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"But let your speech be, 'Yes, yes,' 'No, no,' and whatever is beyond these comes from the evil one. (Mt. 5:37)"

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Are the Dead Really Dead When We Remove Their Organs?

On May 7, 2005, Mrs. Susan Torres, a 26-year-old vaccine researcher and parishioner at St. Rita's Catholic Church in Alexandria, Virginia, collapsed. She was diagnosed at the Virginia Hospital Center in Arlington with stage four melanoma, declared brain dead, and without any hope of recovery. She was 17 weeks pregnant and doctor kept her unborn baby alive until it could live outside her womb. The baby was born on August 2, 2005.

This incident underscores the timeliness of Professor Becchi's examination of the notion of "brain death." The birth of a healthy baby girl born to this mother declared "brain dead" three months previously, proves that the notion of "brain death" as an equivalent of real death needs to be rejected.

Today's pastors have left Catholics in a state of disinformation. Catholics are encouraged, in the name of false charity, to favor the donation of even vital organs. This encouragement is based on a supposition-the notion of "brain death"-that not only contradicts common sense and raises grave moral questions, but is being shown by science itself to be a rash and unfounded assumption. For this reason we offer readers the following article by Professor Paolo Becchi, Associate Professor of Philosophy of Law at the University of Genoa. [The subtitles inserted at various points are editorial insertions. -Ed.]

Debate about the time when life begins was stimulated in Italy by the contested approval of a law on assisted procreation (Law 40 of 2004). On the question of the end of life, however, and in particular on the transplantation of organs from "cadavers," the debate seemed exhausted in the period immediately after the approval, by a large majority, of the new law on transplants (Law 91 of 2004). Debate on this latter law focused on the so-called "silence-informed consent" criterion to be used for the declaration of intent (Article 4). This criterion is, in my opinion, a dubious one; even more questionable is the manner in which the then Minister of Health, Rosy Bindi, circumvented the law by sending citizens a donor card that not only was not foreseen by the law, but which in fact prevented its application in a crucial respect. It is true that today, five years after the application of the law, we are still in a "transitory" phase (regulated by Article 23), although this is euphemistic language. But this is not my topic in this article.¹

My intention here is to raise doubts in another area, not about the law on transplants itself, but rather about the presupposition on which it is based: namely, that at the moment the removal takes place the donor is already a "cadaver." Can we be sure of this? I start from a banal observation that arises from a comparison of the two laws to which I just referred.

The Redefinition of Death

We have deemed it a duty to protect by law an entity the size of a drop in a test tube (for example, by prohibiting the freezing of embryos, and suppressing, not to say prohibiting, prenatal diagnosis), while it is permitted to treat a flesh and blood human being with normal body temperature, a rosy complexion, normal heartbeat and respiration maintained by life support devices in the same way as a cadaver.

One might object: this fact is only apparently disconcerting. Embryos, already at their first development, are already living beings (and this explains the great attention devoted to them), while once brain death has been ascertained, the patient is no longer living but dead: a cadaver that only seems alive. This conclusion was presented as a scientific fact established once and for all at the end of the 1960's, when a committee at Harvard Medical School issued a celebrated report establishing a substantial equivalence between the diagnosis of irreversible coma (established by rigorous clinical criteria that were supposed to establish the permanent loss of brain function) and brain death, and the equivalence in turn between brain death and actual death.²

The Motives for Its Development

Thus a new definition of death was established, a definition that, for various reasons, found wide acceptance over the following years. In the first place, scientific knowledge at that time seemed to confirm that patients in irreversible coma would suffer cardiac arrest within a short time. Secondly, such a definition presented the best support for the development of transplant techniques that were being developed at just that time (Christian Barnard had performed the first heart transplant in December, 1967). Thirdly, this definition seemed to remove the obstacle of euthanasia: if the patient whose brain had irreversibly stopped functioning was dead, removing his heart or interrupting artificial respiration was not equivalent to killing him. As is apparent, from the outset motives beyond the therapeutic pushed for a redefinition of death.

The connection between the new definition of death and transplants is also apparent from legislation then introduced. Although this study focuses on Italy, similar laws were being enacted elsewhere at about the same time. Already in 1969 a decree by the minister of health and another the following January, making use of standards like those in the Harvard report, introduced the concept of brain death with explicit reference to the problem of withdrawing organs for the purpose of transplant. It is significant that soon thereafter, on February 5, 1970, a decree (No. 78) by the president of the Republic, as proposed by the minister of health, for the first time authorized removal of the heart and its parts. Since then the legislature has done no more than indicate the diverse criteria for ascertaining death; the first overall law regarding transplants (Law 644 of 1975) did not restrict the previous decrees, even to the extent of defining death. This was done for the first time in 1993 with Law 578 (and a related ministerial decree that went into effect the following year), according to which death "is identified with the irreversible cessation of all brain function" (Article 1).

The law not only introduces the definition of total brain death, but further-changing course with respect to the law of 1975-broadens the criteria for determining death. These criteria were developed for subjects affected by encephalic lesions and subject to attempts at resuscitation; the law applies to all people who find themselves in that condition, regardless of whether they are donors or not. Even if formally separate from the question of transplants, from the moment it took effect this law modified conditions for the removal of organs. And the most recent law on transplants, in effect since 1999, only repeats the earlier one in this regard. The law on transplants has actually made it easier to get consent (this change is in effect already in the "transitory" period); it has maintained the definition of death and the manner foreseen for its verification unaltered, as though they had been definitively established in 1993-4. These criteria therefore constitute the current basis for the licity of the removal of organs.

The Ethical-philosophical Debate About Brain Death

Thus, in the decade of the 1990's, Italy, like many countries, not only accepted the concept of brain death but actually established its definition by law. At the same time in the United States of America, where that definition had first been formulated, the concept was called into question and re-examined.

Opposition

In fact, from the very beginning, philosophers had expressed grave perplexity about the new definition of death. A great philosopher of the 20th century, Hans Jonas [1903-33, author of *The Imperative of Responsibility* amongst other things; his writing is largely concerned with the philosophical dilemmas created by technology. -Ed.] was also a protagonist in the contemporary debate on bioethics. One month after publication of the Harvard report, he spoke at a conference on the subject of experiments on human subjects, expressing his firm opposition. His *Leitmotiv* was the following: we do not know with certainty the line between life and death, and a definition-in particular one introduced with the manifest intention of favoring the removal of organs-cannot make up for this lack of knowledge. When the brain has stopped functioning irreversibly we can suspend artificial life support (Jonas will go on to argue that we are obliged to, because it would be against human dignity to maintain a human being in this condition) not because the patient is already dead, but because it makes no sense to prolong life in such conditions. Already in Jonas we find the dilemma, well emphasized by Jonsen,³ that stands at the beginning of discussion about brain death: should we stop life support to permit the patient to die, or are we stopping the respirator attached to a body that is already dead? The second answer was chosen, with the implication that, if we are stopping the respirator of a dead man, why not keep it going to maintain access for the purpose of transplants?

Jonas believed that the first path should have been taken. He repeatedly criticized the new definition of death. His most famous writing on this subject, published in 1974 with the significant title *Against the Stream*, has become a classic.⁴ Less well known is the fact that Jonas, shortly before his death, returned to the problem in his correspondence with a German doctor friend. This letter is worth mentioning, if only in passing.

In October, 1992, a young woman fell into a coma after a traffic accident. She would never wake up from this coma; after the necessary tests, she was declared in a state of brain death. It was decided to remove the organs, with the permission of her parents, when doctors determined that she was pregnant. Obviously, preparations for the removal of organs were suspended and the doctors decided to carry on the pregnancy. Discussion arose in Germany on the concept of brain death, and many wondered how a "cadaver" could carry on a pregnancy and then-as actually happened-"decide" to interrupt it with a spontaneous abortion when the fetus was no longer alive. In this regard I would like to cite a passage from Jonas drawn from his correspondence with one of the doctors involved in the case:

Willingly or not, my dear friend, you or better, all of you, have, by your well reasoned behavior, contradicted the current definition of death. You said: by respiration (and other interventions) we want to stop the body of Marion from becoming a cadaver so that it can carry on the pregnancy. Believing it capable of this, or at least wanting to give it this possibility, you based your action on the residual life in her-that is, the life of Marion! In fact, the body is as uniquely the body of Marion as the brain was the brain of Marion. The fact that the experiment failed in this case (it seems that in prior, less extreme cases it has already succeeded) can as little be used to disprove the fact that this is impermissible as a spontaneous abortion can be used to establish that pregnancy in general is impossible. You sincerely believed in the possibility of its success, which is to say you believed in the functional capacity of a body subject to brain death as necessary for this plan and maintained by your ability. This means that you believed in her LIFE as temporarily prolonged for the sake of the child. This belief cannot be refused in other cases of coma for other purposes!⁵

One might object that, interesting as these observations are, they demonstrate nothing more than the coherence of Jonas's thinking. They are indeed of great interest for Jonas's biography, but in the meantime his "old" position has taken on new relevance, and has become much less isolated than it was at the outset. With regard to Jonas, the writings of Josef Seifert⁶ and more recently of Robert Spaemann are noteworthy. These two authors, both of Catholic inspiration, are at least in some respects in intellectual accord with Jonas. All these authors have in common the idea that, in the uncertainty or impossibility of proving with certainty that a person is dead, he should be treated as still living.

Second Thoughts

It is striking that, even in a school of thought at the antipodes from that of Jonas, Seifert and Spaemann, it is now openly admitted that "brain death" was nothing but a bold expedient by which human beings were defined as dead when they were not so in fact. This is the conclusion reached today by a philosopher well known for his utilitarian views: Peter Singer.

Here, too, it is worth summarizing the course of his development. At the beginning of the 1990's, Singer, then a professor in Melbourne, was called to an important hospital of that city to be part of a committee that was to investigate some ethical questions relating to the problem of consent; among these was the question of anencephaly. Newborns afflicted with this grave defect are not capable of becoming fully conscious, lacking the "superior" part of the brain (the cerebral hemispheres, including the cerebral cortex) and the cranial vault that would contain them; the "inferior" part, made up of the encephalic trunk, is often intact, if sometimes little developed. The anencephalic newborn is thus capable of breathing spontaneously, since this activity depends on the trunk, but it has an unhappy prognosis: generally such children survive for a period ranging from several days to a few weeks before suffering cardio-circulatory arrest.

Singer, who in previous years had been a proponent of "total brain death," thus found himself faced with the following problem: why not pass from that definition of death to a "cortical" one, so as to also declare anencephalics dead? Some members of the committee wanted to go in that direction; Singer, to everyone's surprise, did not follow. He explained the reasons for his dissent in his book *Rethinking Life & Death*, published in 1994 and soon after translated also into Italian. At least a passage from this book deserves to be cited in full:

The panel's deliberations made me think harder about brain death. I was beginning to see where the trouble began. The Harvard Brain Death Committee was faced with two serious problems. Patients in an utterly hopeless condition were attached to respirators, and no-one dared to turn them off. Organs that could be used to save lives were rendered useless by waiting for the circulation of the blood in potential donors to stop. The committee tried to solve both these problems by the bold expedient of classifying as dead those whose brains had ceased to have any discernible activity. The consequences of the redefinition of death were so evidently desirable that it met with scarcely any opposition, and was accepted almost universally. Nevertheless, it was unsound from the start. Solving problems by redefinition rarely works, and this case was no exception.⁷

Of course, the conclusion that Singer draws from crises of brain death is, obviously, very different from that of the philosophers previously cited. For them, if the "brain dead" are still alive at the time when life support is removed, that means that it is that action that ends their life and thus ought not be done; for Singer, by contrast, it is licit because life is not a sacred and inviolable good. Also in this case (as in others) there is a "third way," as always the most difficult, one that I have tried to develop on another occasion; but here I would only like to emphasize a different aspect, namely that, irrespective of their different ethical conclusions, all of the cited authors start from the same criticism of the notion of brain death.

One might ask what pushed Singer to put himself, on this last point, in the company of Jonas, Seifert and Spaemann, light years apart from him and of whose existence he seems unaware. We find at least an indirect answer in his recent contribution on the subject, *Morte cerebrate ed etica delta sacralita delta vita* (Brain Death and the ethics of the sanctity of life), where the author publishes his sources. They are, in fact, scientific sources of the first rank, which together with others contribute to describing the crisis in which the new definition of death founded on exclusively neurological criteria has fallen, not only from a philosophical point of view but also from a medical-scientific one.

The Medical-scientific Debate on Brain Death

Although lacking any specific medical expertise, I will nonetheless permit myself to underline at least two crucial aspects of this latter point. The first concerns the possibility of ascertaining total brain death on the basis of the criteria and tests currently in use; the second deals with the thesis that brain death is nevertheless an indication of the death of the whole organism.

Unascertainability of Brain Death

The first aspect was well analyzed by two American doctors, Robert Truog and James Fackler, in an essay published in 1992 with the significant title: "Rethinking Brain Death."⁸ According to the authors, documented scientific research shows that patients who meet the current clinical criteria and neurological tests for brain death do not necessarily show the irreversible loss of *all* brain functions. This would indicate that the complete loss of such functions could not be diagnosed on the basis of adopted test standards.

To support their argument the two doctors make four arguments that can be briefly summarized. First of all, many patients judged to be in a state of "brain death" by the test in practice show undiminished endocrine hypothalamic function. This means that in some cases of patients declared brain dead, hormonal activity of the pituitary gland and of the nerve center (the hypothalamus) that controls it persists, and thus the regulation of hormonal activity persists. In second place, in many patients in this condition it is possible to register with an electroencephalogram weak electrical activity localized in some parts of the cerebral cortex, destined to stop within 24-48 hours; in third place, some patients continue unmistakably to react to external stimuli, as is shown, for example, by the increase of heart rate and blood pressure after a surgical incision before the removal of organs (these revelations apply to the cases of patients declared brain dead by British criteria, which are purely clinical and refer to the state of the encephalic trunk). In the fourth place, many patients defined as brain dead retain their spinal reflexes, the significance of which came to be recognized only during and after the years when brain death was being defined.

On the basis of an attentive analysis of these four elements, the two authors reached the conclusion that current clinical means cannot ascertain the stopping of all functions but only of some of them, and that at most they diagnose cortical death.

Brain Death Is Not an Indication of Death with Respect to the Whole Organism

The second aspect has been examined most closely by Alan Shewmon, an authoritative American neurologist who has changed his views in the course of his career. He has gone from being a convinced proponent of brain death as a concept to one of its most implacable critics.

As in the case of the two previous authors, here also the point of departure was an empirical revelation: organisms said to be in a state of brain death survive much longer than could have been imagined, and this implies that the brain is not as essential as had been believed for the integrated function of the organism. Against the prevailing medical theory, which holds that the brain is the organ responsible for integration of different parts of the body and thus constitutes its "critical system," Shewmon advances his own thesis: the "critical system" of the body cannot be localized in a single organ, however important the brain may be. According to the neurologist, this hypothesis would furnish an explanation for the prolonged survival (in a record case for more than 14 years) of subjects for whom brain death had been diagnosed. Such subjects, to a great extent pediatric patients, maintain intact certain functions that were thought to belong to the brain, such as the regulation of body temperature, homeostasis of fluids, reaction to infections, and bodily growth, all indications of the persistence of some degree of integrating activity.

Shewmon concludes from this that it is completely mistaken to maintain that brain death indicates death of the whole organism. Thus one of the pillars on which the concept of brain death was based is called radically into question, namely the premise that the brain is "the cerebral integrator of the body." The death of the brain does not cause disintegration of the body. Such a disintegration is rather the consequence of damage affecting several systems of organs and the reaching of a critical level, a "point of no return" which determines the beginning of the process of death and renders ineffective any medical intervention aimed at avoiding this inevitable end.

According to Shermom, a pronouncement of death should not be based on diagnosis of a clinical condition of brain death. The determination should rather be made with reference to several parameters, such as those connected to respiratory, circulatory, and neurological activity.⁹ When it is clear that a point of no return has been reached, the patient would be removed from the apparatus for assisted breathing and, after twenty minutes-the time Shermom considers necessary to be sure of the impossibility of a spontaneous resumption of the vital functions of the subject-one could proceed to the declaration of death.

A Big Question Mark

Shewmon reaches the same conclusion as Jonas by a different route. The larger question that arises is whether in respecting such criteria transplants would still be possible. Conditions would surely no longer be optimal, and the advantages would certainly be more limited. But here the problem that must be posed is that if the organs are removed-as recent studies admit-from donors who are in a nether world between life and death, then it is the organ removal itself that causes the definitive transition to the other side.

The legislation that accepts brain death has been based on the assumption that the death of the patient has already been verified when organ removal takes place. If this supposition was debatable from the outset on a philosophical level, it has at last been shown to be unfounded also from a scientific point of view. If the legal requirement for the removal of organs is that it be done on subjects whose irrevtrieable loss of all brain function has been verified, then we must admit that today many organ removals take place in open violation of the law. Instead of continuing to operate on the basis of a fiction, we would like to openly discuss whether or not it is acceptable to remove organs from patients in a condition from which they may never recover, but which is not yet equivalent to death.¹⁰

As in the case of assisted pregnancy, so too in the case of organ transplants: advances in technology applied to medicine are raising difficult new ethical questions. The technical possibility of organ transplants has pushed us to use patients whose fate was in any case sealed as exchange material for other human beings. In the same way today the technical possibility of *in vitro* fertilization would push us (although the Italian legislature has moved in the other direction) to use so-called supernumerary embryos-by destroying them-for the cure of some diseases. In the case under review the question was: "what to do with patients who, subject to resuscitation, could not revive since their brain has irreversibly stopped functioning?" We have pretended to resolve the problem in a simplistic manner by defining them as dead, even if the organism could continue to function well with the help of a respirator; perhaps even better than those few embryonic cells in a test tube which do not yet have a brain.

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1. I have already done so on many other occasions, including: P. Becchi, P. Donadoni "Informazioni e consenso all'espianto di organi da cadaveri," *Politico del diritto* XXXII (2001), 257-87; P. Becchi, "Tra(i)pianti, Spunti critici intorno alia legge in materia di donazione degli organi e alia sua applicazione" in *Ragion pratica*, 18 (2002), 275-88, and P. Becchi, "Informazione und Einwilligung zur Organspendung: Das neue italienische Gesetz und seine "ewige" Übergangsphase," *Hirntod und Organspende*, ed. A. Bondolfi, U. Kostka, K. Seelmann (Basal: Schwabe, 2003), pp. 149-61.

2. Cf. "A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine Brain Death," *Journal of the American Medical Association*, 205 (1968), pp.337-40. For critical discussion of this document see, e.g., M. Giacomini, "A Change of Heart and a Change of Mind? Technology and the Redefinition of Death in 1968," *Social Science and Medicine*, 44 (1997) 1465-82; R.M. Veatch, *Transplantation Ethics* (Washington, D.C.: Georgetown U. Press, 2000); G. Belkin, "Brain Death and the Historical Understanding of Bioethics," *Journal of the History of Medicine*, 58 (2003) 325-61.

3. Cf. A.R. Jonsen, *The Birth of Bioethics* (New York: Oxford U. Press, 1998), p.240.

4. Jonas's response came immediately after the Harvard Committee's report. It dates to September 1968 and was part of the author's intervention on experiments on human subjects. His essay *Against the Stream* was written in 1970 and published in 1974; here Jonas discusses the objections made by some members of the Committee with whom he had been in contact in the interim. Two postscripts follow this essay, from 1976 and 1985, showing Jonas's continued attention to this subject. All these works are collected in Jonas, *Technik, Medizin und Ethik: Zur Praxis des Prinzips Verantwortung* (1985).

5. Cf. Hans Jonas, "Briefe an Hans-Bernhard Würrmeling," *Wann ist der Mensch tot? Organverpflanzung und Hirntodkriterium*, ed. J. Hoff and J. in der Schmitten, Reinbek bei Hamburg, Rowohlt (1994): 21-27.

6. Cf. J. Seifert, *Leib und Seele: Ein Beitrag zur philosophischen Anthropologie* (Salzburg, 1973); J. Seifert, *Das Leib-Seele Problem und die gegenwartige philosophische Diskussion: Eine kritisch-systematische Analyse* (Darmstadt, 1979); J. Seifert, *What Is Life? On the Originality, Irreducibility, and Value of Life*, ed. H.G. Callaway (Amsterdam, 1997); J. Seifert, "Is "Brain Death" Actually Dead?" *Monist*, 16(1993), 175-202.

7. P. Singer, *Rethinking Life and Death: The Collapse of Our Traditional Ethics* (New York: St. Martins, 1994), p.51.

8. Cf. R.D. Truog and J.C. Fackler, "Rethinking Brain Death," *Critical Care Medicine*, 20 (1992), 1705-1713. Starting from the points discussed in that article, Truog has returned several times to the question of brain death. In a 1997 article ("Is It Time to Abandon Brain Death?" *Hastings Center Report*, 27 [1997], 29-37) instead of proposing the substitution of cortical death for brain death, as he had done in the 1992 article with Fackler, Truog looks for a return to the traditional cardio-respiratory standard for declaring death and, at the same time, aims to separate the question of transplants from the debate on brain death. He maintains that transplantation can only be practiced by some justification other than that of brain death. Truog's desire for an ethical foundation for transplants inspired his article "Organ Transplantation without Brain Death," *Annals of the New York Academy of Science*, 913 (2000), 229-39.

9. Cf. e.g. D.A. Shewmon, "'Brain Stem Death,' 'Brain Death,' and Death: A Critical Reevaluation of the Purported Equivalence," *Issues in Law & Medicine*, 14 (1998), 125-45, and more recently "The Brain and Somatic Integration: Insights into the Standard Biological Rationale for Equating 'Brain Death' with Death," *Journal of Medicine and Philosophy*, 26 (2001), 457-78.

10. Cf. S.J. Youngner, R.M. Arnold, "Philosophical Debates about the Definition of Death: Who Cares?" *Journal of Medicine and Philosophy*, 26 (2001), 527-37.