently suffices in the vast majority of cases, the standard does not fully line up with what we value in persons. Should we retain the current brain death standard despite its mismatch with our values and despite negative consequences in determining death and in organ donation? Technological advances seem as if they will inevitably make this question inescapable.

⁵⁹ See John A. Robertson, *The Dead Donor Rule*, 29 HASTINGS CTR. REP. 6, 6 (1999).

⁶⁰ This could perhaps be done with a religious exemption such as the one in New Jersey.