Is Brain Death the End of Life?

On the Right to Freely Choose the Legal Criterion for Declaring the End of Life

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ABSTRACT

Today's scientific and technological progress has generated not only ethical, but also legal problems. In practice, the innovative clinical therapy used to resuscitate patients in cardiac arrest has obliged an increasing number of nations to review the legal criteria they apply to certify death. However, the global spread of the standard based on brain death has met with resistance in more and more nations. The reasons of legislative distrust in a brain death legal criterion are not religious or cultural, but ethical and philosophical; in particular, I have identified two different reasons: first, the uncertain borderline between life and death and, second, the close connection between brain death and organ transplantation. Nevertheless, the normative impossibility to perform organ transplants in the absence of a brain death legal criterion has convinced many lawmakers of the need for a compromise bill. This proposal allows everyone to freely choose the legal criterion for declaring the end of one's life, a sort of 'conscientious objection' in the standard of brain death. This paper compares the Japanese law on organ transplantation with the Italian law on declaration of death, as well as identifying some philosophical, ethical and legal reasons that explain why legislative safeguards should be adopted when enshrining the criterion of brain death in legislation.

Keywords: brain death standard, organ transplantation act, legal declaration of human death, constitutive rules, philosophical problems, technological progress

1. Introduction

Death is not an immediate event, but a gradual process.[1] The human body does not die all at the same time. Different tissues have different abilities to withstand oxygen deprivation. In the last century, scientific and technological progress has generated not only ethical, but also philosophical problems, because the death process has been gradually extended. Although the use of ventilation for the sole purpose of retrieving the organs of patients close to death has been implemented in medical practice only recently, the ethical problem was already foreseen in modern philosophy. In particular, Francis Bacon in his *New Atlantis* wrote the following: "wherein we find many strange effects; as continuing life in them, though divers parts, which you account vital, be perished and taken forth; resuscitating of some that seem dead in appearance."[2]

The scientific revolution and technological progress have generated many questions about the special connections between physical body and human consciousness, especially referred to the demarcation criterion between life and death. This demarcation dilemma is not only a philosophical, but also a legal problem, because states must ensure legal certainty in social relations (heredity, marriage, donor rules about organ transplantation, etc.).

The groundwork required to resolve this

paradox had been laid in 1968 by Henry Beecher and the Harvard Ad Hoc Committee's proposal that a person could be diagnosed as dead when there was irreversible cessation of the function of the entire brain.[3] This deontic status has since become known as brain death, and has been codified in the law of every state; for example, the Italian legislation today sounds very similar: "death is identified with the irreversible cessation of all brain functions."[4]

The first philosopher that criticized the brain death standard established by the Harvard Report was Hans Jonas [Mönchengladbach, 1903 – New York, 1993]. Hans Jonas focused his critical view on the paradoxical reversal of aims related to the brain death standard: the medical duty was no longer to treat patients until they have been declared dead, but to declare patients dead as soon as possible, pursuing the opposite aim to free medical resources for organ transplantation.[5]

For this reason – according to Hans Jonas' point of view – there isn't any scientific evidence that brain death is the end of life: brain death is not a descriptive criterion, but a prescriptive criterion for declaring death. In other words, the Harvard Ad Hoc Committee has just committed the logical mistake called *Naturalistic Fallacy*: the famous Report is a mistaken judgment because it has unjustifiably transformed a normative statement (about what ought to be) to a positive statement (about what is). Thus Jonas'argument is closely connected to his critique of the modern concept of causality (not in the merely physical context, but in philosophical meaning):

> The fate of the causality problem in idealist epistemology on one hand and in materialist physics on the other bespeaks the fact that both positions, considered ontologically, are fragmentary, residual products of dualism, and both are merely consistent when they, each by its own kind of scepticism, acknowledge the inevitable outcome of their isolation, to wit: the inexplicability of that which through the sundering has become inexplicable.[6]

The Jonas'solution of this ethical problem of determining the demarcation between life and death is consequently the responsibility principle: when considering the uncertain borderline between life and death, we can invoke the precautionary principle that is summed up in the maxim *in dubio pro vita*.[7] Jonas argued that decision-making in relation to potential risks connected to organ transplantations carries with it a special moral responsibility for which only an ethical principle, not a pragmatic balancing, is appropriate.

The report of the Harvard Medical School therefore developed a definition of irreversible coma as brain death, purely on the basis of extra-scientific justifications, without considering potential bioethical objections. Although Hans Jonas was correct in predicting that acceptance of brain death criteria would eventually lead to research on the brain-dead, his opinion against the brain death standard was controversial and an increasing number of states decided to review their legal criteria to declaring human death.

The aim of this paper is to show why the brain death standard is not necessarily an effective legal rule in declaring human death; instead, I suggest an alternative criterion based on individual choice. In particular, in the following paragraphs, I give an overview of philosophical arguments used against the brain death standard and then a comparison between the Italian Declaring Death Act and Japanese law concerning organ transplantation, in order to argue for a new ethical principle that can be universally adopted as an essential part of relevant legislation.

2. Against the brain death standard: A philosophical point of view

Let us review *five* (not religious[8] or cultural[9], but philosophical and ethical) arguments against the brain death standard.

(i) *Logical Inconsistency*: the definition of death, which provides the basis for the criterion of brain death, is not logically connected to the subject of death. A human is characterized (A) as having a conscious and a personal life, including a spiritual dimension, and (B) as being a biologically integrated body. Only if neither (A) nor (B) is present, can we acknowledge that human death has occurred. About this argument, Robert Spaemann wrote the following:

> Unlike the unity of atom and molecule, the unity of the living organism is constituted by an anti-entropic process of integration. Death is the end of this integration. With death, the reign of entropy begins - hence, the reign of "destructuring," of decay. Decomposition can be stopped by means of chemical mummification, but this way of preserving a corpse merely holds its parts together in a purely external, spatial sense. Supporting the process of integration with the help of technical appliances, however, is very different. The organism preserved in this way would in fact die on its own if left unsupported, but since it is kept from dying, it is kept alive, and cannot be declared dead at the same time.[10]

The brain death standard (and the definition of death underlying it) does not match, therefore, the alleged subject of death; in fact, utilizing the criterion of brain death implies the adoption of requirements for the determination of death that are not really needed for the alleged subject of death. For this reason, the brain death standard is basically a concept of partial death that has not yet been analyzed adequately.[11]

In other words: we cannot define life and death, because we cannot define the Parmenidean gap between being and not-being; for example, the arguments used in the Harvard Report are not so different from the Cartesian denial that animals are capable of sensing pain, something that anyone can see from daily experience. Although the difference between the death of the person and the decay of the body had long been obvious, it is only in our time that the difference between the life of the person and the life of the body has become apparent. We can, however, discern life and death by distinguishing between the death of the human being as a person and the death of the human being as a living organism.

(ii) *Moral Equivalent*: two moral issues that are essentially similar carry the same weight; so, according to this argument, the brain death standard implies a brain birth standard (brain birth standard was philosophically discussed before by Aristotle[12] and then by Thomas Aquinas[13]). Although the brain death criterion is today considered a universal standard, brain birth standard has not been adopted by any nations; in fact, only at birth an infant acquires full legal protection; therefore, according to this argument, it is a logical fallacy to adopt a brain death standard without a birth brain standard as well.[14]

(iii) *Non Sequitur*: brain death is not a confirmation of human death, but merely a prediction of human death; in fact, there is not any scientific evidence that brain death implies human death. Moreover, brain hypothermia therapy can be successfully used to prevent or to delay the event of brain death.[15] So brain death is just one possible symptom of human death (such as, for example, cardiac arrest or respiratory arrest), but brain death is not a self-sufficient criterion to declare human death. The risk of the indiscriminate imposition of brain death as a self-sufficient criterion is the result of a cascading effect of a series of efforts to expand the category of donors from people in a brain death state to people in a vegetative state or even to the weakest members of our society (this discriminatory position is not just an academic hypothesis, but it is already supported for example by contemporary utilitarian philosophers such as Peter Singer).[16]

In other words, brain death can be considered a necessary, but not sufficient, condition to declare human death; otherwise, the brain death criterion could be used prematurely to declare human death, in order to free medical resources or other public investment in the care of people not deemed useful to society.

(iv) *Semantic Equivocation*: if the word 'death' means "irreversible cessation of all vital phenomena", then the expression 'vital phenomenon' should be applied to all living organisms, regardless of genus or of species, including animals and plants. Although there is no neurological activity, plants are considered living organisms, as are all animals, because both show not only an energy metabolism, but also a biological life cycle. So the presence or absence of normal brain activity can not be regarded as an appropriate criterion of demarcation between living organisms and dead organisms.[17]

In other words, the use of the brain death criterion only for humans is an arbitrary anthropological presupposition that derives conflating or hypostatizing lexical differences and conceptual differences.

(v) *Slippery Slope* (my original argument):

the brain death standard is not a scientific criterion, but a normative criterion for declaring death; so a person dies according to a juridical standard. Moreover I have noted that in every country studied, the brain death rule is formulated using similar definitions based on the Harvard Report; in particular, the brain death legal standard logically corresponds to John Searle's formula "X counts as Y in context C":[18] the brain death rule is therefore not a prescriptive, but a constitutive rule (in the Searlian meaning of constitutive rules),[19] because the brain death rule does not describe but creates a specific concept of death, a normative criterion that has been unjustifiably assumed (not as legal rule, but) as a universal scientific truth.

3. Against the brain death standard: A juridical point of view

In 1849 – according to the jurist Friedrich Carl von Savigny[20] – death as the end of the natural enjoyment of civil rights was such a simple phenomenon that it did not require more detailed observation of its necessary elements, such as birth. But, today, not only birth – see, for example, juridical problems connected to artificial insemination in every state – but also death has become a complex legal phenomenon that raises ethical and philosophical questions.

In Italy – concerning the evolution of the concept of death – we have seen the transition from traditional methods of assessment, such as the clinical symptoms and passive observation (24 hours), with early assessment criteria, consisting of so-called active observation via electroencephalogram (6 hours) and electrocardiogram (20 minutes). It follows that today the Italian legal declaration of death can be carried out by doctors through a variety of clinical methods, in accordance with rules laid down by *three* specific decrees (that are simultaneously valid).

The *first* Italian decree concerning clinical methods for declaring legal death is the following:

> No dead body can be closed in a coffin, or buried in a grave, or cremated in a crematorium, or subjected to autopsy, to conservative treatments or to keep in cold storage, not earlier than twenty-four hours from the time of death, except in cases of decapitation or except those in which the pathologist doctor has assessed the death even with the help of electrocardiograph whose registration must have a minimum duration of twenty minutes.[21]

The *second* Italian decree concerning clinical methods for declaring legal death is the following:

> In the civilian, military, university and private hospitals and in the morgues where are performed diagnostic feedback, death declaration must be made by the electrocardiographic method. In cases involving removal of organs for transplantation, if the electrocardiographic method is not usable, then the use of the electroencephalographic method together with the neurological symptomatology is required. This method to declare death must only be applied in patients undergoing resuscitation for primitive brain injury. The finding of death will be done in the latter case from a medical college established by a coroner, an anesthetist, a neurologist experienced in electroencephalography. This college will have to express a unanimous opinion and each of its members must be unassociated with and separate from the group that will carry out the removal transplant.[22]

The *third* Italian decree concerning clinical methods for declaring legal death is the following:

> Death is declared when the simultaneous presence of the following conditions are detected during a six-hour period of observation:
> (i) lack of alertness and consciousness;
> (ii) absence of brainstem reflexes;
> (iii) absence of spontaneous breathing with documented values of arterial CO_2 not lower than 60 mmHg and blood pH of not more than 7.40, in the absence of artificial ventilation;

> (iv) absence of brain electrical activity, documented by electroencephalographic method performed according to the technical modalities set out in this Decree.[23]

The joint presence of several criteria to declare legal death has raised many doubts among Italian jurists, about the validity of this legislation; nevertheless, the Italian Supreme Court [*Corte Costituzionale*] stated the following opinion in one of its judgments about the brain death standard:

> At present, in science and prevailing case law, the laws, which reflect scientific advances, acknowledge the achievements of social solidarity and respect the fundamental requirements of justice (respect for life, uniqueness of the concept of death, certainty of the irreversible cessation of the person), must not conflict with constitutional rules and principles with regard to the limited issue in this case, relating to the clarification of the notion of death.[24]

The matter has also involved the Italian National Bioethics Committee, an institutional advisory body to the Italian Government and Italian Parliament, in order to identify emerging ethical problems with the progress of research and technological applications in the field of life sciences. Analyzing case studies and published clinical experience of thousands of cases in these first forty years of application of the Harvard standard, the Italian National Bioethics Committee reached the following conclusion:

> Both the neurological standard and the cardiopulmonary standard are clinically and ethically valid to declare legal death and completely avoid any possible error. In particular, with regard to neurological criteria, the Committee considers acceptable only those that refer to the so-called "whole brain death", intended as an organic and irreparable brain damage, which resulted in a state of irreversible coma, where artificial support has occurred in time to prevent or treat an anoxic cardiac arrest.[25]

In Italy – from a juridical point of view – brain death is therefore the clinical criterion used to declare legal death, similar to Japanese law after the reform act enacted in July 2010.[26] Revisions to the Organ Transplant Act have made it possible in Japan for the organs of a brain-dead patient to be donated for transplantation with the permission of the patient's family only, even if the patient's desires regarding donation have not been set out in writing, in all brain-death cases, unless the patient has expressly indicated that he or she do not wish to be an organ donor. However, there has been no fundamental change in the "legal determination of brain death"; the main changes to the Act are those related to the broadening of the age range for organ donor eligibility.[27]

Moreover, in both Japan and Italy, the consent of family members plays an important role, especially when there is no expressed consent (note that the majority of cases fall into this category, including all the cases in which the consent is a normative impossibility, such as organ transplants among or from minors. In particular, in Japan the age divisions have now been set at ages 6 and 18 as well as the original 15, and the criteria and conditions for organ donor eligibility in each age group have become more complicated).[28]

So the main point of my reasoning is the following: in both Japan and Italy, the legal definition of human death is made by their respective national authorities, without considering possible objections for personal motivations and individual choice about organ transplantation, including instances where no individual choice has been expressed. This paternalistic attitude corresponds to a Hegelian vision of the ethical state, which, in my view, is incompatible with the principles of constitutional democracy and the rule of law.[29]

Nevertheless, the Japanese legal system today provides a family-oriented priority organ donation clause, a peculiar feature that differentiates it from the Italian legal system relating to organ transplantations. The priority of blood-related parents is realized when the deceased has left a written statement of his/her wishes regarding his/her organs with an expressed (but generic) "priority donation to the family".[30]

4. Against the brain death standard: A practical proposal

In the preceding text, from philosophical and legal perspectives, I have shown how the brain death standard is not a reliable criterion to declare human death.

Nevertheless, brain death is a prerequisite for the practice of organ transplantation; so I think it is a necessity to formulate a compromise bill that allows doctors to practice transplants without legal inconveniences and respects individual decisions of conscience (principle of autonomy).

If we accept that the principle of autonomy refers to "self-rule" or "self-governance", then a legal definition of human death may include the possibility for everyone to freely choose the legal criterion for declaring the end of his or her individual life; otherwise, the normative impossibility of rejecting the brain death standard may conflict with the Kantian principle of human dignity. About this topic, Alizera Bagheri wrote the following:

> In the transplant scenario we have two groups of people, recipients and potential donors, who have moral claims on society. An ethically sound organ procurement policy should ignore neither the vital needs of the recipients nor the dignity and interests of the potential donors. Although providing organs to deal with the organ shortage and so save more lives is an important task, that goal should be achieved by morally acceptable means. It should not ignore individual autonomy or violate a person's rights and dignity. As Kant says, to treat a person merely as a means, with no regard for that person's own goal, violates that person's autonomy.[31]

However, I believe that the possibility to choose can not be devoid of a corresponding ethical price; in other words, I think there is a trade-off between individual choice and universal justice. The recognition of a new right should synallagmatically imply the imposition of a new duty.[32]

My practical proposal is the following: only those who choose to donate their organs (and therefore accept the brain death standard) have the right to receive organs by transplants; in fact, to have something in return, a recipient must mutually give something of equal value.[33] Although I know that this opinion is controversial (not only in Japan,[34] but also in Italy[35]), my proposal is supported not only by the spirit of the donation (studied by Marcel Mauss),[36] but also by the Aristotelian concept of (neither distributive, nor rectificatory, but) reciprocal justice.[37] Moreover, legislation similar to my proposal was enacted by the *Knesset* (Israeli parliament)[38] and was under discussion in Switzerland[39] and in Germany.[40]

Nevertheless, my practical proposal encounters at least two different practical problems. The first practical problem of applying my proposal is how to quickly identify people who have previously chosen to donate their organs, particularly in emergency situations. In order to solve this potential practical problem, I propose creating a free, public and open access register of people who join for the purpose of allowing for a mutual donation of their organs. I believe that this kind of register cannot be inconsistent with the protection of privacy, because the logic of synallagmatic justice is incompatible with asymmetrical information.[41]

A second practical problem to my proposal is how to avoid indirectly promoting or encouraging alternative ways or illegal markets for organ transplants. This kind of problem can be solved in time with the increase of people who join a group designed for mutual organ donation, since reciprocity would not only be global, but also would utilize the criterion of equality to allocate organs (for example, as it is presently done today with blood donation, following the same logic of mutuality).[42]

In conclusion, the recognition of this advantage to the declared donors – in addition to traditional clinical criteria for the allocation of organs for transplant-recipients on a waiting list – is therefore compatible not only with the logic of mutual donation, but also with a health policy founded on a defensible idea of global justice.[43]

Notes

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22 Article 1, Decree of the Italian Minister for Health 1969 Aug. 11, n. 230.
23 Article 1, Decree of the Italian Minister for Health 2008 Apr. 11, n. 101.
24 Corte Costituzionale [Italian Supreme Court], judgement 1995 July 10, n. 414.
25 Italian National Bioethics Committee, *Declaring Death Legal Criteria*. Rome 2010: 14.
26 On the topic of the comparison between Italian and Japanese organ transplantation law, see at least these three following papers, written in Italian: (i) Emil Mazzoleni, *Morte cerebrale nel diritto giapponese. Frammento di biodiritto comparato* [*Brain Death in Japanese Law: Fragment of Compared Biolaw*]. In: *Sociologia del diritto*, 2013, 40(1): 41-55; (ii) Alessia Costa, *La morte cerebrale in Giappone: tra istituzioni giuridiche e pratica clinica* [*Brain Death in Japan: Between Legal Institutions and Clinical Practice*]. In: *L'uomo Società Tradizione Sviluppo*, 2014, 3(1): 81-100; (iii) Matteo Cestari, *La morte complessa. Morte cerebrale e trapianti nel Giappone post-industriale* [*The Complex Death: Brain Death and Transplants in Post-industrial Japan*]. In: Francesco Paolo de Ceglia (ed.), *Storia della definizione di morte* [*The History of the Definition of Death*]. FrancoAngeli, Milan 2014: 489-505.
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