

Integrative Unity and the Human Soul

William E. May in his helpful new book *Catholic Bioethics and the Gift of Human Life* pp. 294–306 adopts Dr. Alan Shewmon's arguments against brain death as an adequate criterion of human death and answers my objections to this view.¹ [See the review below at pp. 113–114—Ed.] Since the issue is of great importance, I feel their arguments require a friendly response.

Shewmon's argument rests on the definition given by the Working Group of the Pontifical Academy of Sciences that "a person is dead when there has been total and irreversible loss of all capacity for integrating and coordinating physical and mental functions of the body as a unit."² Shewmon seems to accept this definition and so do I, provided that "mental" is taken, as I believe it is intended to do, to include intellectual as well as the sensory mental activities we have in common with subhuman animals. May speaks of this simply as a loss of the "integrative unity" of the body.

Shewmon gives interesting medical cases where the human brain has been destroyed, yet the respiratory-circulatory system with mechanical support continues to function for some weeks and even years. From this evidence he argues that since the integrative unity of the body is maintained in these cases, even though only artificially, it seems that brain

function is not necessary for bodily integrative unity and thus for human life.

The fatal flaw in the Shewmon-May argument is that the term "integrative unity" is ambiguous unless it is specified to be at the level of unity that is characteristically *human*. This is why the definition given by the Working Group says "capacity for integrating and coordinating physical and *mental* functions of the body." This definition also surely intends by "mental" not just the sensations we have in common with other animals, but the intellectual capacity that makes us rational animals. Thus Shewmon's cases are not relevant since they concern situations in which human mental function is irreversibly eliminated.

That May has missed the point of my argument against Shewmon is evident from the fact that he finds me inconsistent in appealing in that argument to the same principle used by advocates of the theory of "delayed hominization" which I have elsewhere refuted.³ It is true that I do use the same principle used by both Aristotle and Aquinas to solve both the problems of when human bodily life begins and when it ends. This principle is that physical life can exist only when the principal part of the total organism maintains its integrative

¹William E. May, *Catholic Bioethics and the Gift of Human Life* (Huntington, Indiana: Our Sunday Visitor, 2000). See especially pp. 304–305.

²White, R.J., H. Angstrum and I. Carrasco de Paula, eds., *The Determination of Brain Death and its Relationship to Human Death* (Vatican City: Pontifica Academia Scientiarum, 1992), p. 81.

³May, *Catholic Bioethics*, pp. 294–306. See, however, Benedict Ashley, O.P., "A Critique of the Theory of Delayed Hominization," in *An Ethical Evaluation of Fetal Experimentation: An Interdisciplinary Study*, eds. Donald G. McCarthy and Albert S. Moraczewski, O.P. [St Louis: Pope John Center, 1976], 113–133, and "Is the Biological Subject of Human Rights Present from Conception?" in *The Fetal Tissue Issue*, Peter J. Cataldo and Albert S. Moraczewski, O.P. (Braintree, Mass.: Pope John Center, 1994), 33–59.

unity by providing its highest and most specific function, both exists and operates at least minimally.

It is a principal that is both philosophically sound and also admitted as true by what is called "general systems theory" in the sciences of physics and biology. In all physical systems the activity of the parts ultimately depends on some one principle part that activates and coordinates the activities of the other parts. In every machine there must be a motor, and in every motor a "prime mover" that supplies the other parts with energy and unites them in common action. In complex systems, however, there can be various levels of integration and certain sub-systems or levels of organization that have a degree of autonomy. For example, in the Church there is a pope, but each diocese has its own bishop with his own rights to initiate and judge actions within his own jurisdiction. Thus it is obvious that in the human body not all physiological activity is under the complete control of the human spiritual intelligence and will, although these are the highest and most specific powers that make us human. Nor is it strange that we continue to breathe and have a heartbeat when we are asleep, or that even our imagination and emotions are only under imperfect control of our reason and will.

To prove that a body is a living *human* body, therefore, it is not sufficient to show that it has some kind of integration. I concede to Dr. Shewmon (subject to other medical opinion) that it is possible to maintain artificially a certain level of integrative unity in a brain-dead body. That does not prove that it is a human body, *unless one proves that this integration is that specific to a human person as such*. Obviously that is why the working group included "and mental functions" in its definitions, since it is the level of integrating that makes mental function possible—and not only some mental function, but human intellectual function—that is required for human life.

I reject the theory of "delayed hominization" of Aristotle and Aquinas that certain current authors have tried to revive not because this principle of integrative unity by a

central organ is false, but because their embryological data was inadequate. It is precisely this principle when applied to modern biological data that is the best evidence that life begins at conception. It is also, in my view, the best principle for deciding when death occurs, and it is the failure to ground his analysis of the data he presents that leads Dr. Shewmon to a faulty conclusion. If his data is correct, all it proves is that a subhuman level of integrative unity can for a time be artificially maintained in a human corpse. When I say "sub-human" I note that it is very "sub" since it achieves only an imperfect physiological integration, not the sensory integration found in subhuman animals.

Shewmon does not enter into the more metaphysical and theological considerations that arise when we consider that human life requires not only a physical integration of the body but an integration at the *spiritual level* that exceeds the scope of medical science. Theologically speaking the Ecumenical Council of Vienne (1312) solemnly defined that it is heretical to deny that the "rational or intellectual soul is *per se* and essentially the form of the body." That can only mean that the integrative unity of the body depends on the spiritual soul, not on any part of the body nor on the whole body as such, as Shewmon seems to think. Metaphysically speaking, if we accept the metaphysics of Aquinas that the Church has always considered sound, the soul could not inform the body unless the body has an organized unity *proportionate* to it. Moreover, the substantial form of a body is not itself the agent of vital operations, since in Aristotelian and Thomistic terms the soul is a formal not an efficient cause. The principal efficient cause of vital operations are those faculties of the soul that we call intelligence and will (the mutual interaction of these need not be discussed here), because these are the highest and most specific humanly faculties without which the soul would not be spiritual.

The spiritual faculties, however, operate in the body, through the physical, material instruments that are the living parts or organs of the body. For example, I see with my eyes,

and I digest by my stomach, although it is I, a spiritual human person who see and eat. These various organs have a certain autonomy but they must be activated and their activities coordinated and integrated in a systematic, hierarchical manner so that all are unified by a supreme organ that directly serves the spiritual faculties of the soul and thus the whole person, body and soul. All our present biological data shows that the supreme organ of the body most directly in the service of intelligence and will is the brain. Therefore if this organ is destroyed so that it cannot function even minimally (and that is what Shewmon believes is true in the cases he cites), then the body no longer remains proportionate to the spiritual soul and death, that is, the separation of the spiritual soul from matter must take place. This is human death, even if some kind of residual life that is no longer human remains in the body. No one has denied that organs and tissues from a human body can continue to have such a residual life after they are removed.

On the other hand, in the case of the beginning of life, the production of the living human body takes place only when the body is proximately prepared for the spiritual soul, which when created by God directly gives to the body its integrative unity as a human person. We now know that this proximate preparation is complete when the genetic information required to produce the brain is complete. The argument that the brain as such must be present before the creation of the human soul does not hold, because what is required for the aforesaid proportion is not the actual brain but the information to produce it in such a condition that it can in fact guide the production of the brain and the rest of the body. While one might argue that this information remains in the cells of the corpse on a respirator, it is not so situated that it can guide the production of a new brain that could constitute a new individual person.

Thus it is unfortunate that William May, whose bioethical views are so widely disseminated and respected by orthodox Catholics should support Shewmon's very faulty arguments. I would add a further theological diffi-

culty that their positions raises for me. How could we say, if Shewmon is correct, that Christ really died, as the Creed declares, since Psalm 16:10 says "You will not let your faithful one to see corruption," which is applied to Christ by St. Peter in *Acts* 2:25–32 and by St. Paul in *Acts* 13: 35–37 in a state that would hardly fit Shewmon's definition of what he considers a truly dead body. This, in my opinion as well as others whom May quotes, the Shewmon theory is not consistent with the definition of death of the Working Group that he and May both accept. It is contrary to sound philosophical and scientific principles and cannot ethically be used as the basis of determining death.

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Reply to Fr. Ashley

Benedict Ashley, accepting the Pontifical Academy's clinical definition of death, [a person is dead] "when there is total and irreversible loss of all capacity for integrating and coordinating physical and *mental* (emphasis added) functions of the body as a unit," argues that irreversible cessation of the functions of the entire brain clearly indicates that a person has died. The principal reason why this is so, he maintains, is that in a brain-dead person there are simply no *mental functions* to be integrated and coordinated with the physical functions of the body as a unit. He seems to accept Shewmon's and May's claim that in some individuals whose brains are totally dead there is unified organic life—in other words—that their brainless body is still a unified organic whole and alive. But he holds that this living body, although it resembles a human person, has undergone a substantial change and is now some kind of subhuman animal, vivified, obviously, by a nonhuman, that is, not spiritual soul.

We believe that Ashley's conclusion is erroneous and in fact conflicts with views he has expressed elsewhere, and that his error is rooted in his confusing of brain activity with mental functions and his acceptance of the claim that, although the soul is the substantial form of the human composite, the brain is the central integrating organ of this whole.

With respect to the first basis of his conclusion, the confusing of brain activity with mental functions, it is essential to point out that the *mind*, i.e., the *intellect* and *will*, is *not* a material organ but rather a set of spiritual powers rooted in the spiritual soul. The brain is a material organ whose functions are required if the acts of these powers are to be exercised and manifested, but the brain itself is not the mind nor is it capable of itself of "mental functions."

With respect to this point, too, we would like to point out that Ashley himself regards anencephalic babies as human persons, whose life principle is the spiritual soul, and that he similarly regards those individuals said to be in the persistent vegetative state (PVS) as persons (although, unlike us, he does not think that it is obligatory *ordinarily* to provide them with food and hydration by tubal means). Yet neither anencephalic children nor persons in the so-called PVS state *manifest* any mental operations of functions, and they do not do so because the portion of the brain—the neo-cortex—necessary for the exercise of these mental acts is so impaired that the exercise of these mental functions is blocked.

We should point out that the Pontifical Academy of Sciences likewise holds that anencephalic infants and persons whose neo-cortex is not functioning are living human persons, although no mental functions are *manifested*.

With respect to the second basis of his conclusion, Ashley has a modern approach to understanding the body which emphasizes hierarchy over holism, parts over the whole. His reliance on general systems theory leads him to identify an integrating organ which serves as a capstone for the integration of the living body, "anchoring," as it were, the substantial

form to matter. On this account it seems obvious that the loss of the functioning of the entire brain would lead to loss of the integrative unity of the human body since there would be no integrating organ which would anchor the soul, properly making the body in question a *human* body. What remains is what he calls a subhuman corpse. Since it manifests an integrity among the organs (demonstrated by Shewmon), it must still have a substantial form or soul but not a human one. Thus for Ashley brain dead human persons are dead, period, and the living body remaining is a different kind of being. A substantial change has occurred.

The understanding of the human body underlying the Shewmon-May position is both classical and postmodern. It is classical because like Aquinas both would agree that the body is a body and as such has integral unity, because its substantial form, the human soul, makes it such. It is postmodern because they think that no one organ is solely responsible for the operation or unity of the whole. No single part, e.g., the brain, is dominant within the wider context of the whole. Rather, all parts are interdependent defining the whole. This holistic understanding of organized systems emphasizing the whole rather than the parts is becoming more widespread in contemporary science.¹

In complexity theory, for example, the system is defined and held together not by one integrating part, but by its state-cycle, the pattern of the system, described mathematically, which determines the behavior of the indi-

¹ See the discussions of a holistic understanding of science in Michael Dodds, O.P., "Top Down, Bottom Up or Inside Out? Retrieving Aristotelian Causality in Contemporary Science," in *Science, Philosophy and Theology: The Notre Dame Symposium 1997*, ed. John P. O'Callaghan (New York: Saint Augustine's Press, 2000). This book is still in press, but Dodds' essay can be downloaded from <http://www.nd.edu/Deoart-nebts/maritain/ti/dodds.htm>. See also Ian Barbour, *Religion and Science: Historical and Contemporary Issues* (San Francisco: Harper Collins, 1997), p. 181 ff.

vidual components of a complex system and of the system as a whole.² In many ways this is modern translation of the Aristotelian substantial form.

Given this understanding of the human body, death occurs only when the integrative unity of the whole body is lost. Loss of no one organ, even the brain, is sufficient evidence of death since the substantial form itself is responsible for integration. Total brain death as such marks only an accidental, not substantial change and does not as such destroy the integrity of the whole.

We think that of these two opposing accounts—the hierarchical (Ashley); and the holistic (Shewmon/May)—the latter is superior. If all life is hierarchical, as Ashley assumes, one can ask, What is the integrating organ of the “subhuman living corpse”? The liver, the heart, the immune system? None is obvious because there is none. The holistic account avoids this problem.

Ashley argues that those who reject the criterion of total brain death as human death must prove that the integration demonstrated by Shewmon is specific to the human person as such. On the contrary, we hold that the burden of proof falls on those who argue that this integration is not specific to the human, that is, that the totally brain-dead patient is not human and is therefore dead. The presumption must be on the side of human life, given its value. Since it is clear that the integration prior to the destruction of the whole brain was in fact specifically human, it is reasonable and an accepted scientific practice to presume the status quo unless it can be proved otherwise.

In short, we hold that acceptance of total brain death as a criterion for human death rests upon a flawed understanding of the hierarchical constitution of living organisms that cannot account for all the empirical evidence. No one has been able to show that the integration observed by Shewmon in a totally brain-dead individual is not specifically human.

Finally, it is odd that Christ’s dead body is brought up by Ashley. Even though, according to Catholic faith, it was incorrupt and, as St. Thomas holds, assumed into the second person of the Trinity, it was still a dead body.

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² See Stuart Kaufman, *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity* (New York: Oxford University Press, 1955), p. 75ff.