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## Philosophical Debates About the Definition of Death: Who Cares?

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### ABSTRACT

Since the Harvard Committee's bold and highly successful attempt to redefine death in 1968 (Harvard Ad Hoc committee, 1968), multiple controversies have arisen. Stimulated by several factors, including the inherent conceptual weakness of the Harvard Committee's proposal, accumulated clinical experience, and the incessant push to expand the pool of potential organ donors, the lively debate about the definition of death has, for the most part, been confined to a relatively small group of academics who have created a large body of literature of which this issue of the *Journal of Medicine and Philosophy* is an example. Law and public policy, however, have remained essentially unaffected. This paper will briefly review the multiple controversies about defining death in an attempt to explain why they have and will remain unresolved in the academic community and have even less chance of being understood and resolved by politicians, legislators, and the general public. Considering this, we will end by suggesting the probable course of public policy and clinical practice in the decades ahead.

*Key words:* brain death, Harvard Committee

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### I. THE CONTROVERSIES

#### **A. Death: Process or event**

Very early in the discussion about death Robert Morrison and Leon Kass, in a classic exchange in *Science*, debated about whether or not death was a process

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with no conceptually or biologically defined point in time (Morrison, 1971; Kass, 1971). Kass seemed to have won the day. The Harvard Committee implicitly endorsed death as a circumscribed event and the President's Commission did so explicitly (President's Commission, 1981). The brain death laws, professional guidelines and hospital policies, not surprisingly, adopted the more practical notion that there is, in fact, a specific time of death. Yet, within the past few years the idea that death is a process has been revived (Botkin & Post, 1992; Emanuel, 1995; Halevy & Brody, 1993). These arguments have ranged from Emmanuel's claim that the notion of death is simply conceptually untenable (1995) to the less radical notion that death simply stretches out over time (Halevy & Brody, 1993). Both Emanuel and Halevy and Brody endorse a public policy that "unbundles" our social responses to death, allowing different behaviors – e.g., discontinuation of treatment, organ procurement, and burial, at different points on the continuum.

### **B. Brain death vs. cardiopulmonary death**

Prior to the 1970s, the only criterion that was used to justify death was the irreversible cessation of cardiopulmonary function. Persons who suffered cardiopulmonary arrest immediately lost brain function and vice-versa. With the use of the mechanical ventilator, society reevaluated what it meant to be dead. How, for example, should we categorize individuals who lacked brain function but whose hearts continued beating while they were kept on mechanical ventilators? Should death of the brain now be equated with death of the patient?

The Ad Harvard Hoc Committee and the President's Commission seem to have won the day on this debate. Brain death has been recognized in law and clinical practice throughout our nation. Nonetheless, pockets of resistance remain among conservative Catholics (Byrne, O'Reilly & Quay, 1979), Orthodox Jews (Rosner, 1999), and, potentially at least, fundamentalist Christians (Campbell, 1999). The state of New Jersey has gone so far as to allow individuals to "claim" a religious exemption from a neurologically-based criterion for death (Olick, 1991).

Moreover, in almost every state the law does not choose whether brain or cardiovascular function has primacy, giving them separate and equal status. This issue remains a matter of controversy, at least within the bioethics community (see Capron, 1999 and Bernat, Culver & Gert, 1982), but has surfaced again in a practical way in protocols for non-heartbeating donors (NHBDs) where organs are taken from patients shortly after they are declared

dead by cardiopulmonary, rather than neurological criteria (Youngner & Arnold, 1993).

### C. “Higher” brain vs. whole brain

The philosophical debate between consciousness and integrative capacity as the critical brain function is certainly not resolved. The Harvard Committee did not address the issue, although the Committee Chairperson, Henry Beecher, leaned toward consciousness and cognition. It was not until more than a decade after the Committee’s Report that a systematic defense of whole brain criteria was offered by Bernat and his colleagues at Dartmouth (Bernat, Culver, & Gert, 1981). They put forward the first coherent defense of the integrating capacity of the brain as a conceptual basis for brain death, a position echoed by the President’s Commission. This position has been challenged repeatedly by higher brain enthusiasts (Veatch, 1975, 1976; Bartlett & Youngner, 1988; Gervais, 1986; Green & Wikler, 1982), and, despite the fact that Bernat has remained its chief if not only defender in the literature, there have been no serious attempts to introduce consciousness-based criterion into public policy or law.

The failure of a “higher” brain definition to catch on has several possible explanations. First, the notion that spontaneously breathing people are dead is counterintuitive (even more counterintuitive than thinking of brain-dead heart-beating patients as dead). Second, the clinical tests to determine irreversible loss of consciousness are not as definitive as those for brain death. Third, the very term, “higher” brain function, has been discredited on biological grounds since consciousness is supported by anatomical regions in both the brain stem and cerebral hemispheres (Machado, 1999). Finally, even among higher-brain advocates there is disagreement about whether the critical loss is personhood (Bartlett & Youngner, 1988) or personal identity (Green & Wikler, 1982).

### D. Can we ignore some brain functions?

There has been widespread agreement among the bioethics and clinical communities that the definition and criteria of death are functional rather than anatomic. That is, brain death is not the death of the entire organ, but rather loss of *all* functions of the brain. The law reflects this functional definition.

It turns out, however, that several brain functions remain in many persons declared death by neurological criteria (Halevy & Brody, 1993; Truog & Fackler, 1992). They simply are not brain functions for which one commonly tests. Bernat has revised his definition (1999) by claiming that

these brain functions are not *clinically* significant, but his definition of clinical seems arbitrary, especially since the continued production of arginine vasopressin and its prevention of diabetes insipidus is exactly the kind of essential integrating function that Bernat described in his original paper, while tests for the gag reflex (a required part of the clinical exam for brain death) is not. Christopher Pallis, the originator of “brain-stem” death, identifies the capacity for consciousness and spontaneous respiration as the critical functions and correctly points out that loss of brain stem function effectively eliminates both (Pallis & Harley, 1996, p. 52). Therefore, argues Pallis, the functions that remain in some patients judged dead by the commonly used clinical exams that ignore them are irrelevant because they have nothing to do with his definition of death (1999). While this line or argument has won the day in England, it has not influenced policy in the United States.

### **E. The meaning of integration**

In another blow to the “integration” theory espoused by Bernat and still undergirding current law and clinical practice, Shewmon effectively argues that many of the body’s most important integrative functions are not carried out by the brain at all, and continue once the brain has ceased to function (Shewmon, this issue). He supports his argument with a plethora of clinical evidence and leaves Bernat and his colleagues in the untenable position of saying, “Oh, but we didn’t mean or care about those functions,” with no greater philosophical justification for ranking functions than they did in response to the criticism from Halevy and Brody. Shewmon’s arguments are bolstered by his somewhat disturbing report identifying 161 cases of persons reliably diagnosed as brain dead (by current legal and clinical criteria) whose bodies went on living for at least one week (Shewmon, 1998). Of these, 67 lived at least 2 weeks, 32 at least 4 weeks, 15 at 2 months, and 7 at least 6 months. One “lived” for fourteen years. Not only does this finding undercut one of the reasons for public acceptance of brain death – that is, that brain-dead patients suffered traditional death (by cardiac arrest) within hours or days despite aggressive intervention, but it also emphasizes Shewmon’s point that, without the brain, the body is capable of carrying on important integrative functions for long periods of time.

### **F. The time of death**

NHBD protocols that require taking organs as close as possible to the loss of cardiopulmonary function have made us aware that there is no clinical or

philosophic consensus about how long after a function is lost death can be declared. Lynn and Cranford (1999) have explained four choices for the point of death:

1. When cardiopulmonary function is lost
2. When the function is determined to be lost
3. When the loss is irreversible
4. When irreversibility is determined

No textbook of medicine, neurology or surgery addresses this issue. In most deaths it is not a practical issue. In NHBD protocols it is a central issue because taking organs out as near as possible to the first sign of cardiac arrest is essential to protect organs from deteriorating (Youngner & Arnold, 1993). Consistency, however, would suggest that the timing of death should be independent of questions of organ procurement. Otherwise, patients would be dead or alive, depending on whether or not they were organ donors.

### **G. The meaning of irreversible**

All laws, clinical criteria and philosophic theories about death insist that the essential functions (whatever they are) must be *irreversibly* lost for death to be declared. But nowhere is irreversible defined. NHBD protocols made a definition of irreversible essential but there is little agreement among philosophers about what exactly is meant by the term irreversible. Cole argues that irreversible is a hopelessly ambiguous term, pointing out that it could mean that: (1) there is no logical possibility of restoring a function now or in the future; (2) a function *cannot* be restored with present technology and clinical skills; and (3) a morally defensible decision has been made not to restore the function even though that is technically possible (Cole, 1992, 1995).

Because of this inherent ambiguity, Cole argues that irreversible should be dropped from the definition and determination of death. Other philosophers disagree with Cole's wish to disregard the term (Lamb, 1992; Bartlett, 1995), but cannot agree on which construal of irreversible is the right one. Tomlinson argues for irreversible as a morally determined notion – you are dead if the decision not to reverse your loss of function is morally acceptable (Tomlinson, 1995). Bartlett (1995) and Capron (1999) entirely reject Tomlinson's position. Irreversibility remains an essential, but undefined element in the definition and determination of death.

In a recent report on NHBD, the Institute of Medicine of the National Academy of sciences endorsed 5 minutes as the waiting period after cessation

of cardiac activity (1997). After this interval, the report said, the loss of cardiac function could be considered irreversible. The IOM did not define what it meant by irreversible, nor did it give empirical data to support its position. The time of death as determined in NHBD protocols varies with the particular protocol. Each of the times, however, is based on incomplete empirical data and (when the protocols even bother to address the issue) competing notions of what is meant by irreversible. Implementation of such protocols, then, means that at least some people will believe that organs are being taken from people who are not completely dead.

## II. THE PROSPECT OF RESOLUTION

It is hard for us to imagine a resolution to the controversies reviewed above. While the definition and determination of death in our culture remains firmly embedded in a biological (as opposed to a spiritual, magical, or social) understanding of the world, it is clearly not simply a biological fact, to be discovered or proven with the methodology of modern science. Certainly, the determination of death in our society has at least one foot resting in biology. Nonetheless, philosophy, religion, psychology, politics and even economics play major roles in how individuals and groups interpret the biological facts. Death is ultimately a social construct, and in a pluralistic society that emphasizes individual rights and is increasingly suspicious of traditional founts of authority and wisdom, the controversies outlined above are unlikely to be intellectually resolved within the academic community or beyond.

That is not to say that the controversies won't be minimized, hidden, sidestepped, or ignored by administrative and elected officials and the public at large as they attempt to accommodate both the utilitarian march forward of organ transplantation and the confusion, anxiety, and mistrust engendered by continual manipulation of the socially sanctioned, but somewhat fuzzy line between life and death. In fact, it is highly unlikely that most people, even educated ones – even clinicians – will have the time, ability, or interest to wade through the ins and outs of the controversies that have so intrigued a small group of scholars. Even if they did, it is unlikely that they would agree on the issues that have so divided the academic community.

It could be argued that society's seeming acceptance of brain death is a glaring exception to what we have just concluded. Despite the simmering controversies we outlined earlier in this paper, no one has seriously considered

repealing the laws recognizing brain death; nor has any national professional organization or religious group called for their abandonment or even modification.

Brain death served two useful purposes in 1968. First, it allowed physicians to turn off respirators without fear of legal consequences, and, second, it allowed organ procurement without violating the dead donor rule (patients must neither be alive when organs are removed nor killed by the process). These utilitarian appeals were the only justification given by the Harvard Committee for their new definition of death and, as we said earlier, were being accepted into law and clinical practice years before Bernat and the President's Commission came up with the first widely circulated, coherent philosophical justification that these patients were indeed dead. In addition to the utilitarian reasons for treating brain-dead patients as dead, many health professionals were willing to do so because the diagnosis was relatively easy and reliable and patients with that diagnosis would confidently never recover consciousness and would soon die traditional deaths – that is, they were beyond harm and were quickly and irreversibly approaching cardiac arrest (Youngner, Landefeld, Coulton et al., 1989).

Brain death has been “grandfathered” into public acceptance and, given the important utilitarian purposes it serves, is unlikely to be rejected because of its theoretical imperfections. But times have changed and the bar is higher for public acceptance of further tinkering with the definition of death. Brain death was introduced by a prestigious group of academics at a time that marks the end of an era of almost unquestioned belief and trust in medical science (Pernick, 1999). The introduction and early acceptance of brain death preceded *Roe vs. Wade* and the national debate about physician-assisted death – two issues that have galvanized the religious right to protect life and reject judgments about its quality (Campbell, 1999). Tuskegee and other abuses of research have come to national attention. Patients' rights, the commercialization of medicine, the Internet, and medical malpractice have diminished public trust in and obedience to physicians and medical science. An educated, or at least aggressively investigatory press, is quick to highlight controversy and efforts to cover up wrongdoing, and has access to bioethicists and other experts willing to publicly expound their own positions and criticize those of others.

It is highly unlikely that the press or the public will have the inclination or stamina to explore thoroughly the controversies about irreversibility and the timing of death, about death as process or event, about the true meaning of

“integrative,” or about the primacy of some vegetative brain functions over others. If they did, there would likely be as much disagreement and controversy as there is among scholars. Most clinicians and lay persons, if educated, would remain confused and ambivalent about many of these issues and would answer pollster’s questions about them according to how the question was asked. It is doubtful that the academic and professional community will resolve these issues by a vote as the American Psychiatric Association did with homosexuality in the 1970s (Bayer, 1981). It is also unlikely that the issue will be resolved by votes of state legislators, Congress, or the American people. The issue is too arcane, complex and loaded with political dynamite for public officials to take on in any sustained manner.

Our guess is that the public officials will ignore the issue, foisting it, when they can’t avoid it, onto groups of “experts,” as they did with the IOM. If the IOM Report is any predictor, the experts will also sidestep the issue when they cannot find clear answers. The general public and press will continue their love/fear relationship with medical science. On one hand they will welcome life-saving and life-extending medical technology and be willing to pay handsomely for it. On the other hand, they will continue to be suspicious and mistrustful, sentiments that will appear regularly in popular culture – movies, novels, and cartoons (Youngner, 1996). Our society will continue to accept policies that incrementally gerrymander or obscure the line between life and death, only to become outraged when some conceptual inconsistency, cast in the context of deception, surfaces in a sensational press expose. The public and press will continue to ignore the academic controversies about death until specific, dramatic (or dramatized) incidents raise troublesome questions of mistrust, inequity, or greed on the part of the medical establishment. Even then, public attention and energy will focus on these issues, rather than the arcane debates about the definition of death.

### III. CONCLUSION: THE POSSIBILITY FOR CHANGE

When the Harvard Committee put forward its new “definition” of death in 1968, mechanical ventilators had just come into widespread use but our society had no clinical, psychological, or legal experience with turning them off. Physicians and hospitals were worried about the legal consequences of doing so. The Harvard Committee gave this problem as one of its two major



justifications for introducing their new definition of death. However, after three decades of public debate (often heated) about the tough issues – the moral ones – we no longer need the fiction of brain death to facilitate termination of treatment. The other major utilitarian goal of the Harvard Committee was to sidestep the dead donor rule.

Perhaps, after decades of *de facto* violations of the dead donor rule, our society is ready to openly discuss whether or not it is acceptable to take organs from patients who are beyond harm and protected by a rigorous consent process. On the one hand, such a debate might raise further suspicions about medical science and the health care system. On the other hand, the public might be more receptive to a frank discussion about the real moral issues at stake: how the medical system treats bodies near the end of life, what counts as harming a nearly dead person, and to what extent patient and family autonomy can protect against abuse and conflict of interest. If such a social conversation takes place, the academic debates about the definition of death will be further removed from any practical importance.

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