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Killing by Organ Procurement: Brain-Based Death and Legal Fictions

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The dead donor rule (DDR) governs procuring life-prolonging organs. They should be taken only from deceased donors. Miller and Truog have proposed abandoning the rule when patients have decided to forgo life-sustaining treatment and have consented to procurement. Organs could then be procured from living patients, thus killing them by organ procurement. This proposal warrants careful examination. They convincingly argue that current brain or circulatory death pronouncement misidentifies the biologically dead. After arguing convincingly that physicians already cause death by withdrawing treatment, they claim no bright-line differences preclude organ removal from the living. The argument fails for those who accept the double effect doctrine or other grounds for distinguishing forgoing life support from active, intentional killing. If the goal is determining irreversible loss of somatic function, they correctly label current death pronouncement a "legal fiction." Recognizing a second, public policy meaning of the term death provides grounds for maintaining the DDR without jeopardizing procurement.

Keywords: *dead donor rule, legal fiction, organ procurement, whole-brain death*

I. INTRODUCTION

Whole-brain-oriented death pronouncement has been under challenge since it was first proposed in the 1960s. In the past few years, the attack has escalated. One branch of the attack challenges the assumption that all functions of the entire brain must be lost for someone to be declared dead. Tristram

Engelhardt and I both published papers in 1975 that advocated versions of the so-called higher-brain formulation (Engelhardt, 1975; Veatch, 1975). It really makes no sense that the presence of one brain stem reflex circuit or hypothalamic secretion should be the difference between being treated as alive and being considered dead. The second branch of the attack defends the traditional biological definition of death associated with circulatory and respiratory function (Jonas, 1974; Byrne, O'Reilly, and Quay, 1979; Nilges, 1984) or, more recently, a broader list of somatic functions (Shewmon, 2001). I have previously argued that both these alternatives are more defensible than a straightforward whole-brain formulation (Veatch, 2005).

Among the troops defending the more traditional circulatory or somatic definition of death, there are conservative and liberal flanks. The conservatives (Shewmon, 2001; the minority position from the US President's Council, 2008, 52–58) combine this traditional view with acceptance of the dead donor rule (DDR) to conclude that organs may not be procured from living people with dead brains, thus potentially eliminating a major source of transplants. The liberals combine the traditional circulatory or somatic definition of death with a rejection of the DDR, preserving the possibility of organ procurement not only from what they consider living people with dead brains but potentially also some living people who retain some brain functions (such as those who would be considered dead by the higher-brain formulation).

In their recent book, *Death, Dying, and Organ Transplantation*, Miller and Truog (2012) provide the definitive defense of the more traditional circulatory and respiratory definition of death combined with an argument that the DDR should be abandoned. This is surely the most important book on the definition of death and organ transplant in the past decade and deserves very serious consideration.

Their volume opens the door to organ procurement from certain classes of living people, specifically those living people who have made (or have had made for them) valid decisions to withdraw life-saving technologies (LSTs) and who have consented to organ procurement. This could include those who have been confirmed to have met the current brain death criteria as well as those who are presently being pronounced dead based on donation after circulatory death (DCD) protocols. Miller and Truog claim that both of these groups are (or at least may be) still living people based on their adoption of the traditional circulatory definition of death that requires physiologically irreversible loss of circulation—a condition that does not necessarily exist either in those who have lost brain function or in those who meet current DCD standards for pronouncing death. If their argument succeeds, more or less the same patients would be candidates for organ procurement. In fact, to the extent that there are some patients who have recorded valid decisions to withdraw life support and have consented to organ retrieval, but who do not have dead brains and would not have progressed to death by circulatory criteria in time to procure organs, the yield of organs could actually be larger.

This, of course, runs the risk (from the point of view of organ procurement) that some readers may buy the argument to revert to circulatory criteria for death pronouncement but reject the argument that, with an LST decision and consent to procure organs, patients may be killed by means of organ removal. Miller and Truog are trying to provide the best analysis they can and appear to be willing to risk the loss of organs but believe they have made the case for procurement from people they consider living but the contemporary mainstream considers dead either by brain or circulatory criteria. On the other hand, they are also practically oriented bioethicists aware of the potential consequences of their preferred position.

II. THE CLAIM THAT WITHDRAWING LIFE SUPPORT CAUSES DEATH

Two preliminary chapters set the stage for their position. The first argues that physicians who withdraw LST are not merely allowing death to occur but are causing the death of the patient. This they consider critical later in the book when they claim that physicians currently are already routinely causing patient deaths, that is, killing them. This leads to their attempt to overturn the claim that active killings (including organ removals from living people) would radically change the physician's role since, if they are right, physicians are already doing so in withdrawing LSTs.

Multiple Actors in a Causal Chain Leading to Death

They reject the traditional view that such withdrawals do not cause death. On this, they are surely correct. Withdrawing treatment is one of the steps in the causal chain that leads to death when life support such as a ventilator is withdrawn. It is critical, however, to see what a small concession this is.

Miller and Truog label the traditional claim that withdrawal of treatment does not cause death but merely allows it a "moral bias." They suggest that there is a strong moral inclination to hold that physicians should not cause death, yet forgoing of treatment is routine, and therefore some device is needed to remove the dissonance caused by the moral insistence that physicians should not cause death. They are right that physicians routinely play a role in the causal chain leading to the death of patients and they are probably right that denying this is something of a "moral bias."

Once one acknowledges that physicians (and others) play a role in the causal chain leading to patient death, it does not follow that all such causal roles are morally equal. I suggest that their analysis of moral bias fails to differentiate acceptable and unacceptable roles in the causal chain. Unless they can show that there is no significant difference in those roles in the

case of forgoing life support and removing life-prolonging organs, their argument fails.

There are, of course, many necessary steps in a causal chain leading to death by withdrawal of LST. Here, we need to distinguish proper and improper withdrawals. A physician who unilaterally (on his or her own) decides to withdraw LST without patient or surrogate approval and proceeds to disconnect a patient's life support is surely causing death and causing it improperly. Such a case warrants a charge of murder.

On the other hand, in the more proper case, a patient decides to withdraw from treatment or a surrogate makes a substituted judgment or best interest determination for the terminally ill patient. Others—a minister, social worker, attorney, other family members, and friends of the patient as well as a physician—may counsel with the one making the decision. That decision is communicated to the attending physician whose role is to record the patient's or surrogate's decision. At that point the actual stoppage could take place at the hand of the physician or perhaps by the action of some other member of the health care team.

With a proper withdrawal of LST, there are, thus, several humans playing a role in the causal chain. The patient or valid surrogate is surely playing the decisive role. Without their initiation of the causal chain, no other events would be justified. The minister, social worker, attorney, family, friends, and physician are ancillary contributors to the causal chain. The physician is merely counseling and recording the decision or recording and perhaps executing it. In either case the physician is required by other moral and legal imperatives to play the role that is played. He or she could strongly oppose the stoppage and still be required by current law to play this role in the causal chain. By contrast, no legal requirement—and some would argue no moral requirement—forces a physician to remove life-prolonging organs.

There may be other features that provide moral distinctions for judging involvements in causal chains that lead to death. For example, whether the one killed is an aggressor or is innocent may be relevant. Whether the death is an accident or intended may be also. The theory of intention is, to many, critical in deciding whether playing a role in the causal chain is justified. When the law requires forgoing, the physician's role may be judged differently than when it does not. The physician may be able to say justifiably that his or her intention was to follow the law requiring nontouching when patients or their surrogates have not consented to treatment or have withdrawn that consent. In fact, as a reviewer of this article has suggested, Miller and Truog do not seem to be free from moral bias either to the extent that they attempt to separate causality from moral judgment.

Do Omissions of Life Support Also Cause Death?

Miller and Truog go on to claim that, in contrast to withdrawing life support, omitting it normally does not make the physician a player in the causal

chain that leads to the death of a patient who refuses life support (Miller and Truog, 2012, 13), unless the physician had the responsibility to act. If there is no duty to treat, in omission the physician does not cause the patient's death (26). Typically, however, there are standing orders to provide life-supporting intervention. For example, CPR is standard for a patient suffering a cardiac arrest; ventilation for one in respiratory distress. Only if a decision by the patient or surrogate is recorded, would the LST be omitted. Thus, in typical cases of death following omission of life support, the physician actually does play a role in the causal chain. But for his or her recording of the decision to withhold, LST would have been provided. Hence, not only do Miller and Truog have the analysis of cause right in their claim that withdrawing life support causes death, they actually do not go far enough. They fail to acknowledge that even in omissions, physicians typically play a role in the causal chain by negating the standing order that presumes intervention.

The whole area of causation is exceedingly complicated. There seems to be some sense in which even in omissions the physician plays a role in the causal chain leading to the patient's death, albeit, as with withdrawals, that role can be justified by the legal and moral requirement that physicians must document and execute patient and surrogate refusals as required by law. If it were not for the physician's charting of a so-called "order" not to resuscitate or ventilate, the patient would receive life-supporting intervention. Thus, the physician even in omission plays a role in the causal chain. Thus, in both withdrawing and withholding it is plausible to claim that the physician plays a role in the causal chain leading to the patient's death. Nevertheless, these claims about causation legitimately provide the basis for Miller and Truog to hold that physicians are already killing patients, that is, causing their deaths. On this, Miller and Truog are surely right. In fact, I suggest that, by excluding the case of withholding of LST, they do not go far enough.

The Double Effect Doctrine

One of the major grounds (but surely not the only one) upon which one might distinguish justified and unjustified causing of death of patients is captured in the doctrine of double effect (DDE). The majority of commentators—and American law, the American Medical Association, the President's Commission (1983), and Roman Catholic moral theology (Pope Pius XII, 1958; Sacred Congregation for the Doctrine of the Faith, 1980)—all claim that, even if the physician plays a role in the causal chain in withholdings and withdrawals, neither he nor other actors in the death of the patient necessarily *directly* cause the death. The doctrine of indirect or double effect, which is central to mainstream secular as well as religious views on forgoing life support, holds that the death of the patient can be morally acceptable, provided several conditions are met (McCormick, 1981, 413). Miller and Truog would appropriately point out that physicians who withdraw LSTs are causing death. Those who endorse the DDE should acknowledge this (and

even extend it to omissions). Nevertheless, the DDE distinguishes conditions in which causing death is morally acceptable and those in which it is not. One of the critical conditions for acceptably causing death is that whoever causes the death does not intend it. Rather, they directly intend only to withhold or withdraw a treatment that is not proportionally beneficial or is legally impermissible. Since it is doing no good or is actually harming the patient, it is morally expendable and therefore forgone. Another critical criterion for the DDE is that the bad effect cannot be temporally prior to or the means to the good effect. Since the death of the patient comes prior to the benefit for organ recipients, transplant by means of killing a patient would run afoul of the DDE in a way that forgoing life support does not. Thus, defenders of this mainstream view sharply distinguish killing by means of organ procurement in order to benefit transplant recipients from withdrawals and withholdings. Although both involve the physician in the causal chain that produces the death, withdrawals (and withholdings) that are justified for some reason other than the fact that they will cause a death are acceptable, whereas those in which the removal of life-sustaining organs that causes the death as a means to the good effect of saving or benefiting some other patient are not.

I am not a wholehearted endorser of the DDE, but it is critical for most commentators and also American law in distinguishing forgoings from intentional active killings. Therefore, the rejection of the DDE is critical to Miller and Truog's defense of intentional killing of living people by withdrawing treatment or (as we shall later see) organ removal.

Miller and Truog devote a short three-and-a-half pages (Miller and Truog, 2012, 14–18) to this critical move in their argument. They argue that "the claim that the agent responsible for withdrawing LST does not intend to cause death is empirically suspect in many cases" (16). No doubt, it is true that in some cases the physician or patient really does intend to cause death, but, at least to those who hold the DDE, those who really intend death are guilty of immoral action just as those who introduce an external agent (drug or scalpel) to actively kill are. The proper intention of a clinician in the case of patient or surrogate decision to withdraw LST is to respect the agent's decision. The proper intention of the agent making the decision is to forgo a treatment that is doing no net good or is actually doing net harm. The physician may be obliged to record the instruction to withdraw LST (or actually withdraw it) even in cases in which that physician sincerely does not want it withdrawn and does not want the patient to die. A proper account of such situations is that in withdrawing (or omitting) LST, the physician is required by other moral and legal considerations to enter the causal chain and hence become a factor in causing the death, but, for those who accept the DDE, it is not unethical for physicians to indirectly, that is, unintentionally, cause the death of a patient. Unintended killings may even occur actively such as in the cases of anesthesia accidents and administration of narcotic analgesia that causes death. It is even the case, according to

conservative commentators, that physicians may without immorality cause death with full foreknowledge that death will occur, as long as they do not directly intend it.

According to those who subscribe to the DDE (i.e., the mainstream US position), there is a critical difference, morally and psychologically, between causing a death or other harm intentionally and causing it unintentionally, even if one has complete foreknowledge of its occurrence. This distinction has some merit that even critics of the DDE should acknowledge. If a post-op patient accused his surgeon of intending to cause the patient pain at the incision site, the surgeon would reasonably take offense. The surgeon (and presumably the patient) knew the pain would occur, but it was not the surgeon's intention to cause the pain. A proper surgeon would be radically different from a masochistic one who intentionally took up surgery because he was setting out to cause post-op pain.

The DDE is critical to the vast majority of those who hold that it is wrong for a physician to intentionally kill, even though a wise analyst should concede that physicians routinely play a role in the causal chain leading to death by withdrawing or withholding treatments in the terminally or critically ill. Unless Miller and Truog can convince their readers that there are no bright-line differences between intended and merely foreseen roles in causing death, they cannot use their argument that it is acceptable to kill certain classes of people by withdrawing (or withholding) treatment to support a conclusion that it is acceptable to benefit others by means of killing patients through organ procurement. To be sure, they have convincingly established their nonmoral point that the difference between intention and mere foreseeability does not rest on the strictly demoralized causal relationship between the act/omission in question and the observed outcome.

Thus, Miller and Truog seem to have placed themselves in the position of holding that if one rejects the DDE and finds intentional as well as unintended but foreseen killings as morally acceptable, then killing by organ procurement may be acceptable. They are, in effect, holding the plausible view that, if one accepts intentional causing of death, then it may under certain circumstances be acceptable to intentionally cause death by organ procurement, that is, if one in principle already accepts some active, intentional killings (what the public might call active euthanasia or mercy killing), then intentional killing by removal of life-prolonging organs is really nothing morally different. Contrary to their analysis, for those who reject active, intentional killing of patients, then killing by organ procurement will be unacceptable even if DDE forgoings of life support can be acceptable. For this latter group, the core argument in favor of killing people by organ procurement will be in jeopardy. It may be that there are recently greater signs of more willingness to accept the moral legitimacy of active, intentional killing, but mainstream legal and medical professional opinion still rejects it.

III. IS VOLUNTARY ACTIVE EUTHANASIA MORALLY SIMILAR TO WITHDRAWING TREATMENT?

In Chapter 2, Miller and Truog extend their preliminary argument by claiming that, since physicians already should be seen as causing patient deaths appropriately in withdrawal of LST, it is easier to see that in some cases of voluntary active killing (what they call "voluntary active euthanasia and, hence, abbreviate "VAE") physicians could also legitimately cause a patient's death. They acknowledge that there are differences between refusals of LST and requests to be killed (Miller and Truog, 2012, 29) but claim that nevertheless some active killings are permissible. They claim that a physician's role in VAE is not necessarily inconsistent with physician integrity (32–44). In their view, VAE, "limited to competent patients who voluntarily request help in terminating their lives and who are adequately informed about available options of treatment and palliative care, . . . does not constitute an abuse of trust" (45). This two-stage argument that physicians already cause the death of patients in LST withdrawal and that there is no bright-line difference between withdrawal and VAE sets the stage for Miller and Truog's case for abandoning the DDR and killing certain patients by means of organ procurement.

IV. ARE PEOPLE DEAD FOLLOWING LOSS OF CRITICAL BODILY FUNCTION?

The next step in Miller and Truog's analysis involves their argument that people who meet current criteria for death by either brain or circulatory criteria cannot be known to be "really" dead. In Chapter 3, they take on death by brain criteria and in the following chapter, death by circulatory criteria.

The Rejection of Death by Whole-Brain Criteria

Most physicians as well as lay people are careless in the use of the word *death*. We know that it is simply wrong to say, for example, that a patient died in the emergency room and was "brought back to life" by CPR. This is necessarily wrong because, by definition, death is an irreversible phenomenon. If one is resuscitated, one was dead at no time during the events. This is important since calling someone "dead" triggers many social, psychological, legal, and ethical changes. The spouse becomes a widow, health insurance ceases, life insurance pays off, from a legal point of view it is no longer possible to be killed, etc. I will argue below that, contrary to Miller and Truog's analysis, one of the meanings of the word *death* is that the individual's status in the human community has changed in the way that these behaviors are now appropriate. (I will refer to this change in moral and social status as the "social meaning of death.")

Miller and Truog are sophisticated in their understanding that temporary, reversible loss of either brain or circulatory function does not count as death.

They view death as the "cessation of integrative functioning of the organism as a whole" (Miller and Truog, 2012, viii), more or less the standard definition used since the early days of the adoption of the whole-brain definition of death (Capron and Kass, 1972; Task Force on Death and Dying, Institute of Society, Ethics and the Life Sciences, 1972; Bernat, Culver, and Gert, 1981). Early defenders of the whole-brain view rather simplistically held that integrative function was critical and that the brain was the organ of integrative function so that its permanent loss could be equated with death. In the past 20 years, more sophisticated analysis of the mechanisms of integrated functioning have increasingly pushed us away from the whole-brain view (see Veatch, 1992, 1993, for more detailed accounts). Some analysts, identifying integrative functions independent of the brain that survive the death of brain tissue, held to a biological conception of loss of integrative functioning and have tended to revert to a circulatory or a "somatic" conception of death, relating death to irreversible loss of circulation (Shewmon, 2001; President's Council [minority view] 2008, 52–58, cf. the majority view, which remained committed to something akin to the whole-brain view, 58–67). This is the view that Miller and Truog adopt. There is no doubt that, if the word *death* is to retain a singular, biological meaning, the defenders of the circulatory or somatic position (including Miller and Truog) must be right. The evidence is now clear that many significant biological integrative functions remain after the standard criteria for the death of the brain have been met. Miller and Truog, relying heavily on Shewmon, provide a long list of such functions independent of the brain (Miller and Truog, 2012, 65–66).

Defenders of this somatic view, whether adopting the conservative stance retaining the DDR or adopting the more radical Miller and Truog position that rejects the DDR, have insisted that rejection of brain criteria for death is the only position one can take if death is to be based on loss of biological integration. On this, they are surely right.

There is an alternative, however. Some of us have for many years claimed that, from the 1968 adoption of the Harvard Report, a second, more social, legal, and normative use of the term *death* has come into play (Veatch, 1975, 2003). A normative, policy use of the term can define the word *death* as the name 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.

This same social meaning of the terms *life* and *death* has arisen in the contentious abortion debate in which opponents of abortion have insisted that "life" begins at conception and some opponents of abortion have used

language suggesting that "life" begins at some later point in fetal development. At least one Catholic theologian who is a traditional opponent of all abortion but is simultaneously a proponent of the higher-brain definition of death has conceded privately that anencephalic fetuses are not "alive" in this social sense of the term and can thus be removed from the womb without "killing" them. He surely understands that an anencephalic fetus is biologically living but is consistently using these terms in a nonbiological, that is, social or moral sense.

Similarly, some critics of the suggestion that *death* has come to have a second, more social meaning related to whether one has ceased to be a member of the human community in full standing (and thus bearers of human rights like the right not to be killed) have pointed out that those who defend the legitimacy of active euthanasia hold that the right not to be killed does not apply in such cases. The defender of the social meaning of *death* would reply that even if active, intentional killing (active euthanasia) were acceptable, the right of living people not to be killed would still hold; that right would merely be waived. This, of course, raises the question of whether the right not to be killed is "alienable," that is, waivable, but in any case, the right surely still applies to those who are intentionally euthanized.

Replying on a social meaning of the term *death* one might first identify those who no longer have the status of bearers of full moral standing (including the right not to be killed) and then call them "dead." Until recently, this group was coextensive with the group the proponents of the biological definition of death would call dead.

In fact, some of us who are advocates of this new, second, social use of the term still accept the view that death is related to loss of integrative functioning of the organism as a whole. We simply consider mental function (or something very close to mental function) to be so inherently a critical function of human beings that its irreversible loss is sufficient to say that the human no longer can function as a whole. Proponents of this view would consider total and irreversible unconsciousness the basis for loss of full moral status as a member of the human community. (That would plausibly include the permanently vegetative individual, but not the mentally compromised, but conscious—the Alzheimer's patient, for example.) What is left in the permanently unconscious individual is the mere mortal, biological remains, even if those biological remains can integrate a biological portion of the human being. Absent the critical integration of mental and biological function, the organism no longer functions as an integrated whole for purposes of social, legal, and ethical decisions. If all that is left is an organism that integrates its biological functions, one may say that a living organism is present in the biological sense, but not in any sense that is important for public policy purposes.

It is the integration of bodily (somatic) and mental function that is considered critical in most interpretations of the higher-brain view, that is, the second plausible definition of death. Here, "higher" is intentionally ambiguous. As Miller and Truog (2012, 88–89) correctly argue, it surely cannot be equated to the neocortex. It focuses on whatever bodily structures, presumably brain

tissues, are responsible for consciousness. A mental substance, if it could exist by itself (say, downloaded into a computer or even transplanted into another body), would not constitute a human (or, in the case of the brain transplant to another human body, would not constitute the same human). An electronically stored mental function, if it could exist, would lack the critical integration with the body. I once claimed that the equating of a human to its mental function was an error of the "mentalists," an error I claimed was as serious as holding that a human could be reduced to his or her integrative bodily functions, what I called the somaticist view (Veatch, 2005). Neither a functioning human body nor a functioning human mind is sufficient to be an integrated human organism "functioning as a whole." Thus, although death in the original biological sense would apply to all animal species, the term used in this second, social sense would apply only to humans (and any other species to which similar moral status is assigned).

Before examining Miller and Truog's claim that the whole-brain definition of death is a "legal fiction," we need to see why they argue that humans declared dead by circulatory criteria who are candidates for organ procurement (what is typically called "donation after circulatory death" [DCD] or more recently donation after circulatory determination of death [DCDD]) cannot be known to be dead.

Questions About Declaring Death by Circulatory Criteria

In Chapter 4, Miller and Truog reveal that they believe the problem for organ procurement is even more severe if one takes seriously the DDR. Not only do they insist that those pronounced dead using brain criteria are not dead; they also hold that the increasing number of humans from whom organs are procured following death pronouncement based on cardiac or circulatory criteria cannot be known to be dead at the time organs are procured.

Upwards of 10% of organs are now being procured from humans who have been declared dead following the loss of circulation, so-called donation after cardiac or circulatory determination of death (DCD or DCDD). Most are patients for whom decisions have been made to withdraw or withhold life support (deaths Miller and Truog claim are caused by physicians). These are mostly "controlled," that is, patients for whom treatment-forgoing decisions have been made by family surrogates, perhaps based on an advance directive or previous expression of patient preference. Some are "uncontrolled," accident or heart attack victims for whom resuscitation has proved unsuccessful.

In these cases, death is pronounced after, according to the uniform law, circulatory function loss is "irreversible." That term has led to considerable confusion. The standard approach is to observe the stoppage of the circulation (asystole) and then wait a period of time (usually 2–5 min) to eliminate the possibility of the heart restarting itself (autoresuscitation). There is considerable dispute about how long a waiting period is appropriate, but the larger controversy is over the meaning of the word "irreversible," and what it is that should be irreversible.

The meaning of "irreversible"

From the early days of the definition of death debate, we have known that "irreversible" could mean at least two different things: (a) biologically cannot be reversed or (b) legally cannot be reversed. It is a fact that in the 2- to 5-min waiting period used to rule out autoresuscitation, not enough time has passed so we can know with certainty that the loss of circulation could not be reversed with aggressive, state-of-the-art resuscitation. On the other hand, once autoresuscitation has been ruled out, if a patient has a valid instruction to the caregivers not to resuscitate, then, in the face of valid refusal, the stoppage cannot be reversed without violating the law prohibiting treatment. From early on, most involved in the definition of death discussion have accepted the interpretation that circulation must be legally irreversible (Robertson, 1993). Recently, this distinction has been reformulated as a distinction between "irreversible" (i.e., "biologically irreversible") and "permanent" (i.e., will not be reversed because it would be illegal) (Marquis, 2010). There has long been widespread agreement that death can be pronounced when circulation will not be restored, that is, is legally irreversible and will not be restored spontaneously. Thus, in ordinary cases of cardiac arrest of a terminally ill person with a treatment-refusing advance directive, physicians may pronounce death as soon as the cardiac arrest occurs (or at least as soon as autoresuscitation is ruled out). Some critics might insist that the arrest be observed until it is physiologically irreversible but that does not seem to be a normal practice.

Some of us have been aware that this is open to criticism from those who insist on irreversible biological loss of capacity for circulation. The law is ambiguous as to whether the irreversibility is biological or legal, but the consensus, at least among the mainstream of those in the definition of death debate, is that legal irreversibility is sufficient. To the extent that this is consistent with the biological possibility of reversing circulation, it seems clear that the underlying cellular substrate that supports circulation is not dead. Thus, those with a focus on the underlying biology would plausibly protest. On the other hand, the widespread consensus accepting legal irreversibility (i.e., permanent cessation) implies that there is not widespread support for linking the legal status of being dead to cellular viability of the tissues supporting circulation.

Miller and Truog (2012, 104–8) make use of this distinction to claim that only biologically irreversible circulation loss should count as death. DCD organ procurements need to occur as soon after death is pronounced as possible, and there has been an uneasy consensus that legal irreversibility is sufficient. However, most DCD donors are not dead in the sense of having lost circulation in a way that could not be biologically reversed; they are only dead in the sense of legal irreversibility or what is now sometimes referred to as "permanent loss."

If Miller and Truog's controversial (and, until now, minority) view about DCD is accepted, then neither those organ donors pronounced dead by brain criteria nor those pronounced dead by circulatory criteria are really

dead. If they insist on a biological definition of death, almost no organ donors are dead.

The significance of circulation loss

The problem is even more complex. There are two separate reasons why the law might hold that people who have irreversibly lost circulation are dead. First, they may be dead because circulation per se is a necessary condition for the biological integrating functions, those functions that somaticists (including Shewmon, Miller, and Truog) claim can be present even when they have suffered devastating and irreversible neurological injury (injury sufficient to be considered permanent and complete loss of all functions of the entire brain). In that case, it makes sense to pursue the question of when circulation loss is irreversible, whether the term is defined biologically or legally. If the term is defined biologically, we would want to know when it would be biologically impossible to restart circulation (presumably at a point longer than 5 min after asystole). If the term is defined legally, we would want to know when circulation could not be restarted spontaneously (perhaps 5 min of asystole or less).

There is, however, a second reason why the law might hold that people who have irreversibly lost circulation are dead. If what is critical is not circulation per se but circulation that supports brain function, then all we should care about is circulation reaching the brain. Those who believe that people should be treated the way we treat dead people when they have irreversibly lost brain function (either whole-brain or higher-brain function) should really be interested in when circulation has been lost in a way that brain function is lost irreversibly. Irreversible loss of circulation may simply be an indicator that the brain function is irreversibly gone. Several of the most respected and important proponents of brain-based death pronouncement appear to have held this view for decades (Capron and Kass, 1972). That was the view put forward by the President's Commission (1983). For one who holds this view, the presence of circulation unrelated to the support of brain function should not make any difference. On the other hand, the mere absence of body circulation should not matter if somehow brain function still existed. For example, a minute or two after asystole, brain tissue is probably not dead. Even if 2 min of asystole established the impossibility of autoresuscitation, it would not establish that the brain tissue is dead.

A DCD protocol in the state of Michigan illustrates the issue (Magliocca, Magee, Rowe et al. 2005, cited in Miller and Truog, 2012, 110). It is actually a variant of the more general case of the more common situation where intracranial pressure exceeds systolic blood pressure, resulting in no flow to the brain but persistent flow to the body. After death is pronounced based on circulation loss, arteries leading to the brain are cannulated and balloons inserted and inflated so that there is a blockage of the vessels going to the head. Then extracorporeal membrane oxygenation (ECMO) is initiated so

that transplantable organs are oxygenated, whereas brain tissue is not. This makes sense only if the interest in circulation is merely because its presence is indirect evidence that the brain tissue may still be viable. If no blood flows to the brain, the brain function loss is irreversible *even if circulation is restored through ECMO to the rest of the body and therefore somatic integrating functions are still possible*. If, on the other hand, circulation per se is a sign of life because it supports these somatic integrating functions, it should not matter for purposes of pronouncing death whether blood flows to the brain.

Since Miller and Truog believe somatic integrating function is what matters for evidence of life, they are interested in circulation that supports these somatic functions. The occlusion of arteries to the head should not make any difference. On the other hand, those who believe the critical functions are brain functions cannot use the time necessary to eliminate autoresuscitation or even the biological impossibility of restoring circulation as a basis for pronouncing death. The critical time period is the time it would take in the absence of circulation to destroy brain tissue (or at least make brain function impossible). That could be more or less than the time period that makes autoresuscitation impossible or makes restoration of circulation a biological impossibility.

V. THE REJECTION OF THE DDR

Through Chapter 5, Miller and Truog have argued that withdrawal of LST causes death and that physicians therefore already kill terminal patients. They have claimed there is no bright-line distinction between withdrawal of LST and active, intentional killing (a claim we suggest probably depends on their denial of the DDE). They have then argued for a somatic (biological or circulatory) definition of death and claimed that both those who meet current criteria for the irreversible loss of brain function and those who meet current criteria for DCD-based permanent loss of circulatory function cannot be known to be dead.

This would prohibit procurement of most organs for anyone who accepts the DDR. Chapter 6 becomes the critical chapter if organ transplant is to survive as a substantial medical procedure. Here, drawing on earlier articles of theirs (Truog, 1997; Truog and Robinson, 2003; Truog and Miller, 2008), they argue that, since physicians already kill patients and there is no bright line between withdrawal and active killing, it is ethically possible to intentionally kill certain classes of patients by means of organ procurement. They point out that this does not necessarily imply that other forms of intentional active killing (active euthanasia) are justified (Miller and Truog, 2012, 139). Nevertheless, their position is likely to appeal primarily to those who find intentional active killing morally acceptable under the right conditions. They limit their attention to organ procurement from living people.

They spend considerable time identifying the class of patients who they believe can legitimately be killed by means of organ procurement. The key

criteria, they claim, are that a valid plan is in place to withdraw LST and proper consent has been obtained to procure organs (Miller and Truog, 2012, 115). This, they claim, is acceptable because in these cases no patient is "harmed or wronged" (115). Organs would then be procured following any necessary sedation to avoid pain and suffering.

Let me concede that I think they are probably right that in such cases no patients would be harmed; the patients would not have a setback of any interests. Anyone who has followed Miller and Truog in being open to certain cases of intentional active killings would plausibly agree that intentional active killing might take place by removing life-prolonging organs with proper consent and sedation. Anyone who rejects the claim that there is no significant moral difference between unintended killings with foreknowledge that death will occur and intended active killings will, however, get off the path that Miller and Truog's argument follows. That means that all those who oppose intentional active killing are likely to already be in disagreement with their conclusion. There are also other reasons why someone might reject the claim that there is no bright-line difference between withdrawing (and withholding) LST and active killing. We cannot go into all the practical and theoretical arguments; they are well rehearsed.

Let me point out Miller and Truog's facile use of the phrase "harmed or wronged." Even if they make a good case that patients are not harmed by organ procurement, they do not spend much effort showing that there is no wrong. Anyone who holds that there is a deontological objection to killing (or at least intentional killing) of humans would not be satisfied with showing that no human is harmed. This would include Kantians, many with religious moral epistemologies, and any others who hold that there is at least a prima facie moral wrongness to killing humans (even when they are not harmed). When those holding there is a significant moral difference between forgoing and active killing are added to those who accept the DDE, Miller and Truog have clearly lost the majority before they begin. They will claim that the consent of the donor obviates any wrong to the donor, and they may be correct. If the right not to be killed is alienable (waivable), the donor's rights are not violated, but it remains an open question whether it is nevertheless morally wrong to kill (innocent) humans. If the right to life is inalienable, as many believe, then consent of the one being killed does not negate the wrong. Miller and Truog need to convince us that no wrong is done in intentional killing as well as no harm.

There are additional problems with rejecting the DDR based on the claim that no patient is harmed or wronged. If that is the moral justification for legitimating killing by organ procurement, there are many other classes of patients who would appear to qualify in addition to those with valid decisions to withdraw LST and consent.

To start, there seems to be no substantial difference between this group and those who have refused to begin life support needed to prevent imminent death and have offered a valid consent to organ procurement. In both cases of withdrawal and withholding, some effort would need to be made to establish that the patient would be highly likely to die without LST in order to sustain the claim that the patient is neither harmed nor wronged.

Even more problematic is a large number of cases of patients who arguably would not be harmed (and perhaps not be wronged either), even though they have no valid decision to forgo LST. Miller and Truog consider several such categories, but it is not clear why others would not also qualify as not being harmed by organ procurement.

It is important to realize that the category of those who have valid decisions to withdraw LST and consent is not limited to those who would presently be diagnosed as dead by brain or circulatory criteria. It would surely include the ventilatory-dependent permanently vegetative patient who does not meet all neurological criteria for death and might not meet DCD criteria after withdrawal of LST (e.g., one whose death would take so long that organ procurement following circulatory-based death would not be possible). Once one accepts the legitimacy of procuring organs from living ventilatory-dependent permanently vegetative patients; however, it is hard to see why living permanently vegetative patients who are not ventilatory dependent should be excluded. They are plausible candidates for withholding life-supporting interventions and surely would not be harmed any more than those on vents. Likewise, other patients who decide to refuse imminently needed life support would seem similarly situated.

Miller and Truog (2012, 135) consider the amyotrophic lateral sclerosis (ALS) patient. They appeal to "practical and policy considerations" to limit killing by organ procurement to cases of withdrawal of LST. They acknowledge that there are no "clear ethical principles that *dictate* this constraint on vital organ donation" (134). They might have considered many other cases in which patients arguably would not be harmed: those who have made valid decisions for VAE, those subject to capital punishment (131), and many accident victims.

The limiting case is that of the "rationally suicidal," that is, those who, through rational and voluntary choice, have decided that their interests are served by ending their lives. This would, of course, exclude those mentally ill or otherwise making nonvoluntary decisions, but it seems clear that there could be those who are rational and nevertheless decide their interests would be served by their being dead. The ALS patient and the locked-in syndrome patient would potentially fit the category, as well as those with a long and stable history of mental torment resistant to competent therapy.

The point is that, in contrast to the proponents of the DDE and other proponents of deontological arguments for the action/omission distinction, Miller and Truog give little principled argument other than appealing to consequences for limiting killing by organ procurement to those dependent

on LSTs. They do take up arguments that might limit physician cooperation in intentional active killing by linking this activity to norms of "internal morality" in medicine and "professional integrity" (Miller and Truog, 2012, 32–37). They end up concluding that the goals of medicine are consistent with active, intentional killing (what they call VAE) (see 36). With that conclusion, however, they are left without a principled basis for limiting organ procurement to patients who are receiving life support and have decided to forgo it. The line between those receiving LSTs and some who are not receiving it but would not be harmed by organ procurement does not seem as bright as the action/omission distinction or the even brighter line between removing organs from people who are deemed dead and those who are not.

VI. IS A NEUROLOGICAL DEFINITION OF DEATH A "LEGAL FICTION"?

Miller and Truog close the chapter that proposes abandoning the DDR with the suggestion that there may be "practical considerations" that support limiting killing by organ procurement to cases in which a valid decision to withdraw life support has been made. Then they make a critical concession. It may be "necessary to continue to muddle through by endorsing the DDR as an ethical and legal requirement despite the fact that our current practices violate it" (Miller and Truog, 2012, 147). This, they claim, "means that we are justifying our practices on the basis of moral and legal fictions" (147).

The final chapter of the book is devoted to developing the claim that this is indeed a "fiction," even if it may be the only practical way to obtain organs from this group of people they consider still living. The chapter, authored with the involvement of Seema K. Shah, stands or falls on the issue of whether current laws and moral positions based on neurological definitions of death are factually wrong and merely "fictions." They define a legal fiction as a metaphor or heuristic device making a "clearly false statement or claim" (Miller and Truog, 2012, 154). They provide a sophisticated account of legal fictions and conclude that such fictions "include the determination of death for purpose of organ transplantation" (155).

They are wrong in claiming that this "fiction" (if it really is a fiction) is merely for the purpose of organ transplantation. No doubt, the adoption of the neurological definition of death was historically linked to the need of organs for transplant, but it is a mistake to assume the definition of death law applies only for transplant cases. That is true in Japan, but not in Western cultures. The proponents of the neurological definitions consciously and explicitly put forward definitions that were intended for all legal and public policy purposes—homicide prosecutions, insurance decisions, spousal status, and so forth. It applies even in a case of a patient who is a known refuser of organ procurement.

The larger problem is whether it is correct to call neurological definitions of death a "fiction." Granted, those dead by neurological criteria have not

biologically lost all somatic integrating capacities. They are not dead in that sense of the word. The English language often uses words to convey more than one meaning. Often second and later meanings are derived from the original meaning. Sometimes they simply reflect ambiguities. That does not necessarily mean that the later meanings are "fictions." If one maintains the traditional biological definition of death based on irreversible loss of somatic functioning, Miller and Truog are on the right track. It is surely a fiction to claim that patients have literally lost all functions of the entire brain based on current testing. Similarly, it is a fiction to claim that those who have lost all integrating capacities of the brain have lost all biological integration. Shewmon and others have long shown that much somatic integration can continue to take place in the face of a completely destroyed brain.

On the other hand, those who do not accept the biological definition or do not agree regarding the actual functioning of the "brain dead" will not agree that it is a fiction to call them dead. They simply claim that brain-based definitions of death involve a new understanding of what it means to be dead in which the word "dead" takes on a new meaning.

An interesting case in the law is the word *infant*. In normal English speech, an infant is (roughly) a baby. In legal documents, an "infant" is sometimes anyone who is a minor. So a 17-year old can be an "infant." Does that mean that one or the other meaning is a "fiction"? Not at all. It simply means that some English words (and presumably words in other languages) have more than one meaning.

A linguistic example closely related to the ambiguities in the word *death* is seen in the word *person*. We have known for decades that the term has both moral and nonmoral meanings (Veatch, 2012, 29–31). Some define person as any self-aware or self-conscious being. Clearly, by this definition there can be living nonpersons. Babies presumably are not self-aware or self-conscious. On the other hand, others define *person* as any being bearing the moral status comparable to normal, postnatal humans. Using this definition, a conservative on abortion fights militantly to insist an embryo is a "person." The first meaning is nonmoral, the second moral. The conservative on abortion is not so foolish as to believe an embryo is self-conscious; it is merely being included in the category of those with full moral standing. Presumably, advocates of "personhood" constitutional amendments have this meaning in mind. To make matters more confusing, some people believe that the reason we would include someone in the category of persons in the moral sense is that they are self-aware, that is, persons in the nonmoral sense. For our purposes, it is sufficient to recognize here that there are two quite different uses of the word *person* and that they overlap, at least in the minds of some very liberal thinkers, who believe that only those who are persons in the nonmoral sense are persons in the moral sense. Neither use of the term

person is a "fiction" here. There are simply two overlapping uses of the term. Confusing, but not a fiction.

In the case of the word *death*, some of us have insisted from the earliest days of the definition of death debate that the word has multiple meanings. One obviously is the biological meaning now generally identified as the "irreversible loss of the functioning of the organism as a whole." This biological use of the term applies to all living organisms.

We have always, however, also spoken of the "death" of other entities—languages, cultures, cities, marriages, etc. This might be referred to as a metaphorical use, but it is more appropriately thought of as simply a second, nonbiological meaning. Since ancient times the word *death* has also been used in another sense. We have long recognized that human beings (and perhaps other animals) are part of a moral and legal community and have what is sometimes called "full moral standing." At the margins, some biological entities are not assigned this full moral status at least by some people. The embryo and the respiring human with a dead brain are marginal in this way. Some believe they do not have full moral standing. We have long used the word "living" to refer to members of the human community with full moral standing. Those who have permanently lost that status are called "dead." These marginal cases can be called dead in this sense. Thus, for example, we can only "kill" members who have full standing. One cannot "kill" a corpse; one might be prosecuted for mutilating a corpse, but not for killing it. Similarly, one cannot legally kill a respiring human with a dead brain in a jurisdiction that has adopted a definition of death based on brain function loss. To many, it is reasonable that, whatever crime is committed by unjustifiably intervening to stop circulation in a brain-dead person, the crime is not murder.

This moral and legal use of the term was largely, historically coextensive with the biological use (although certain dead bodies have always been able to carry out certain supercellular integrative functions on the Shewmon list of functions). A properly perfused, amputated limb, for example, could carry out certain growth and wound healing functions. In these cases, we would properly say, if the individual from whom the limb was amputated had no other surviving functions, that the individual is legally and morally dead even though a residual integrating body function survives biologically.

In the 1960s, we were forced to develop a language to refer to ambiguous cases in which someone might be biologically alive and legally and morally dead (or hypothetically biologically dead and legally and morally alive—consider the philosopher's cases of mental function stored on a computer with input and output devices). The early literature on the definition of death clearly differentiated biological and moral or legal meanings of the word *death* (Veatch, 1976, 38–42).

This does not imply that the moral or legal meanings are a "fiction" any more than the biological meaning is. It simply means that the language has

evolved so that the same term now has two or more meanings. Legal and moral communities have every right to use the word *death* to refer to those who have lost full moral or legal standing, even though they might maintain some biological integrative functions. Some of us explicitly used the word this way without becoming authors of fiction. Those who hold a "higher-brain" concept of death are not espousing fictions relative to their position. Miller and Truog are, no doubt, aware of this. They, on the other hand, may be right that those endorsing the mainstream view—biological definition of death that holds that "the brain dead" as biologically dead are espousing an (unacknowledged) fiction.

I would now grant that it might have been better not to use the same word to refer to the category of those who have lost full moral standing and to refer to the category of those who have irreversibly lost all biological integrating capacity. The two groups were historically so coextensive that it happened. The main leadership in the development of this usage—Henry Beecher and others coming to the conversation as pragmatic clinicians—surely did not have a clear understanding of the linguistic innovation. Nevertheless, some who were more theoretically inclined did. Ralph Potter, the theological ethicist member of the Harvard Committee, did. I spent many a lunch hour as a graduate student discussing the multiple meanings of the word *death* and discussed it in print (Veatch, 1976, 24). This was never fiction writing; certainly never an intentional effort to make a false statement. Even if some proponents of whole-brain definitions are engaged in fiction writing, it is possible to support either whole-brain or higher-brain views as public policy positions not meant to suggest that somatic integration capacity is lost.

Now 45 years later, both advocates for the second (social) definition and defenders of the traditional biological definition find ourselves in an awkward position. There may be no graceful way of untangling the linguistic knot in which we find ourselves. Defenders of the second (social) definition put forward a set of linguistic conventions and in doing so must acknowledge that having two uses of the same word contributes to linguistic confusion. Miller and Truog put forward an alternative rigorous and consistent account of a possible set of linguistic conventions. Limit the "real" meaning of the word *death* to the biological and then carry on a debate about whether there are certain classes of living humans who can ethically be killed by organ procurement.

Even they themselves recognize this is probably impractical today. The task of putting the term back in the biological bottle would be overwhelming. In the United States alone, we now have 51 different legal statutes or judicial precedents defining death, all of which in one way or another accept the moral and legal use of the term I have described. If people with dead brains are not dead people, all jurisdictions would have to repeal their so-called "brain death" laws if (regardless of organ procurement plans) people with dead brains, but residual somatic functions are to be classified as living. They would then have to pass new laws making it legal for physicians to intentionally kill certain classes of patients by organ procurement. (They

would have to go considerably beyond legalizing physician-assisted suicide to permit physician killing by organ procurement.) They would have to decide exactly which classes qualify. Almost certainly states would define the categories somewhat differently.

Definition of death theorists and organ procurement organizations have spent 45 years trying to teach health professionals and lay people alike to use the language properly. The usage cited by Miller and Truog (2012, 76) of neurologist and CNN medical expert Sanjay Gupta that has a person dead by brain criteria is "on life support" must be challenged on the grounds that dead people cannot be on life support. If we wanted certain classes of people considered living but nevertheless treated the way people deceased by brain criteria currently are, we would have to reverse these hard-fought linguistic battles and convince people to once again talk about living people with dead brains. Homicide laws would probably have to be amended to make clear that assaults leaving someone living with a dead brain count just like homicides even though they are not. We would have to authorize health insurance plans to stop coverage on living people with dead brains. We would have to require life insurance companies to pay off on living people with dead brains

Aside from these legal and clinical revisions, religious and cultural institutions would have to sort out countless problems. For example, would Catholics who now accept either whole-brain or higher-brain definitions of death revise their moral theologies so that removing organs from living people with dead brains or permanent unconsciousness would be acceptable?

The practical and theoretical problems of reverting to the biological definition of death would be overwhelming. For what it is worth, we would likely jeopardize organ procurement. That is an implication that would be acceptable to those who combine a biological definition of death with the DDR, but a serious harm to those who combine it with a rejection of the DDR.

Miller and Truog advance the definition of death and organ procurement discussion by challenging our emerging mainstream linguistic, legal, and moral consensus. Their alternative is both sophisticated and plausible language usage. In the end, however, as they themselves admit, it is impractical at least without major linguistic and moral changes that cannot occur for the foreseeable future. Their alternative requires some controversial positions: the rejection of the DDE and other grounds for distinguishing actions from omissions, the approval of certain killings by means of organ procurement based on the claim that the organ sources are neither harmed nor wronged combined with the rejection of organ procurements from other humans who will also not be harmed and will not be wronged any more than those from whom organs can be procured. There are two other options. One is to continue to insist on the biological or somatic definition and accept the fiction

that current brain death criteria satisfy that definition. That option is linguistically sloppy and probably dishonest. The other option is to acknowledge that there is now a second social, moral, and public policy use of the term that is to be used alongside the more traditional biological use. This second option seems clearly preferable.

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