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Loss of faith in brain death: Catholic controversy over the determination of death by neurological criteria¹

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Abstract

The diagnosis of death by neurological criteria (colloquially known as “brain death”) is accepted in some form in law and medical practice throughout the world, and has been endorsed in principle by the Catholic Church. However, the rationale for this acceptance has been challenged by the accumulation of evidence of integrated vital activity in bodies diagnosed dead by neurological criteria. This paper sets out ten different Catholic responses to the current crisis of confidence and assesses them in relation to a Catholic understanding of philosophical anthropology. Having considered each of these responses, none is found to provide good grounds for the moral certainty about death needed for current transplant practice to be ethically acceptable. Unless adequate grounds for the use of neurological criteria can be restored, current transplantation practice will have become what Pope John Paul II called a “furtive, but no less serious and real, form of euthanasia”.

Catholic acceptance of neurological criteria for death

The current practice of organ transplantation is largely dependent on diagnosis of death by neurological criteria,² colloquially known as “brain death”.³ This is because neurological criteria

allow death to be declared while the body is ventilated and the heart is still beating so that the organs are perfused with oxygenated blood.

From the first, the practice of donating organs for transplantation was welcomed by the Catholic Church.⁴ In 1956, Pope Pius XII argued that donation of organs after death was not “a violation of the reverence due to the dead” rather, it was an expression of “merciful charity shown to some suffering brothers and sisters”.⁵ Pius XII also recognised that determining the time of death was not always straightforward. He argued that for someone in a coma, diagnosing death was a matter of medical rather than theological competence. “It remains for the doctor, and especially the anaesthesiologist, to give a clear and precise definition of ‘death’ and the ‘moment of death’ of a patient who passes away in a state of unconsciousness”.⁶

When neurological criteria for death were first employed for the purposes of transplantation in 1968 this was therefore greeted with cautious acceptance by a number of Catholic moral theologians. An important defender was Germain Grisez. His key argument was quoted in an influential US President’s Commission report in 1981: “if the functioning of the brain is the factor which principally integrates any organism which has a brain, then if that function is lost, what is left is no longer as a whole an organic unity.”⁷ According to this rationale, neurological criteria for death did not represent a new *definition* of death, but just gave more precise criteria for determining that bodily death had occurred.

In the 1980s and 1990s there was a relatively stable moral theological and medical consensus among Catholic scholars in favour of accepting neurological criteria for death,⁸ though not without some dissenting voices.⁹ Nevertheless, through this whole period there was neither any

explicit magisterial¹⁰ endorsement of neurological criteria for death, nor was there any explicit magisterial condemnation. It was not until 2000 that Pope John Paul II gave a cautious and conditional endorsement of neurological criteria for death. This statement gave pastoral guidance to Catholics on the legitimacy in principle of using the neurological criteria to determine death in the context of organ donation.¹¹ The key paragraph reads as follows:

“Here it can be said that the criterion adopted in more recent times for ascertaining the fact of death, namely the *complete and irreversible* cessation of all brain activity, if rigorously applied, does not seem to conflict with the essential elements of a sound anthropology. Therefore a health-worker professionally responsible for ascertaining death can use these criteria in each individual case as the basis for arriving at that degree of assurance in ethical judgement which moral teaching describes as ‘moral certainty’.”¹²

The crisis of confidence in neurological criteria for death among Catholic scholars

If the judgment of the whole world is secure (*securus judicat orbis terrarum*) and if when Rome has spoken the case is finished (*roma locuta est, causa finita est*) why are Catholic scholars still discussing the issue of neurological criteria for the determination of death? Why do the well-established legal-medical consensus (including every jurisdiction and every national professional body in the world), and the words of Pope Pius XII and Pope John Paul II, not settle the issue?

In the first place the statement of Pius XII was made at a time when the *concept* of death was not in dispute. However, since the rise of ventilation and organ transplantation, there has been a divergence in underlying ideas about the concept of death. Some have sought to redefine death

as permanent coma¹³ others lay stress on prognosis of imminent and inevitable asystole¹⁴ others have sought to redefine death in terms of utility.¹⁵ Some approaches require the death of the whole brain,¹⁶ some suggest death of the upper brain is sufficient,¹⁷ others suggest death of the brainstem is sufficient.¹⁸ The criteria in use currently in the United Kingdom take death to be defined as “the irreversible loss of the capacity for consciousness, combined with irreversible loss of the capacity to breathe”,¹⁹ which implies that death could be declared even if some brainstem functions remain. Thus the Church can no longer take for granted that all clinicians are *asking the same question* when asking if someone has “died”. This divergence of underlying concepts of death means that the contemporary consensus in favour of the use of neurological criteria does not necessarily represent a scientific consensus that they are adequate to determine death as death has traditionally been understood.²⁰

The key challenge to neurological criteria for death, from a Catholic perspective, is the doubts that have always existed as to whether the fulfilment of these criteria necessarily demonstrates the death of the body. Since the mid-1990s, an increasing number of philosophers and physicians have provided further evidence and arguments that have reinforced these doubts. The most significant critic has been D. Alan Shewmon.²¹ His investigation of unusual cases of the prolonged maintenance of “beating heart cadavers” casts doubt on the claim that such bodies have lost all integrative vital function. A striking example of such vital function is found in pregnant women who, despite being diagnosed as dead by neurological criteria, have successfully sustained a pregnancy for several weeks. An even more dramatic example is that of children who have been diagnosed as dead by neurological criteria but whose bodies have been sustained for years in this condition, in the case of one remarkable child, for over 20 years.²² How can one understand the sustaining of the body other than as the sustaining of its *life*? This

indeed is the implication of the language commonly used in relation to these cases. *Prima facie* they appear to be cases of “brain death with prolonged *somatic survival*”.²³

The current crisis of confidence is well expressed by the United States President’s Council on Bioethics Report of 2008, *Controversies in the Determination of Death*:

There remains considerable public confusion, both about the meaning of the term ‘brain dead’ and about its relation to the death of a human being. There is persistent dissent by some clinicians, philosophers, and other critical observers who have never been convinced that ‘brain death’ is, indeed, the death of the human being. There are, as well, pressures against insisting that declaring death, or at least ‘organ donation eligibility,’ requires the irreversible loss of function in the whole brain. And, perhaps most important, there are critics who have published evidence of ongoing integrated bodily activities in some persons meeting the criteria of ‘whole brain death’ and who have claimed that this evidence invalidates the rationale for today’s consensus position.²⁴

Responses to this crisis

Pope John Paul II taught that “*vital organs which occur singly in the body can be removed only after death*”²⁵ (ethical premise); and that “*the death of the person is a single event, consisting in the total disintegration of that unitary and integrated whole that is the personal self*”²⁶ (philosophical premise); and that neurological criteria show that “*the individual organism has lost its integrative capacity*”²⁷ (empirical premise). On the basis of these three premises he

concluded that neurological criteria can give moral certainty of death. However, the empirical premise has now been challenged by “published evidence of ongoing integrated bodily activities in some persons meeting the criteria of ‘whole brain death’”²⁸. In the face of this challenge, Catholic moral theologians have responded in different ways:²⁹

1. The first response is to reaffirm the ethical, philosophical and empirical premises of John Paul II and to dispute the empirical counterevidence of critics such as Shewmon. A common form of this response is to state that in the purported counterexamples “**brain death**” was **misdiagnosed** because the neurological tests were poorly administered.³⁰

2. A similar, but more demanding response is to regard the empirical counterevidence as demonstrating that the **standard clinical tests are not adequate** to determine whether all brain activity has ceased irreversibly.³¹ For example, Tonti-Filippini has argued that neurological criteria cannot be fulfilled by medical history and simple clinical tests alone but must also involve “imaging of blood flow to the brain”.³² This response does not threaten the conceptual basis of the diagnosis of death prior to organ transplantation but constitutes a serious challenge to current practice.

3. A slightly different response is to admit that at least some of the apparent counterexamples have been diagnosed correctly but to assert that these cases do not involve truly integrated bodily activity, only some **lesser kind of integration** “at a lower level between organs without necessarily achieving unity of the entire organism”³³. This response is based on the idea that the philosophical premise of John Paul II, i.e. the need for somatic integration, needs to be understood in a more nuanced way.

4. A more radical response is to reject John Paul II's philosophical premise and relate human life and death to **radical capacity for sentience**.³⁴ In principle this would seem to pave the way for "upper brain" death criteria³⁵ that would also encompass patients in a persistent vegetative state³⁶ but "whole brain" criteria might be accepted in order to exclude any doubt.³⁷ Those holding this view could maintain that they accepted John Paul II's ethical conclusion, but not his philosophical premise.

5. Between loss of capacity for somatic integration (John Paul II's philosophical premise) and loss of capacity for sentience (view 4 above) there may be other philosophical accounts of death closer to somatic integration or closer to capacity for sentience. For example, the majority on the President's Council in 2008, including the well-known Catholic legal philosopher Robert George, took the view that a body was no longer alive when it was no longer responsive to its environment and when it possessed no "inner experience of need".³⁸ This combination of capacities to sense and interact they called the "**mode of being**"³⁹ of a living organism.

6. Another view, also put forward by Shewmon is to reject the first part of John Paul II's philosophical premise, that "the death of the person is a single event". In 2004 Shewmon attempted to move away from a unitary concept of death from which all diagnostic criteria must derive, and instead posited various death events which may be relevant for different practical purposes.⁴⁰ Tonti-Filippini follows Veatch in terming this view that of a **disaggregator**.⁴¹

7. In the face of the increasingly divergent views from Catholic scholars on the determination of death, some commentators have argued that for practical purposes the 2000 teaching of John Paul II remains the authoritative pastoral guidance for Catholics. Thus, while this teaching is not infallible, unless and until there is convincing evidence to the contrary, it **can be followed without incurring moral guilt**. Hence, “Catholics may in good conscience offer... their organs after death as determined on the basis of neurological or cardiopulmonary criteria”.⁴²

8. Among those who doubt that neurological criteria are sufficient to give certainty of death, some have argued that, nevertheless, in certain carefully defined cases it would be **ethical to take unpaired vital organs from living patients**. This is a possibility entertained by Shewmon (who has explored a great many possible positions as his own view has developed). According to Shewmon, protocols could be developed such that such vital organs could be taken *without hastening death*. If this is granted then it would seem possible at least in principle “to remove vital organs without causing or hastening death or violating the time-honored injunction *primum non nocere*.”⁴³ This position should be distinguished from the superficially similar proposal of Robert Truog and others that the “dead donor rule” be dropped⁴⁴.

9. By and large, the responses outlined so far would continue to allow retrieval of unpaired vital organs from bodies determined as dead by neurological criteria (though some would require a more rigorous battery of empirical tests). However, there is a significant body of Catholic scholarly opinion that has come to reject both the philosophical basis for neurological criteria and the practices that rest upon it. This constitutes a far deeper challenge to the status quo,

implying that neurological criteria *cannot safely be used* for the purpose of post mortem organ donation. This view, has not been endorsed by the magisterium but is held by a number of well-respected Catholic scholars, including one of the Catholic members of the 2008 President's Commission.⁴⁵

10. A variation on the previous response is to argue that the counter examples are sufficient to *raise a reasonable doubt* about the validity of neurological criteria. This is the opinion of Edmund Pellegrino, the Catholic bioethicist who chaired of the President's Commission Report 2008, but who dissented from its final conclusions.⁴⁶ The presence of reasonable doubt would exclude moral certainty and hence would rule out the use of neurological criteria for determining death. Hence in practice this response coheres with response 9.

Broadly speaking, the first two responses concern questions of the adequacy of clinical tests; responses 3 to 6 concern the concept of death; and responses 7 to 10 concern the practical implications for organ transplantation.

Two ways of understanding Catholic dogma in relation to death

Before considering questions of clinical criteria or application it seems reasonable to start with the concept of death. Unless there is agreement as to what is being tested for, it is not possible to determine either the adequacy of tests or the practical implications. Furthermore, the competence of the Church, on her own account, is not in questions of natural science but rather in questions of philosophy, theology, and ethics.

Catholic philosophical thought is far from homogeneous but there are some common reference points for the Catholic tradition which set limits to an acceptable philosophical anthropology. A key dogmatic point of reference is the definition set down by the Council of Vienne in 1312:

“We define that anyone who presumes henceforth to assert defend or hold stubbornly that the rational or intellectual soul is not the form of the human body [*forma corporis*] of itself and essentially, is to be considered a heretic”.

This definition remains binding on Catholic philosophers and theologians. It is expressed in Aristotelian terms and has as its context the theological disputes of the high middle ages. The definition has sometimes been interpreted as a vindication of the philosophy of Thomas Aquinas over more “spiritual” accounts of Christian anthropology associated with Augustine of Hippo.⁴⁷ However, it is important to note that Vienne did not require a narrowly Thomistic understanding of the phrase *forma corporis*. Nor did it require philosophers to express the unity of the person in Aristotelian terms. It only required that where such terms were used the rational soul was not denied to be the form of the body. Thus while the definition of Vienne sets limits for Catholic anthropology there were and will remain a number of Catholic schools of thought that fall within these limits.

The definition of death given by John Paul II is clearly in conformity with Vienne. If the living human being is an integrated unity of body and soul, then death surely consists in “the total disintegration of that unitary and integrated whole”.⁴⁸ The identification of the rational soul as the principle of bodily life can therefore be understood as implying that while the body is alive, the rational soul is present, even if the person cannot exercise the full range of human abilities.⁴⁹

The same doctrine can, however, be turned on its head so that it is argued that when the rational capacity is no longer present then *specifically human bodily life* has come to an end. This was the view of Shewmon in 1985, who argued that “the minimum sufficient condition for the death of a person is the irreversible destruction of those parts of the brain necessary for the properly human functions of the spiritual soul, namely intellect and will”⁵⁰. Accepting an Aristotelian-Thomistic account of substantial change, Shewmon argued that, if the capacity for rationality is irreversibly destroyed then “the body has been rendered incompatible with the human essence, so a substantial change must have taken place”⁵¹. The cadaver, the human remains, is not the same living body but is generated from the subhuman forms that were previously present only in a virtual way. We may call this view, death as the loss of radical capacity for rationality (RCR).⁵²

Given the Thomistic framework both of John Paul II’s account and of RCR, neither can be ruled out simply by appeal to the Council of Vienne. Shewmon fully acknowledged that the rational soul was “the form of the body”. His question was whether the loss of this specifically human living form could generate a living but less-than-human form. Nevertheless, while RCR is not altogether excluded by dogmatic considerations it suffers from serious philosophical and ethical problems. There are obvious similarities between RCR and the approach of John Harris and other bioethicists who distinguish between human beings and persons: “Once a new human individual comes into existence she will gradually move from being a potential or a pre-person into an actual person when she becomes capable of valuing her own existence. And it is very difficult to say precisely when this is. And if, eventually, she permanently loses this capacity, she will have ceased to be a person.”⁵³ While RCR appeals to the Aristotelian metaphysics of substantial

change rather than the Lockean idea of insubstantial personhood, it seems to share with certain contemporary bioethicists the claim that there are living humanoid entities that are “nonpersons”.

This notion is philosophically problematic because of the avoidable multiplication of entities: the postulation of an integrated living organism that is human in some sense but that is not a human being. Why should we posit the coming to be of a novel living entity when phenomenologically this seems to be the same life of the same human body? Why should the loss of this particular capacity be thought to mark the border between life and death? People live with the loss of many human capacities (their sight, mobility, fertility). We do not generally regard someone as dead because he or she is unconscious and still less because he or she, while minimally conscious, has lost the power of reason. Why should we regard the loss of the ability to reason as equivalent to death merely because it is irreversible? The loss of human abilities through injury is often irreversible. In cases of post coma unresponsiveness, or of the minimally conscious state, or of dementia, it is even less plausible to say that this loss of mental capacity is *the death of the human organism* or that such patients are not human beings but merely “humanoid animals”⁵⁴. This, as Spaemann contends “is contrary to all immediate perception”⁵⁵. Indeed while RCR is superficially similar to the view of bioethicists such as John Harris, these bioethicists are more faithful to the phenomena, for “they do declare the person expired, but do not for this reason yet consider the human being dead”⁵⁶.

Furthermore RCR is not only philosophically *inconveniens*, it is also morally dangerous. To suggest that patients who have lost the capacity to reason are no longer human persons effectively strips them of fully moral status. The early Shewmon countered this with an argument

that, as the absence of capacity for rationality cannot be diagnosed with certainty, these patients “must be given the benefit of the doubt and treated with all the respect and care which any sick human being deserves”⁵⁷. However by resorting to arguments from the benefit of the doubt Shewmon implied the status of such patients was doubtful and he created a hostage to fortune. Other clinicians might have no such diagnostic doubts in relation to a particular case. From the perspective of the Catholic moral tradition this is very problematic. There is something deeply repugnant about the very possibility of saying of a conscious human living being that he or she is not a person but “an animal which looks like the former person”⁵⁸. John Paul II expressed a common Catholic moral conviction when he asserted that “*A man, even if seriously ill or disabled in the exercise of his highest functions, is and always will be a man, and he will never become a ‘vegetable’ or an ‘animal’.*”⁵⁹

Radical Capacity for Sentience

Shewmon’s own view developed over time and by 1997 he had decisively rejected the RCR account of death.⁶⁰ Nevertheless, it is useful to consider his earlier views as they represent a very clear articulation of RCR. They also shed light on one of the Catholic responses to the current crisis (response 4). May, and Lee and Grisez and others⁶¹ defend what is a more ethically conservative variant on RCR by arguing that death should be identified with the loss of the radical capacity for *sentience* (RCS). Taking loss of RCS as the concept of death has the advantage that it protects patients with dementia (who are clearly sentient if not necessarily rational) and it strengthens the argument from the benefit of the doubt (for it is much easier to argue that some residual consciousness may be possible than to argue that rationality is still possible). However this ethical gain comes at a significant philosophical cost. For it is simply arbitrary to choose

sentience as a definition of human life. RCS sits uneasily between the loss of rationality (the highest and most essential human capacity) and the loss of somatic integration (the most basic or common capacity of biological organisms). Sentience marks out animals from plants, but if there is an essential capacity that one cannot lose without ceasing to be *human*, a distinguishing characteristic of the *human* soul, then the Catholic tradition has always identified this with the intellect, not with the senses. If Lee and Grisez state that death as a substantial change could involve the destruction of what is essentially human while leaving behind a “large living entity”⁶² then they have no reason, except by appeal to the benefit of the doubt, to stipulate that that this entity must be unconscious.⁶³ On this point, the early Shewmon was more willing to follow the line of argument to its logical conclusion and admit that it implies that patients with severe dementia might not be human persons.

The philosophical and moral difficulties of the RCR thesis (and hence of RCS) could be resolved if more stress was given to the idea of a *radical* capacity. This emphasis is necessary in order to distinguish a substantial change from an injury that “merely blocks the expression of rational potential”,⁶⁴ that is, to distinguish death as diagnosed by neurological criteria from forms of severe cognitive impairment. However, reflection on the radical character of this capacity directs our attention away from the loss of particular capacities and towards more general characteristics of living organisms. This can be seen from Catholic discussion of potential for rationality in relation to the human embryo. The capacity for rationality which an embryo possesses is not immediate but developmental. Furthermore this capacity cannot be identified with the actual likelihood of developing rational powers, for children who die from genetic defects before exercising the power of reason are certainly living human beings. Rather, all living human beings possess a radical capacity for rationality because they *share a human nature*, and

it is part of the nature of human beings to develop and actualise rational powers. This is true even if the power has not yet developed or is blocked by disease or injury. Hence the presence of *integrated bodily life in a being that possesses a human nature* is both necessary and sufficient to ascribe to that entity a radical capacity for rationality.

Thus, the idea of a radical capacity is compatible with a Catholic understanding of anthropology only inasmuch as the term “radical” is understood in a sense that implies that the capacity is present whenever a living human body is present, that is, until “the total disintegration of that unitary and integrated whole that is the personal self”. The definition of Vienne is compatible both with RCR and death as loss of somatic integration. The considerations here suggest that RCR is co-extensive with somatic integration but that for the purpose of establishing criteria for death, it is RCR that must be understood in relation to somatic integration, rather than vice versa. Somatic integration should take priority epistemically if not metaphysically.

This discussion also sheds light on the “modes of being” view developed by the President’s Council in 2008 (response 5). This shares some features with RCS inasmuch as it focuses on the *appetitive* character of breathing, that is, the distinctively animal characteristic, rather than vital activity at the vegetative level. However, inasmuch as it is analogous to RCS, the same criticisms apply. Why should “inner experience of need” be chosen as essential to *human* life? It is not the most specific quality of human life nor is it the most basic to biological life. It is difficult to understand the rationale for the concept except as a device to defend the clinical status quo in the face of evidence of continuing somatic integration. The “modes of being” view is more ethically conservative than RCS (in that it does not require capacity for consciousness but only for a more basic level of biological responsiveness). However, the logic of the position is similarly

weak. Once an element of experience or responsiveness is included in the definition of life, it is difficult to see why it should not be extended to more distinctively *human* experience or responsiveness.

Disaggregation and the removal of vital organs before metaphysical death

Rather than defend any one account of death, an alternative response is to abandon any single account of death (response 7). This position was explored by Shewmon in 2004 and defended in a more specific form in 2010. There is a certain amount to be said for this if we are talking merely about prudence and uncertainty. It can be the case that, depending on the context, more or less certainty is required about the determination of death. For example, if a person's heart has stopped irreversibly (despite sustained efforts at resuscitation) then the patient may reasonably be declared to be dead, though the sacrament of the sick may still be given sometime after this, if the body is still warm. The person may be regarded as likely to be dead for some purposes but not for others.

From the perspective of philosophical anthropology, however, and still more from the perspective of Catholic dogma, it is not tenable to hold that there are many "death events" that are equally basic. If the soul is the form of the living body, and death is the separation of body and soul, then it will either be the case, or will not be the case, that this has happened. The soul either is, or is not, informing the body. *Dying* is a process, but *death* is not a process, it is the limit of that process. The attempt to disaggregate different meanings of "death" also seems to contradict the definition of the Council of Florence that there is one death after which the souls of those who have been cleansed from sin are received immediately (*mox*) into heaven while

those who die in actual mortal sin go immediately (*mox*) to hell. It may be difficult (and in a particular case perhaps impossible) to tell whether or not someone has died, but there are weighty philosophical and theological reasons for Catholics to hold that “*the death of the person is a single event*”.

In 2010 Shewmon put forward two senses of death, a “civil end” sufficient for ethical and legal purposes (passing away) and a “metaphysical end” reflecting the death of the organism as it is “in itself” (deanimation).⁶⁵ This “semantic bisection” of the concept of death enabled Shewmon to assent to the dead donor rule, that “vital organs which occur singly in the body can be removed only after death”, while at the same time acknowledging that death *in the metaphysical sense* had not yet occurred. However, this approach attempts to secure by redefinition what can only be established by ethical analysis. Passing away is an acceptable sense of death “for most practical purposes” if and only if it is ethically acceptable to treat someone as dead before metaphysical death. This is seen most obviously in the analogy Shewmon uses between passing away as a “civil end” and birth as a “civil beginning”. The controversy over abortion clearly demonstrates that taking birth as a “civil beginning” is reasonable only inasmuch as it is ethical to *act as though* life had not yet begun. The ethics of abortion cannot be settled simply by appeal to birth as a common socio-legal “civil beginning”. Similarly the ethics of organ retrieval cannot be settled by the identification of a “civil end”.

Shewmon was thus on stronger ground in 2004 in arguing that “Regarding organ transplantation, the important and truly meaningful question is not ‘When is the patient dead?’ but rather ‘When can organs X, Y, Z... be removed without causing or hastening death or harming the patient in any way?’”.⁶⁶ For, the question is not whether there are meanings of “death” other than

metaphysical death but whether vital organs can ethically be removed before metaphysical death, where this does not cause or hasten death (response 8). The invocation of other meanings of death does not help this ethical analysis but rather obscures it. Indeed, greater clarity here serves only to highlight the ethical problems with taking unpaired vital organs from such patients. It cannot reasonably be said “there is no harm in taking the patient’s heart, as he wasn’t using it at the time!”⁶⁷ Even if the heart is not actually beating, removing a healthy heart from a living patient is at the very least an act of mutilation.

Provisional ethical conclusions

The foregoing considerations vindicate Pope John Paul II’s philosophical and ethical premises: “*the death of the person* is a single event, consisting in the total disintegration of that unitary and integrated whole that is the personal self” and “*vital organs which occur singly in the body can be removed only after death*”. However, if these premises are accepted then evidence of somatic integration after the fulfilment of neurological criteria undermines the validity of the neurological approach to diagnosing death. There may well be problems with misdiagnosis of death using neurological criteria (responses 1 and 2) and this is a significant cause of ethical concern, but this does not seem to exhaust the problem. For, it is difficult to account for the evidence acknowledged by the Presidents Commission only on the basis of misdiagnosis.

Having become aware of the extent of this problem, some Catholic scholars have sought to redefine death in relation to radical capacity for sentience (response 4) or mode of being (response 5) or have sought to disaggregate different meanings of death (response 6). However, it has been argued in this paper that these attempts are flawed both philosophically and

ethically. Nor has Shewmon in his most recent work provided a satisfactory account of how it could be ethical to take unpaired vital organs prior to metaphysical death (response 8).⁶⁸ From the perspective of the present paper, these diverse responses should therefore be understood not as potential solutions but as symptoms of the depth of the underlying problem.

The multiplication of different responses also shows why it is not adequate simply to appeal to the statement of Pope John Paul II in 2000 as the basis for moral certainty that neurological criteria are valid (response 7). For the statement of John Paul II was based explicitly on certain premises. The pope showed his reasoning. He endorsed neurological criteria conditionally, inasmuch as they reflected “the complete and irreversible cessation of all brain activity”⁶⁹ and inasmuch as this cessation implied that “the individual organism has lost its integrative capacity”⁷⁰. However the weight of counterevidence gathered by Shewmon and others gives good reason to think that one or other of these conditions does not hold, and hence the conclusion does not follow.⁷¹

Many of those who have come to reject the exclusive focus on brain activity as a basis for diagnosing death (response 9) have done so because they no longer regard the brain as the sole regulator or integrator of bodily life. Shewmon has argued that bodily integration is a holistic feature of the living body and the brain acts not as the source of this integration but as contributor to and “fine-tuner” of a pre-existing vital integration.⁷² For this reason, in principle, the body could maintain integrated vital functioning even after the loss of all brain function. This is what seems to be happening in cases of somatic survival after brain death.

Without denying Shewmon's account of brain activity, Tonti-Filippini (a leading advocate of responses 3) has quite reasonably draw attention to the different ways that "integration" can be understood. Integration is an analogical concept and is closely related to the concept of unity, one of the transcendentals. "One" is used in many senses. It therefore needs to be asked whether "the concept of integration within the medical literature"⁷³ adequately reflects *the sense of integration implied by the substantial unity of an organism*. This is not a matter of looking for a certain "degree of integration" as though this were a point along a continuum of integration. The integration of a living organism is integration of a distinct kind or category. Tonti-Filippini argues that neurological criteria are sufficient in principle to determine death, understood as loss of somatic integration, if this integration is understood in the proper sense.

Tonti-Filippini's defence of neurological criteria is strengthened by his supposition that as well as conceptual confusion as to what constitutes integration there are also clinical aspects to the problem in that standard tests are insufficient to show irreversible loss of all brain function. He thus argues that all alleged counterexamples can be resolved *either* as misdiagnosis showing the need for more rigorous tests (response 2) *or* as examples of lesser integration showing the need for clarity about what constitutes integration (response 3). However, this argument immediately raises a difficult question: how can we recognise the sense of integration proper to the unity of a biological organism, and in particular, to a human being? We need an account of the specific somatic integration of a living organism *as a substance* in the Aristotelian sense but there is no current consensus among Catholic scholars as to what such an account would involve.

It should also be noticed that Tonti-Filippini's approach includes the supposition that current neurological tests are insufficiently rigorous. Thus while his defence offers a possible route to a

future restoration in confidence about neurological criteria among Catholic scholars, in relation to current practice, his argument implies the same conclusion as responses 9 and 10, that neurological criteria as currently applied *do not provide moral certainty of death*.

The Catholic acceptance of neurological criteria for death is thus in crisis. Having considered ten contemporary responses to this crisis it seems that none provides good grounds for the moral certainty about death needed for current transplant practice to be ethically acceptable. Unless and until adequate grounds for the use of neurological criteria are restored, current practice will merit the admonition given by John Paul II in 1995.

“Nor can we remain silent in the face of other more furtive, but no less serious and real, forms of euthanasia. These could occur for example when, in order to increase the availability of organs for transplants, organs are removed without respecting objective and adequate criteria which verify the death of the donor.”⁷⁴

¹ The views presented in this paper are entirely those of the author, but with grateful acknowledgement for valuable critical comments from Christian Brugger, Paul Byrne, Steve Edwards, Germain Grisez, D. Alan Shewmon, Nicholas Tonti-Filipinni, and Helen Watt, none of whom are responsible for any errors which remain. A version of this paper was originally presented at a Symposium on “Brain death and organ transplantation” hosted by the University of Swansea.

² Other sources of organs include donation from bodies declared dead by circulatory criteria (“donation after cardiac death” or DCD) which now represents 37% of post mortem donation in the United Kingdom (NHS Blood and Transplant. *Transplant Activity in the UK Activity Report 2010/11*: 3). A significant proportion of kidney donation is from live donors.

³ This paper generally avoids the term “brain death” as it is a potential cause of confusion, being ambiguous between death of the brain and death of the whole human being as determined by brain-related criteria.

⁴ The Church had always allowed post mortem dissection for forensic and other serious reasons. See Jones, DA. *Organ Transplants and the Definition of Death*. London: Linacre and CTS, 2001: 24-26

⁵ Pius XII. “Allocution to Eye Specialists” 14 May, 1956

⁶ Pius XII "Address to an International Congress of Anesthesiologists" 24 November, 1957

⁷ President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. *Defining Death: A Report on the Medical, Legal and Ethical Issues in the Determination of Death*. Washington, DC: Government Printing Office, 1981: 36 n. 4 quoting Grisez G, Boyle JM. *Life and Death with liberty and Justice* University of Notre Dame Press, 1979: 77

⁸ Chagas C. ed. *Working Group on the Artificial Prolongation of Life and the Determination of the Exact Moment of Death*. Vatican City: Pontifical Academy of Sciences, 1986; White RJ, Angstwurm H, Carrasco de Paula I. eds. *Working Group on the Determination of Brain-Death and its relationship to Human Death* Vatican City: Pontifical Academy of Sciences, 1989; Ashley BM, O'Rourke KD. *HealthCare Ethics*. The Catholic Health Association of the United States, 1989: 366-367; Iglesias T. "Death and the Beginning of Life" *Ethics and Medicine* 1991:7 (2): 8-17; Tonti-Filippini N. "Determining when dead has occurred" *Linacre Quarterly* 1991:58 (1): 25-49

⁹ Byrne PA, O Reilly S, Quay PM. "Brain death. An opposing viewpoint" *JAMA*. 1979; 242: 1985-1990; Evans, DW, Hill DJ. "The Brain Stems of Organ Donors are not Dead" *Catholic Medical Quarterly*. 1989; 40 (3): 113-120; Seifert J. "Is 'brain death' actually death?" *The Monist* 1993; 76: 173-202; Jones DA. "Nagging doubts, about brain death" *Catholic Medical Quarterly* 1995:47 (3): 263-273; Potts M, Byrne P, Nilges RG. eds. *Beyond Brain Death: the Case Against Brain Based Criteria for Human Death* Dordrecht: Kluwer Academic Publishers, 2000

¹⁰ In this context the word "magisterial" refers to teaching of a council of the church, a pope, or the congregation for the doctrine of the faith.

¹¹ Haas JM. "Catholic Teaching regarding the Legitimacy of Neurological Criteria for the Determination of Death," *The National Catholic Bioethics Quarterly*. 2011;11 (2): 279-299

¹² John Paul II "Address to 18th International Congress of the Transplantation Society", 29 August, 2000, paragraph 5

¹³ Beecher HK. "A definition of irreversible coma. Report of the ad hoc committee of the Harvard Medical School to examine the definition brain death" *JAMA* 1968; 205: 337-340

¹⁴ Conference of Medical Royal Colleges and their Faculties in the United Kingdom. "Diagnosis of brain death" *British Medical Journal* 1976; 2: 1187-1188

¹⁵ Singer P. *Rethinking Life and Death*. Oxford: Oxford University Press, 1995; Truog RD, Robinson WM. "Role of Brain Death and the Dead-Donor Rule in the Ethics of Organ Transplantation" *Crit Care Med* 2003; 31 (9): 2391-6. Both authors are sometimes read as advocating a pragmatic definition of death but a more careful reading shows both writers oppose attempts to redefine death for pragmatic reasons and rather prefer allowing vital organ retrieval from those who are admitted to be alive.

¹⁶ President's Commission *Defining Death*

¹⁷ Veatch RM. "The Impending Collapse of the Whole-Brain Definition of Death" *Hastings Center Report* 1993; 23 (4) :18-24

¹⁸ This was the approach in the United Kingdom prior to 2008.

¹⁹ Academy of Medical Royal Colleges. *A Code of Practice for the Diagnosis and Confirmation of Death*. London: Academy of Medical Royal Colleges, 2008: 11. There seems to be a consensus among Catholic defenders and

critics of neurological criteria for death that the criteria used in the United Kingdom are conceptually and clinically inadequate. The question for John Paul II was only whether a more robust criterion involving the functional destruction of the *entire brain* could be equivalent to death.

²⁰ John Paul II “Address to the Transplantation Society”, paragraph 4

²¹ Shewmon has been prolific and has defended a number of views but his key papers discussing the evidence of continued vital activity in patients diagnosed dead by neurological criteria are: Shewmon DA. “Recovery from ‘brain death’: A neurologist’s apologia” *Linacre Quarterly* 1997; 64: 30-96; Shewmon DA. “Brainstem death, brain death and death: a critical re-evaluation of the purported evidence” *Issues in Law and Medicine* 1998;14:125-45; Shewmon DA. “Chronic brain death: meta-analysis and conceptual consequences.” *Neurology* 1998;51:1538-45; Shewmon DA. “Spinal Shock and ‘Brain Death’: Somatic Pathophysiological Equivalence and Implications for the Integrative-Unity Rationale.” *Spinal Cord* 1999;37 (5): 313-24; Shewmon DA. “The Brain and Somatic Integration: Insights Into the Standard Biological Rationale for Equating ‘Brain Death’ With Death” *Journal of Medicine and Philosophy* 2001;26 (5): 457-478; Shewmon DA. “Brain-body Disconnection: Implications for the Theoretical Basis of Brain Death” in de Mattei R. ed. *Finis vitae. Is Brain Death Still Life?* Rome: Edizioni Consiglio Nazionale delle Ricerche: Rubbettino Editore, 2006: 211–250

²² Repertinger S. et al. "Long survival following bacterial meningitis-associated brain destruction" *Journal of Child Neurology* 2006;21(7): 591-5

²³ Parisi IE, Kim RC, Colins GH, Hilfinger MF. "Brain death with prolonged somatic survival" *N. Eng. J. Med.* 1982;306, 14-16

²⁴ President’s Council on Bioethics. *Controversies in the Determination of Death: A White Paper by the President’s Council on Bioethics*. Washington, DC: The President's Council on Bioethics, 2008: 6; see Tonti-Filippini, N. 2011 “Religious and Secular Death: A Parting of the Ways” *Bioethics* (Article first published online: 24 MAR 2011 DOI: 10.1111/j.1467-8519.2011.01882.x): 4

²⁵ John Paul II “Address to the Transplantation Society”, paragraph 4

²⁶ John Paul II “Address to the Transplantation Society”, paragraph 4

²⁷ John Paul II “Address to the Transplantation Society”, paragraph 4

²⁸ President’s Council *Controversies in the Determination of Death*: 6

²⁹ This list is not intended as exhaustive but represents the range of responses that have been made.

³⁰ “Such cases of false declarations of brain death usually indicate the inadequate practice of medicine and do not negate the legitimacy of determining death by the use of neurological criteria, if it is done properly” (Haas, Haas JM. “Catholic Teaching”: 284)

³¹ Napier S. “Brain death: A morally legitimate criteria for determining death”. *Linacre Quarterly* 2009; 76(1):68–81, citing Halevy A, Brody B. “Brain Death: Reconciling Definitions, Criteria and Tests,” *Annals of Internal Medicine* 119 (1993): 520

³² Tonti-Filippini N. “Religious and Secular Death”: 12

³³ Tonti-Filippini N. “Religious and Secular Death”. See also Pontifical Academy of Sciences. “Why the Concept of Brain Death Is Valid as a Definition of Death: Statement by Neurologists and Others,” excerpt from *Signs of*

Death: Proceedings of the Working Group of 11–12 September 2006, Scripta Varia 110. Vatican City: Pontifical Academy of Sciences, 2007: 16

³⁴ Lee P, Grisez G. "Total Brain Death: a Reply to Alan Shewmon" *Bioethics* 2010 Oct 6. doi: 10.1111/j.1467-8519.2010.01846.x, 2010. Note that Lee and Grisez do not thereby endorse current practice as this would require the resolution of "serious questions regarding the reliability of the standard tests for total brain death" (footnote 1), an issue they do not address in their paper.

³⁵ Veatch RM. "The Impending Collapse"

³⁶ The common term for a condition better characterised as "post coma unresponsiveness", see National Health and Medical Research Council. *Post-coma unresponsiveness (Vegetative state): A clinical framework for diagnosis.* Canberra: NHMRC, 2003

³⁷ As argued by Shewmon, DA. 1989. "'Brain death': a valid theme with invalid variation, blurred by semantic ambiguity" in White RJ, Angstwurm H, Carrasco de Paula I. eds *Working Group of the Pontifical Academy of Sciences.* This reflects a very similar approach to the Harvard working group of 1968 who had defended a definition of death as irreversible coma (seeming to imply upper brain criteria) but preferred whole brain criteria for the sake of safety and consensus.

³⁸ President's Council. *Controversies in the Determination of Death:* 62

³⁹ President's Council. *Controversies in the Determination of Death:* 60, 64

⁴⁰ Shewmon DA. "The Dead Donor Rule: Lessons from Linguistics," *Kennedy Institute of Ethics Journal* 2004; 14(3): 277–300; Shewmon DA, Shewmon E. "The Semiotics of Death and its Medical Implications". in Machado C, Shewmon DA. eds. *Brain Death and Disorders of Consciousness.* New York: Kluwer Academic/Plenum Publishers, 2004: 89–114; Shewmon DA. "Constructing the death elephant: a synthetic paradigm shift for the definition, criteria, and tests for death," *Journal of Medicine and Philosophy* 2010; 35(3):256-298. Nevertheless, Shewmon maintains that this disgregation is not motivated by support for organ transplantation. "It is motivated rather by trying to make sense out of the inherent discrepancy between the 'time of death' on medical death certificates (in general, not just transplantation cases) and the moment of death from an ontological point of view" (personal communication).

⁴¹ Tonti-Filippini N. "Religious and Secular Death": 7 following Veatch RM. "The Death of Whole-Brain Death: The Plague of the Disaggregators, Somaticists, and Mentalists". *J Med Philos* 2005; 30: 353–378

⁴² Haas JM. "Catholic Teaching": 299

⁴³ Shewmon DA. "The Dead Donor Rule": 296; See also Shewmon DA. "Constructing the death elephant"

⁴⁴ Miller FG, Truog RD, Brock DW. "The Dead Donor Rule: Can It Withstand Critical Scrutiny?" *J Med Philos* 2010; 35 (3): 299-312. While Shewmon's position is open to criticism (see below), it is misleading to characterise it simply as a "repudiation of the dead donor rule" (Haas "Catholic Teaching": 299). Shewmon remains committed to the natural law prohibition on intentional killing innocent human beings and his ethical premises and the development of his argument is quite different from that of Miller, Truog and Brock.

⁴⁵ Gómez-Lobo, "A. Personal Statement of Alfonso Gómez-Lobo, Dr. Phil" in President's Council. *Controversies in the Determination of Death:* 95-101; see also Byrne PA, O Reilly S, Quay PM. "Brain death. An opposing viewpoint"; Potts M, Byrne P, Nilges RG. eds. *Beyond Brain Death*; R. de Mattei ed. *Finis Vitae*; Seifert J. "On 'Brain Death' in Brief: Philosophical Arguments Against Equating It With Actual Death, and Responses to 'Arguments' in Favor of Such an Equation," in de Mattei R. ed. *Finis vitae*; Austriaco NPG. "In Defense of the

Loss of Bodily Integrity as a Criterion for Death: A Response to the Radical Capacity Argument" *The Thomist* 2009; 73: 647-59; Verheijde JL, Potts M. "Commentary on the Concept of Brain Death within the Catholic Bioethical Framework" *Christian Bioethics* 16(3), 246–256, 2010; Henderson, DS *Death and Donation: Rethinking Brain Death as a Means for procuring Transplantable Organs*. Eugene, OR: Pickwick Publications, 2011

⁴⁶ Pellegrino E. "Personal Statement of Edmund D. Pellegrino, M.D." in President's Council. *Controversies in the Determination of Death*: 101-121; Brugger CE. "Transplants from Murder Victims, Diverging Definitions of 'Brain Death,'" *Zenit*, February 2, 2011, <http://www.zenit.org/article-31647?!=english>; Brugger CE. "D. Alan Shewmon and the PCBE's White Paper on Brain Death: Are Brain-Dead Patients Dead?" *Journal of Medicine and Philosophy*, forthcoming.

⁴⁷ Tonti-Filippini N. "Religious and Secular Death": 7-8; Nevertheless, the intellectual dichotomy between Thomas and Augustine can easily be overstated, obscuring the extent to which the later Augustine became critical of Platonism, see Jones DA. *Approaching the End: A theological exploration of death and dying* Oxford: OUP, 2007: 45-55

⁴⁸ John Paul II "Address to the Transplantation Society": paragraph 4

⁴⁹ The somatic integration account expressed by John Paul II has a number of supporters including Tonti-Filippini N. "Religious and Secular Death"; Austriaco NPG. "In Defense of the Loss of Bodily Integrity"; Seifert J. "Is 'brain death' actually death?"; Jones DA. 'Metaphysical Misgivings about Brain Death' in Potts M, Byrne P, Nilges RG. eds. *Beyond Brain Death: the Case Against Brain Based Criteria for Human Death* Dordrecht: Kluwer Academic Publishers, 2000

⁵⁰ Shewmon DA. "The metaphysics of brain death, persistent vegetative state and dementia" *The Thomist* 1985; 49 (1): 61

⁵¹ Shewmon DA. "The metaphysics of brain death": 61

⁵² An argument that is common to advocates of RCR and analogous views is the appeal to the example of decapitation. This example serves in an analogous way to the phenomenon of twinning within embryology. It raises questions of identity and undermines confidence in the continuity of a single bodily life. Nevertheless, Shewmon has questioned whether this model is a good clinical analogy for "brain dead" patients, Shewmon DA "Mental Disconnect: Physiological Decapitation as a Heuristic for Understanding 'Brain Death'" in Sanchez Sorondo M. ed. *The Signs of Death. The Proceedings of the Working Group 11–12 September 2006*. Vatican City: Pontificia Academia Scientiarum, Scripta Varia 110, 2007: 292–333

⁵³ Harris, J. "Euthanasia and the Value of Life" in Keown J. ed. *Euthanasia Examined* Cambridge: Cambridge University Press, 1995: 8-9

⁵⁴ Shewmon DA. "The metaphysics of brain death": 59, 73

⁵⁵ Spaemann R. "Is Brain Death the Death of a Human Person?" *Communio* 2011; 38 (2): 339

⁵⁶ Spaemann R. "Is Brain Death the Death of a Human Person?": 339

⁵⁷ Shewmon DA. "The metaphysics of brain death": 73

⁵⁸ Shewmon DA. "The metaphysics of brain death": 60

⁵⁹ John Paul II, 2004. Address to the Participants of The International Congress on "Life-Sustaining Treatments and Vegetative State: Scientific Advances And Ethical Dilemmas" (20 March 2004), section 3.

⁶⁰ Shewmon DA. "Recovery from 'brain death'"

⁶¹ May WE. *Catholic Bioethics and the Gift of Human Life*, 2d ed. Huntington, Ind.: Our Sunday Visitor Press, 2008; Lee P, Grisez G. "Total Brain Death"; For a slightly different but analogous argument see Furton EJ. "Brain Death, the Soul, and Organic Life." *National Catholic Bioethics Quarterly* 2002;2 (3): 455-70

⁶² Lee P, Grisez G. "Total Brain Death": 5;

⁶³ Lee and Grisez chose loss of radical capacity for sentience as the criterion for death because sentience was more readily observable than rationality and because they regarded loss of radical capacity for sentience as a sufficient criterion for loss of radical capacity for rationality: "if an organism entirely lacks capacities for sentient functioning and is not an animal, it cannot engage in conceptual thought, reasoning, or deliberate choices" (page 5). However, if rationality provides the ultimate basis of their definition of death then they cannot exclude absolutely the possibility of that a conscious living patient with dementia might in fact have died.

⁶⁴ Watt H. "Embryos and pseudoembryos: parthenotes, reprogrammed oocytes and headless clones" *J Med Ethics* 2007;33:554-556 doi:10.1136/jme.2006.017426

⁶⁵ Shewmon DA. "Constructing the death elephant": 276

⁶⁶ Shewmon DA, Shewmon E. "The Semiotics of Death": 112

⁶⁷ Jones DA. "Metaphysical Misgivings": 111

⁶⁸ Furthermore, even were this approach successful, Shewmon is clear that this approach would not justify current practice without modification: Shewmon DA. "Constructing the death elephant": 288

⁶⁹ John Paul II "Address to the Transplantation Society", paragraph 5

⁷⁰ John Paul II "Address to the Transplantation Society", paragraph 5

⁷¹ Seifert J. "On 'Brain Death' in Brief": 209

⁷² Shewmon DA. "The Brain and Somatic Integration": 471-472

⁷³ Tonti-Filippini N. "Religious and Secular Death": 6

⁷⁴ John Paul II. *Evangelium Vitae*. 1995: paragraph 15; Seifert J. "Brain death and Euthanasia" in Potts M, Byrne PA, Nilges RG. eds. *Beyond Brain Death*; Verheijde JL, Rady MY, McGregor JL. "Brain death, states of impaired consciousness, and physician-assisted death for end-of-life organ donation and transplantation". *Medicine, Health Care, and Philosophy* 2009; 12:409-421