*Tom Tomlinson*

# The Irreversibility of Death: Reply to Cole

ABSTRACT. Professor Cole is correct in his conclusion that the University of Pittsburgh Medical Center (UPMC) protocol does not violate requirements of "irreversibility" in criteria of death, but wrong about the reasons. "Irreversible" in this context is best understood not as an ontological or epistemic term, but as an ethical one. Understood that way, the patient declared dead under the protocol is "irreversibly" so, even though resuscitation by medical means is still possible. Nonetheless, the protocol revives difficult questions about our concept of death.

CURRENT LAW in the United States, under the Uniform Anatomical Gift Act, prohibits the removal of vital organs for donation until after the donor has been declared dead. This requirement presents a problem for protocols like the University of Pittsburgh Medical Center Policy (1993)—the Pittsburgh protocol, which would allow organs to be removed from non-heart-beating donors. The problem arises out of the standard condition in legal criteria of death that the loss of the vital functions, whether brain or heart-oriented, be "irreversible."

The UPMC protocol states that removal "cannot begin until the patient meets the cardiopulmonary criteria for death, i.e., the irreversible cessation of cardiopulmonary function" (UPMC Policy 1993, Procedure S, p. A-6). The procedures then go on to specify how this "irreversible" cessation will be determined—namely, by a set of tests designed to determine that the cessation would be irreversible by *auto*-resuscitation. Thus, under the protocol, a patient whose cardiopulmonary arrest might well be reversible by means of standard CPR or other medical means could nevertheless be declared dead for the purpose of organ removal.

This rapid determination of death well serves the ultimate transplantation purposes of the protocol because it minimizes organ damage from warm ischemia. But does it do so by an *ad hoc* and objectionable redef-

*Kennedy Institute of Ethics Journal* Vol. 3, No. 2, 157–165 

inition of the proper meaning of "irreversible" in the standard definitions of death?

## DAVID COLE'S ANSWER

David Cole sees no difficulty on this score because he thinks that the irreversibility condition in the standard definitions of death is itself objectionable and should be jettisoned in any event, in favor of a more "ordinary" concept of death.

> On my view, the ordinary concept of death involves loss of capacity for auto-resuscitation, but the concept is compatible with reversal by extraordinary therapeutic procedures . . . Thus . . . the operational definition embodied in the criteria set forth in the UPMC protocol is closer, I think, to the ordinary concept of death than the explicit definition of death it purports to satisfy. (Cole 1993, pp. 150–51)

Cole is right to conclude that the Pittsburgh protocol's reliance on the capacity for auto-resuscitation is not an objectionable violation of requirements for the irreversibility of death; he's just all wrong about the reasons, which he only sketches in the present paper.

Cole's reasoning is set out in more detail in an article published in the *Journal of Medical Ethics*. Irreversibility is not a part of the ordinary concept of death, Cole argues, because otherwise it would be a plain contradiction to say "X was dead but later was brought back to life" (Cole 1992, p. 27).

Moreover, both strong and weak construals of an irreversibility requirement have unacceptable implications for our treatment of the "dead." If "irreversible" is taken in a strong sense to mean "can never be reversed," then "no one, on this strong construal of the irreversibility condition, is clearly dead . . . [because] . . . at some time in the future it may be possible to restore a body in very bad condition to life . . . These future possibilities can certainly not be ruled out altogether . . ." (Cole 1992, p. 27). This kind of uncertainty is unacceptable since it "causes . . . moral problems: it hardly seems permissible, for example, to remove organs from persons who may or may not be dead" (Cole 1992, p. 27). Organ removal under these circumstances is not permissible because "If death is reversible, as in the ordinary concept, then what is done to a body after death may well affect the possibility of reversal . . . in particular, mutilation, as by the removal of vital organs, will undoubtedly make reversal more difficult" (Cole 1992, p. 29).

A weak construal, in which "irreversible" means "not reversible now" also runs into problems, according to Cole, due to its relativity to the present moment. A weak construal would imply that a person could be dead one minute (because at that moment his condition was not reversible), but not dead the next moment (because right then a radical medical breakthrough is pushed through the door); and that in the intervening minute it would be all right to harvest his organs, even though that would mean that the medical breakthrough would not work to bring him back from the dead (Cole 1992, p. 28).

Thus, Cole thinks, our definitions of death should drop references to irreversibility and revert to a non-technical, ordinary concept. "Life is a natural process and is something that a normal organism is capable of sustaining, on its own, in the natural order of things . . . When the life processes cease and the organism loses the capability of resuming them, it is dead" (Cole 1992, p. 29). Hence, Cole's conclusion that the Pittsburgh non-heart-beating donor is dead: without the possibility of auto-resuscitation, his life-processes have ceased, and he is no longer capable of resuming them.

## A CRITIQUE OF COLE

Cole's reasoning suffers from numerous problems. To begin, his argument that the ordinary concept of death does not include irreversibility is unconvincing. "X was dead but later was brought back to life" is not a plain contradiction. It is an acceptable English sentence. But is that because the concept of death essentially admits of reversibility or instead because we are willing to read this sentence with "dead" in raised eyebrow quotes, translating it variously as "presumed dead," "appeared dead," "determined to be dead by the best medical minds of the century," and so on?

A fact supporting this latter explanation, rather than Cole's, is his admission that many of the ordinary practices following death presume irreversibility: ". . . it is natural to wish to view death itself as irreversible—otherwise, what could justify taking such irreversible actions involving the decedent's body and property?" (Cole 1992, p. 27) Cole's conclusion about the ordinary concept of death would make the ordinary practices surrounding death difficult to justify.

But what, then, Cole might ask, explains his observations that religious beliefs and science fiction stories about the reversibility of death are not plain gibberish (Cole 1993, p. 151)? A plausible answer is that "irreversibility" is a requirement that arises only at the level of the *criteria for the*

*determination* of death, rather than at the level of the concept of death, just as "beyond a reasonable doubt" is not part of the *concept* of "guilty," but instead is a requirement for the legitimate determination of guilt within a judicial system. This would imply that the requirement for irreversibility would depend on the context in which, and the purposes for which, the concept of death was being employed. This is an implication I will discuss further in a moment.

Cole's further arguments concerning the strong and weak senses of "irreversible" are incoherent, both internally and with his preferred "ordinary" concept of death. Cole's criticism of the strong construal is that since we could never know for sure that a person was dead, we couldn't ethically remove vital organs since doing so would "undoubtedly make reversal more difficult." Cole can't allow himself to make any such categorical statement. If (because anything is possible) we can never really know whether the condition of death is reversible, then (*ceteris paribus*) we can never really know whether we've made the condition less reversible or *more* reversible. Perhaps (who knows?) the method of reanimation will have to use freshly cloned organs, rather than the old, stale ones.

Arguments like Cole's, in which even the remotest hypothetical carries decisive moral weight, are self-refuting. As David Lamb (1992, p. 32) observes in his reply to Cole, "The ethical problems generated by logical possibility can be met by solutions generated by logical possibility."

His criticism of the weak construal suffers from the same obsession with sheer logical possibility: Even though you are now momentarily dead, I still shouldn't remove your organs because a miracle might come through the door. I suppose, by the same token, I should be loath to switch on the lights for fear that they could be wired up to someone's bathtub.

Finally, all of Cole's arguments are reasons that can equally well be turned against his own preferred "ordinary" concept. When Cole tells us that the organism is dead when it loses the capability of spontaneously resuming the life processes, does he mean to say *irreversibly* loses that capability? If so, then his view is self-detonating. All of the "problems" that arise for the so-called "uncertainty" of our determining the impossibility of resuscitation also plague our determining the impossibility of auto-resuscitation.

Cole has some other explaining to do as well. He takes it as a convincing objection against the weak construal of irreversibility that it would allow us to declare someone dead, and thereby improperly abandon our obligations to their possible future interests, even when what we do could still

hurt or help them. The very same sort of argument can be made against Cole's ordinary concept. It would allow me to declare a victim of cardiac arrest dead and thereby relieve myself of any obligation to attempt the resuscitation which might still save his life. Either this reasoning should overthrow Cole's favored concept, or he should abandon this kind of argument altogether. I recommend the latter.

## WHAT WOULD A BETTER ANSWER LOOK LIKE?

I believe that Cole gets off on the wrong foot by assuming that "death" is essentially and solely an ontological category rather than irreducibly an ethical one as well. Let's restore that ethical perspective by asking a question that Cole never tries to answer: Why would anyone think that the determination of death should be a determination of the irreversible? The answer will better explain why the Pittsburgh protocol's use of the capacity for auto-resuscitation is the right benchmark.

As Cole and many others observe, the determination of death authorizes many decisions and actions that presume that the deceased has lost most of the interests which she had in life. This is a presumption necessary for supporting the ethical conclusion that our former obligations to protect or account for those interests have ended. If it were the case that her loss of those interests was not reasonably believed to be irreversible, then our obligations to protect those interests could not have ended with the determination of her death. Thus, if death has these ethical implications for the demise of our obligations to the deceased, its determination must include a judgment of irreversibility sufficiently secure to warrant the ethical judgments that follow. A revealing translation of "irreversible" in criteria for determining death, then, is "the possibility of reversal is not ethically significant," and this translation has useful application to the Pittsburgh protocol.

This sort of conception implies, first of all, that "irreversible" cannot mean "logically impossible." Justifying an ethical course of action requires only that I take account of the reasonably possible consequences, since a more stringent standard like Cole's paralyzes decision making.

Second, this ethical conception of "irreversible" admits that the standards for irreversibility cannot be timeless or divorced from the setting in which they are used. Instead, they will depend, among other factors, upon the context established by our other ethical obligations. This connection between our ethical obligations to specific individuals and the requirement of irreversibility explains why we find the notion of "reversible death"

most acceptable in the context of religious convictions or science fiction stories. To put it most bluntly, in these contexts it doesn't much matter morally if we imagine death to be reversible because in these contexts the application of the concept of death is not used to govern decisions about our obligations to other people's real interests in life.

An essential element of the present context is that the non-heart-beating donor under the Pittsburgh protocol has volunteered to donate organs only after exercising his right to refuse any further life-prolonging treatments, including treatments aimed at resuscitation from cardiopulmonary arrest. To refuse to withdraw the life-prolonging respirator therapy or to institute other life-prolonging treatments would be a violation of the donor's wishes and of his rights, and so not ethically acceptable.

Those medical means for reversing his cardiopulmonary arrest are no longer ethically significant possibilities. To the contrary, pursuing them would be ethically objectionable. Therefore, to ignore those possibilities in making the determination of death takes all due account of our obligations to the donor's interests, and so does no violence to the requirement of irreversibility once that requirement is properly understood. A donor under the Pittsburgh protocol who arrests and has been reliably determined to have lost the capacity for auto-resuscitation is properly determined to be "irreversibly" dead, despite the remaining possibilities of medical resuscitation.

This reasoning applies to the conditions necessary for determining the *irreversibility* of death; they are not conditions for setting the *criteria* of death. Imagine, as a possible counterexample, a patient admitted in respiratory arrest from a drug overdose and placed on a ventilator. He shows all the clinical signs of "brain death" (we will suppose), although we don't yet know whether this reflects the condition of his brain or is caused by the drug he took. There is still the possibility that brain function will resume 24 hours from now, after the drug levels have dropped. Subsequently, it comes to light that he had left clear and competent instructions not to continue ventilator therapy under precisely these conditions. If it would be ethically objectionable to continue ventilator therapy, the only means available for recovering his brain function, then his loss of brain function is irreversible on my account, and he is therefore dead. And yet this conclusion seems plainly wrong.[1]

But the conclusion that he would now be dead is not so plainly wrong once we distinguish two different conceptions of brain-oriented criteria of death: physiological vs. functional. If by "death" we mean to refer to

the destruction of the whole brain, then the patient in the counterexample has not yet met our criterion of death, since we are not yet in a position to determine whether his brain has indeed been destroyed. Therefore, my account of the irreversibility condition would not imply that he is dead, despite the fact that his condition is (ethically) irreversible. If, on the other hand, by "death" we mean to refer to the loss of the brain's *functions* (of consciousness, responsiveness, organic integration, and what have you), then it is not so plainly wrong to refer to him now as "dead," since he has indeed lost all of the functions thought essential to being alive, and these are now irreversibly lost due to his treatment refusal. The purported counterexample gets its power from trading on an equivocation between these two conceptions. From the functional perspective, the patient would properly be determined to be dead on my account; but from the physiological perspective, that is a premature judgment. Settle on one or the other of these perspectives, and the problem dissolves.

In summary, I do not believe that the Pittsburgh protocol for determining death violates the irreversibility requirement once that requirement is understood in ethical terms. There is, however, another problem that may be more difficult since it concerns a substantive choice between conflicting criteria for death.

## HEART VS. BRAIN

Statutes defining death permit the use of either heart or brain-oriented criteria for its determination, leaving it up to the medical profession to decide what clinical tests or examinations are necessary. This indifference between brain and heart-oriented criteria in the law is in large part a product of arguments made by the President's Commission (1981) and others in support of the movement to include brain-oriented conceptions of death in the law. Among these was the claim that the new brain-oriented criteria were not introducing a new concept of death but were instead simply supplementing the traditional cardiopulmonary criteria, with which they were coextensive:

> Using permanent loss of functioning of the whole brain as the criterion for death of the organism as a whole is . . . consistent with tradition. Throughout history, whenever a physician was called upon to ascertain the occurrence of death, his examination importantly included . . . signs indicative of permanent loss of functioning of the whole brain . . . Thus, permanent loss of whole brain functioning has in an important sense always been the underlying criterion of death. (Bernat, Culver, and Gert 1981, p. 392)

Whatever one thinks of the cogency of this argument (see Tomlinson (1984) for some doubts), what is significant about it in the present context is the assumption that wherever the traditional criteria are being used, they are functioning effectively as clinical tests for the occurrence of "brain death." Loss of heartbeat and respiration (absent the use of artificial supports) are taken as signs that the brain also has died. Ordinarily, this is a reasonable inference. The Pittsburgh protocol, however, is not an ordinary use of cardiopulmonary criteria. Almost certainly, at two minutes of pulselessness the patient is not whole "brain dead," even if we assume that conscious awareness is by then entirely absent. The protocol thus pulls apart heart-oriented and brain-oriented criteria of death. This not only poses a challenge to an argument previously used to support the use of brain-oriented criteria. It also forces us to make a choice between heart and head. Is the patient dead because his heart has stopped beating? Or is he alive because his brain is still working? This is not really a choice between different criteria for the same concept of death, but between fundamentally different concepts of death. Will our understanding of the "death" of the Pittsburgh donor be tied to our traditional images of the "lifeless"—i.e., pulseless—body? To a scientific understanding of how the organism is run? Or to the loss of psyche?

As with the debate over anencephalic organ donors, here is yet another setting in which deep questions about the nature of life and death, which many had thought to be settled for all practical purposes of law and policy, rise once again to haunt us.

## NOTE

1. Thanks to Stuart Youngner for suggesting this counterexample.

## REFERENCES

Bernat, James L.; Culver, Charles M.; Gert, Bernard. 1981. On the Definition and Criterion of Death. *Annals of Internal Medicine* 94: 389–94.

Cole, David. 1993. Statutory Definitions of Death and the Management of Terminally Ill Patients Who May Become Organ Donors after Death. *Kennedy Institute of Ethics Journal* 3: 145–55.

_____. 1992. The Reversibility of Death. *Journal of Medical Ethics* 18: 26–30.

Lamb, David. 1992. Reversibility and Death: A Reply to David J. Cole. *Journal of Medical Ethics* 18: 31–33.

President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. 1981. *Defining Death: Medical, Legal, and Ethical Issues in the Determination of Death.* Washington, DC: U.S. Government Printing Office.

Tomlinson, Tom. 1984. The Conservative Use of the Brain-Death Criterion—A Critique. *Journal of Medicine and Philosophy* 9: 377–93.

UPMC Policy. 1993. UPMC Policy for the Management of Terminally Ill Patients Who May Become Organ Donors after Death. University of Pittsburgh Medical Center, 18 May 1992. Reprinted in *Kennedy Institute of Ethics Journal* 3: A-1–A-15.