



John Paul II Institute for Marriage and Family, Melbourne

**278 Victoria Parade, PO Box 146
East Melbourne Vic 3002 Australia
Ph 61 3 9412 3381 Fax 61 3 94172107
Email: ntonti-filippini@jp2institute.org**

Secularism and Loss of Consensus about the Diagnosis Death

Associate Professor Nicholas Tonti-Filippini PhD (Melb.)

Associate Dean and Head of Bioethics

John Paul II Institute for Marriage and Family, Melbourne

[Abstract: The purpose of this paper is to explore ethical advice that may be given to assist lay people, those who advise them, and health professionals, to make their own decisions with respect to death and organ and tissue donation, both in the context of donation after cardiac death (which is becoming more common) and in the context of death by the brain criteria. The need is apparent now that:

- There is significant rejection of loss of integration view which has informed the Church's (magisterial) acceptance death by the brain criterion;
- Authoritative medical sources have indicated that some brain functions are consistent with a diagnosis of death determined by the widely accepted clinical criteria for determining death by the brain criterion;
- The law in the United Kingdom has been changed so that death can be declared on the basis of death of the brain stem alone rather than the whole brain death definition that the UK law had previously adopted, and which is still the law in US, Australia, Canada, NZ and many other places;
- In many other countries (such as Spain, France, Italy, Singapore) stricter medical criteria including a test to establish that there is loss of all blood flow to the brain may be required;
- There are claims for potential harm being done by the apnoea test (which is standardly a part of a diagnosis of death by the brain criterion) and the fact that it is not of therapeutic benefit; and
- There are new "donation after cardiac death" issues including a required time lapse after loss of circulation, the movement away from the legal requirement of irreversibility when death results from withdrawal of treatment that could be restored, and the use of non therapeutic interventions before death to facilitate organ preservation after death (Australian Organ and Tissue

Donation and Transplantation Authority, 2009), and the absence of magisterial advice on the issue of donation after cardiac death.

The author argues that the adoption of a mode of being view rather than loss of integration is opportunistic in adopting the arguments by Alan Shewmon and others against the loss of integration view of death that the Catholic Church has adopted. The rejection of the integration view and the adoption of a reductionist *mode of being* view redefine diagnosis of death by loss of brain function so that loss of spontaneous breathing and loss of consciousness are sufficient for a diagnosis of death. In other words, some brain function may continue in a person who is diagnosed by the brain criterion: so-called “brain death” no longer means loss of all function of the brain...

The author defends the Church’s adoption of the loss of integration view against this secular attack and against the somatic integrationists, such as Shewmon. In relation to the latter, he argues that Shewmon fails to take into account the intercommunicative meaning of integration and the fact that the endocrine and neural systems, which essentially communicate between the parts of the body, are both dependant on brain functions. Loss of all brain function therefore means loss of integration in the intercommunicative sense that is relevant to the separation of the life principle or soul from the body that is death.

Secularism and Loss of Consensus about the Diagnosis Death

Many members of Christ's faithful face the issue of organ donation and transplantation, either as recipients or as donors or family members of donors.

Recently, there has been discussion about the diagnosis of death by the brain criterion and new developments involving organ donation after cardiac death (DCD). Secular discussions by official agencies and changes to medical standards indicate that, in many jurisdictions, the support that the Church has given to the accepted medical practices in relation to determining death and organ procurement for transplantation can no longer be given.

Consequently, gaps have emerged between the Church's understanding of death expressed in terms of the loss of integration of the body and the secular standards applied to defining what death is; and hence gaps have emerged at the level of medical practice between what is accepted by the secular standards for the medical diagnosis of death and what would be accepted by the Church.

That is certainly the case in the UK where the legal definition of death since 1995¹ has been brain stem death rather than the loss of all function of the brain which the Church has supported. In some jurisdictions that support donation after cardiac death, approval for a diagnosis of death has been given even when circulation could still be restored, and approval has also been given for non-therapeutic, ante mortem

¹ A Code of Practice for the diagnosis of brain stem death. UK Department of Health, March 1998
Accessed 3 February 2010 from
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4009696

procedures to facilitate donation after death². Recently in the US, the President's Commission³, and, in Australia and New Zealand, the Intensive Care Society (ANZICS) which sets the national standards, have moved away from death according to the loss of all brain function and have adopted a lesser standard. The Society states that some functions that are brain mediated, such as hypothalamic-pituitary axis control over the pituitary gland, may continue, preventing the development of diabetes insipidus in some patients who meet the Society's criteria for death by the brain criteria.⁴

That leaves people of good faith with some difficulties in participating in organ donation and transplantation programs (which are usually managed at a national or provincial level) according to agreed secular standards and it may create yet another point of difference between Catholic and pro-life health professionals and their secular colleagues.

Catholic codes of ethics, such as the US Bishops, *Ethical and Religious Directives for Catholic Health Care Services*⁵, *The Health Ethics Guide*, published by the Catholic Health Association of Canada in September 2000, which has the *nihil obstat* of the Permanent Council of the Canadian Conference of Catholic Bishops, and the Catholic

² See for instance: Australian Organ Donation and Transplant Authority *National Protocol for Donation After Cardiac Death* Accessed July 2009 from http://www.nhmrc.gov.au/guidelines/consult/consultations/draft_national_protocol_cardiac_arrest.htm; Also the British Transplant Society Guidelines relating to solid organ transplants from non-heart beating donors Accessed 3 February 2010 from <http://www.bts.org.uk/transplantation/standards-and-guidelines/>

³ President's Council on Bioethics *Controversies in the Determination of Death: A White Paper* January 2009 Accessed December 2009 from <http://bioethicsprint.bioethics.gov/reports/death/index.html>

⁴ Australian and New Zealand Intensive Care Society. *The ANZICS Statement on Death and Organ Donation* (3rd Edition). Melbourne: ANZICS, 2008 p.15

⁵ United States Conference of Catholic Bishops *Ethical and Religious Directives for Catholic Health Care Services, Fourth Edition*, Issued by NCCB/USCC, June 15, Copyright © 2001, Inc. Accessed 1/10/09 <http://www.usccb.org/bishops/directives.shtml>

Health Australia *Code of Ethical Conduct*, published with the approval of the Australian Catholic Bishops Conference in 2001, accepted organ procurement practices within a set of regulatory standards, but the latter have changed and may not now be acceptable. The regulatory environment and the medical practices are no longer necessarily those for which the Church expressed support for the established practices of diagnosing death and permitting organ procurement.

Of significance is the publication of *Controversies in the Determination of Death: A White Paper* by the President's Council on Bioethics in January 2009⁶. The latter is significant because the majority rejected the view of the earlier President's Commission report *Defining Death*, a view which the Church had previously adopted, that determining death by the brain criterion could be understood in terms of the essential role that the brain plays in integrating the body, and that death could be understood as the loss of integrative functioning of the whole organism when there was irreversible cessation of all function of the brain⁷. The new document is also significant in that the chairman, a leading Catholic medical bioethicist, Dr Edmund Pellegrino, published a dissenting report⁸ in which he claimed that there was a lack of a satisfactory philosophical definition of death, and further, that the reasons that favour the determination of death by the brain criterion are not compelling.

⁶ The President's Council on Bioethics *Controversies in the Determination of Death: A White Paper* by the President's Council on Bioethics, Washington, D.C., December 2008
<http://www.bioethics.gov/reports/death/index.html>

⁷ President's Commission for the Study of Bioethical Problems in Medicine and Biomedical and Behavioural Research *Defining Death* Washington DC July 1981 pp. 32-3

⁸ http://www.bioethics.gov/reports/death/pellegrino_statement.html

Also of significance is the new *Statement on Death and Organ Donation* by the Australia and New Zealand Intensive Care Society (ANZICS) in 2008⁹, which for the first time discusses organ donation after cardiac death, as well as revising its guidelines on determination of death by the brain criterion.

In Australia, the Australian Organ and Tissue Donation and Transplantation Authority has published a draft National Protocol for Donation after Cardiac Death, and the latter would permit procedures to be done to the patient ahead of death to facilitate transplantation after death, and equally controversially, it proposes that death can be diagnosed after circulation has ceased for two minutes, even though resuscitation might still be achievable.¹⁰ The legal standard has been that the cessation of circulation must be irreversible.

These events indicate that there are changes occurring in relation to standards and practices and that there is a greater need to provide an explanation of the philosophical and theological basis for the Catholic Church's acceptance of organ and tissue donation and of the concept of death determined by the brain criterion so that both professionals and the general community can apply the Church's teaching, and so that some guidance can be offered about the new developments in relation to donation after cardiac death.

There is a shortage of organs for transplantation and many people suffer either an earlier death or prolonged disease and disability because insufficient numbers of

⁹ Australian and New Zealand Intensive Care Society. *The ANZICS Statement on Death and Organ Donation* (3rd Edition). Melbourne: ANZICS, 2008

¹⁰ See for instance: Australian Organ Donation and Transplant Authority *National Protocol for Donation After Cardiac Death* Accessed July 2009 from http://www.nhmrc.gov.au/guidelines/consult/consultations/draft_national_protocol_cardiac_arrest.htm;

organs are available. Major organs such as hearts, lungs, kidneys and livers from dead donors have been considered to be available only after the donor has suffered loss of all brain function. Donation after death by the brain criterion is dependant on circumstances in which the patient dies in an intensive care unit which provides ventilation and support for heart function. Many people do not die in those circumstances and their organs are too damaged after death to be used for transplantation.

That has led to efforts to salvage organs very quickly after a person has died from loss of circulation (rather than loss of brain function). This is called “donation after cardiac death” (DCD). That creates the possibility of many more organs becoming available for transplantation. However the medical and ethical issues of determining death very early, and also making arrangements in anticipation of death to salvage the organs immediately after death, have given rise to new issues not previously addressed by the Church. Death in these circumstances is likely to be predictable because it results from the withdrawal of life support, especially inotropic agents used to sustain heart function and ventilator support to sustain breathing.

That raises a question of interpretation of what “irreversible cessation of circulation” means because in many cases in which circulation ceases because of withdrawal, the circulation might be restored if resuscitative measures were undertaken and the withdrawn treatment was reinstated. The “irreversibility” thus depends on whether one includes the possibility of resuscitation and restoration of treatment. One could imagine a circumstance in which after the diagnosis of death on these grounds, a

relative or staff member might demand resuscitation and restoration of life support.

In that case a person who had been declared dead might then be still alive.

The purpose of this paper is to explore ethical advice that may be given to assist lay people, and those who advise them, and health professionals, to make their own decisions with respect to death and organ and tissue donation, both in the context of donation after cardiac death (which is becoming more common) and in the context of death by the brain criteria.

2. No International Consensus

With some variation between States, in Australian law, death is defined as: a) irreversible cessation of all function of the brain of the person; or b) irreversible cessation of circulation of blood in the body of the person. The law does not specify the medical criteria that need to be met in order to verify that either of these conditions has been met. Worldwide there is no consensus on the medical criteria for determining brain death¹¹. There appear to have been no reported legal challenges to the diagnosis of death by the brain criterion other than some actions on behalf of Orthodox Jews to be permitted to continue to treat a person as alive by their understanding even though diagnosed as having died by the brain criterion. In 2008 there was a case in London which a Jewish family did not accept that death had occurred¹² and a similar case occurred in New York¹³. Those cases aside, it appears

¹¹ Wijdicks EFM, "Brain Death Worldwide: Accepted Fact But No Global Consensus in Diagnostic Criteria" (2002) 58 *Neurology* 20.

¹² David Inwald, Immanuel Jakobovits, and Andy Petros, *Consideration and compromise are possible* BMJ. 2000 May 6; 320(7244): 1266–1268.

¹³ Erin Maguire "Orthodox Jews Sue To Keep Brain Dead Son On Life Support-DC hospital suing to cease life support" *The Bulletin* 7 November 2008 <http://www.freerepublic.com/focus/news/2128098/posts>

that there has been no Court challenge to the medical criteria by which death is determined. Standards such as those of the ANZICS¹⁴ are thus important for their effect on medical practice.

The law in other countries is variable. In 1995, the United Kingdom uniquely defined brain death as brain-stem death, being irreversible loss of the capacity for consciousness together with the irreversible loss of the capacity to breathe¹⁵. This definition is used in some Commonwealth countries but not in Australia or New Zealand or the US.¹⁶

Similar to Australia, the US definition of death states:

An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards.¹⁷

In some European countries, such as France, Italy and Spain, and in Singapore the required standard is that there must be zero blood volume transfer to the brain using angiography to produce an image of blood flow after a contrast dye has been injected

¹⁴ Op Cit

¹⁵ A Code of Practice for the diagnosis of brain stem death. UK Department of Health, March 1998 Accessed 3 February 2010 from http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4009696

¹⁶ Australia and New Zealand Intensive Care Society (ANZICS) *Statement on Death and Organ Donation* 2008 p. 9

¹⁷ UNIFORM DETERMINATION OF DEATH ACT, Accessed 2/9/09 from <http://www.law.upenn.edu/bll/archives/ulc/fnact99/1980s/udda80.htm>

into the blood vessels supplying the brain.¹⁸ The gold standard is referred to as the “four vessel test”.¹⁹ There are also other forms of imaging such as Doppler Ultrasound which would demonstrate this. A major advantage to this standard is not only greater certainty but much easier explanation to the family. The medical team can use images from the tests to show that the brain is completely dead because it lacks a blood supply.

Being able to show the relatives an image indicating lack of blood supply to the brain is important because many people do not accept that brain death is really death. Many of those who consent to organ donation still hold that the person was only “really dead” when the heart finally stopped beating. In one study, of the relatives of 141 brain dead patients, 10% had doubts that their next-of-kin was really dead and two-thirds admitted that, although they accepted the death intellectually, they felt emotionally that the person was still alive.²⁰ It is worth noting that organ donation among Australian aboriginal people is almost non-existent and there is little indigenous support for the practice²¹.

¹⁸ One of My students, Dr Colin Ong , an emergency care physician from Singapore explained the situation in Singapore in relation to requiring blood flow testing. I visited intensive care units in France myself and observed the required practice of blood flow testing, and reference has been made to similar requirements in several counties in Halevy A and Brody B, “Brain Death: Reconciling Definitions, Criteria, and Tests” (1993) 119 *Annals of Internal Medicine* 519; and in James Tibbals “Non-Compliance of clinical guidelines for organ donation with Australian statute law” *Journal of Law and Medicine*, 2008, Vol.16, pp. 335-355

¹⁸ Saposnik G, Rizzo G, Vega A, Sabbatiello R and Deluca JL, “Problems Associated with the Apnea Test in the Diagnosis of Brain Death” (2004) 52 *Neurology India* 342; Raper RF and Fisher MM, “Brain Death and Organ Donation – A Point of View” (1995) 23 *Anaesthesia and Intensive Care* 16; James Tibbals “Non-Compliance of clinical guidelines for organ donation with Australian statute law” *Journal of Law and Medicine*, 2008, Vol.16, pp. 335-355

¹⁹ Michael Sharpe, Donald Lee, Donatella Tampieri, Sam D. Shemie, Bryan Young “Brain Blood Flow in the Neurological Determination of Death: Canadian Expert Report” *Canadian Journal of Neurological Sciences*, May 2008

²⁰ Pearson IY, Bazeley P, Spencer-Plane T, Chapman JR and Robertson P, “A Survey of Families of Brain Dead Patients: The Experiences, Attitudes to Organ Donation and Transplantation” (1995) 23 *Anaesthesia and Intensive Care* 88.

²¹ Dianne Stephens “Indigenous Donation: One Intensivist’s Perspective” from [NThttp://www.iih.org/shadomx/apps/fms/fmsdownload.cfm?file_uuid=6F1B25F3-D380-7A94-05F8-302CCC0C3206&siteName=iih](http://www.iih.org/shadomx/apps/fms/fmsdownload.cfm?file_uuid=6F1B25F3-D380-7A94-05F8-302CCC0C3206&siteName=iih)

In Japan, the clinical tests must be supplemented by an electroencephalogram indicating an absence of neurological activity in the brain, the so-called “flat EEG”²².

3. The Standard Criteria Allow for Some Continuing Function of the Brain

Applying the Australian definition, ANZICS states:

Determination of brain death requires that there is unresponsive coma, the absence of brain-stem reflexes and the absence of respiratory centre function, in the clinical setting in which these findings are irreversible. In particular, there must be definite clinical or neuro-imaging evidence of acute brain pathology (e.g. traumatic brain injury, intracranial haemorrhage, hypoxic encephalopathy) consistent with the irreversible loss of neurological function.²³

The Australian standard does not require a test to show that there is an absence of blood supply to the brain. The standard criteria in relying on testing of some brain stem functions leave open the possibility that other parts of the brain may still function.

ANZICS states that the following activities, which are known to be mediated by the brain, are consistent with a diagnosis of death by the above criteria:

- sweating, blushing, tachycardia;

²² Morioka Mashiro “Reconsidering Brain Death: A Lesson from Japan's Fifteen Years of Experience” *The Hastings Center Report* July 1, 2001

²³ ANZICS Op Cit p. 11

- normal blood pressure without the need for pharmacological support; and
- absence of diabetes insipidus (DI) (preserved osmolar control mechanism).

The osmolar control mechanism is located in the mid-brain and operates through the hypothalamic-pituitary axis. The medical criteria applied here may be consistent with the UK definition of death, death of the brain stem only, but not the Australian, US or Canadian legal definition, which requires irreversible loss of all brain function.

There are numerous articles in the literature indicating lists of continued functions of the brain in persons who are diagnosed as dead by the clinical criteria.²⁴

4. The Apnoea Test May Cause Damage to the Brain

Concern has been raised by some intensivists that the apnoea test, in which ventilation is reduced to cause carbon dioxide levels to rise, in fact causes damage to the brain²⁵.

The problem is that the rising level of carbon dioxide in blood during the test also causes dilatation of brain blood vessels, if the brain is still alive. The increase in blood flow increases pressure inside the skull (intracranial hypertension) which

²⁴ Grenvik A, Powner DJ, Snyder JV, Jastremski S, Babcock RA and Loughhead MG, "Cessation of Therapy in Terminal Illness and Brain Death" (1978) 6 *Critical Care Medicine* 284; Fiser DH, Jimenez JF, Wrape V and Woody R, "Diabetes Insipidus in Children With Brain Death" (1987) 15 *Critical Care Medicine* 551; Grigg MM, Kelly MA, Celesia GG, Ghobrial MW and Ross ER, "Electroencephalographic Activity After Brain Death" (1987) 44 *Archives of Neurology* 948; Barelli A, Corte FD, Calimici R, Sandroni C, Proietti R and Magalini SI, "Do Brainstem Auditory Evoked Potentials Detect the Actual Cessation of Cerebral Functions in Brain Dead Patients?" (1990) 18 *Critical Care Medicine* 322; Truog RD and Fackler JC, "Rethinking Brain Death" (1992) 20 *Critical Care Medicine* 1705; Halevy A and Brody B, "Brain Death: Reconciling Definitions, Criteria, and Tests" (1993) 119 *Annals of Internal Medicine* 519; Truog RD, "Is It Time to Abandon Brain Death?" (1997) 27 *Hastings Center Report* 29; Shewmon DA, "Recovery from 'Brain Death': A Neurologist's Apologia" (1997) 64 *Linacre Quarterly* 30.

²⁵ Saposnik G, Rizzo G, Vega A, Sabbatiello R and Deluca JL, "Problems Associated with the Apnea Test in the Diagnosis of Brain Death" (2004) 52 *Neurology India* 342; Raper RF and Fisher MM, "Brain Death and Organ Donation – A Point of View" (1995) 23 *Anaesthesia and Intensive Care* 16; James Tibbals "Non-Compliance of clinical guidelines for organ donation with Australian statute law" *Journal of Law and Medicine*, 2008, Vol.16, pp. 335-355

opposes further blood flow and results in brain death. The skull is a rigid container (box) and 90% of the contents are three incompressible tissues: brain tissue (80% of volume), blood (5% of volume) and cerebrospinal fluid (5% of volume). Hence, if one component increases in volume another or others must decrease, or exit the skull (“Monroe-Kelly doctrine”).²⁶

The test therefore should not be performed if there are other tests available. Arguably the test should never be done because it is not therapeutic and risks harm. There are other tests available, including

- Demonstration of absence of intracranial blood flow (required in 40% of the guidelines in 70 countries), for example with Radionuclide perfusion scanning (scintigraphy); and
- Tc-99m HMPAO - Four vessel angiography (both carotids and vertebrals).²⁷

Professor James Tibbals suggests that instead of proceeding immediately to the apnoea test, it would be better to mandate a test for brain perfusion to diagnose “whole brain death” before performance of the apnoeic-oxygenation test. The perfusion test would:

- Avoid causing harm to the patient and even death of the brain, the condition it aims to diagnose
- Eliminate confounding factors
- Strengthen the diagnosis of “whole brain death”

²⁶ James Tibbals “Non-Compliance of clinical guidelines for organ donation with Australian statute law” *Journal of Law and Medicine*, 2008, Vol.16, pp. 335-355

²⁷ Ibid

- Produce an image to help convince lay-persons, and healthcare personnel, that doctors are not taking organs from donors not truly dead²⁸

Professor Geoffrey Dobb, the chairman of ANZICS, in an address to the 2009 Colloquium of the Australian Catholic Association of Catholic Bioethicists, argued that the apnoea test would never be done on someone who was not thought to already have sustained death of the brain. But that would seem to challenge the use of the test to diagnose death of the brain and indicate that other tests should be used to diagnose loss of all brain function prior to use of the apnoea test. It suggests that the apnoea test is somewhat akin to the symbolic tap on the skull of a dead pope with a silver hammer, reportedly used to declare that death has occurred, after the diagnosis has been made. Either the test has no use because death has already been determined, or the test is done when the patient may still be alive and in that case the test may cause brain damage.

5. Problems with the Standard Criteria

The problems, then, for providing advice to people about diagnosis of death by the brain criterion, and a satisfactory explanation on the basis of our traditional Catholic understanding of the human person, are first that there are differences between different jurisdictions about how death is defined and about what are the accepted medical criteria for diagnosing the condition according to the definitions of that jurisdiction.

²⁸ The 2009 colloquium received a presentation from Professor James Tibballs on this issue.

Second, the standard medical criteria permit diagnosis of death by the brain criterion even though functions of the brain may continue, and the blood flow tests which would give much greater certainty are not routinely used, except in those countries that require a negative blood flow test for a diagnosis of death by the brain criterion.

Third, in a person who satisfies the criteria for death by the brain criterion, the tests currently used do not provide a way to assist doctors to explain that someone who looks alive and still has a functioning heart, still has spinal reflexes, and still breathes (with assistance), is dead.

Fourth, one of the tests routinely used to diagnose death by the brain criterion, the apnoea test, may cause damage to the brain of a person whose brain was not already dead.

6. Abandoning Integration in Favour of the “Mode of Being” Concept

The above are issues to do with the medical determination of death by the brain criterion. There are also problems with the definition that a person is dead when all function of the brain has permanently ceased. The arguments by Alan Shewmon²⁹ and others, that the body remains integrated even if the medical diagnosis of death by the brain criterion has been made, influenced the US President’s Commission to abandon the notion of integration as the philosophical explanation of death by the brain criterion. The Commission abandoned the widely accepted explanation that

²⁹ 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, pp. 292-333.); and 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, pp. 211-250; Shewmon, D A, “The dead donor rule: lessons from linguistics *Kennedy Institute of Ethics, J* , 2004, Vol 14, pp 277-300

death of the brain is associated with loss of the integrated functioning of the body. The latter explanation was accepted by the 1981 Presidential Commission³⁰, and has been readily accepted by the Catholic Church, and is the basis for its acceptance of the diagnosis of death by the brain criterion.

The Australian National Health and Medical Research Council has also restated its support for the integration view. It explains death by the brain criterion in *Organ and Tissue Donation after Death, for Transplantation (2007)*:

“...the death of a person is understood to consist of the irreversible loss of the integrated and coordinated life of the person as a single living organism. When this functional unity is lost irreversibly, the person has died, even if ‘life’ continues at the sub-personal level of cells, individual organs or isolated physiological systems. A body that lacks all function of the brain lacks this intrinsic unified organisation, even though it may retain some degree of organisation due to the maintenance of some functions by technological means.”³¹

The NHMRC Guidelines do not require ancillary tests to establish loss of blood flow, but:

- Place emphasis on neuro-imaging to determine extent of brain injury
- Recognise that clinical brain stem tests have a place only to show that the known destruction of the cerebrum and cerebellum extends to include the brain stem.

³⁰ Op Cit

³¹ National Health and Medical Research Council *Organ and Tissue Donation after Death, for Transplantation* Australian Government 2007

- Recognise that brain stem tests are only confirmatory for known pathway of damage in which loss of blood flow results in total destruction.³²

The NHMRC thus supports the view that the Church has taken. There is thus something of a difference of emphasis between the NHMRC and ANZICS in relation to the latter depending more on the clinical tests than on the neuro-imaging. There is also a difference between the NHMRC and the President's Commission in relation to loss of integration of the body as a result of loss of all brain function.

Pope John Paul II wrote in 2000,

“ It is a well-known fact that for some time certain scientific approaches to ascertaining death have shifted the emphasis from the traditional cardio-respiratory signs to the so-called "*neurological*" criterion. Specifically, this consists in establishing, according to clearly determined parameters commonly held by the international scientific community, the complete and irreversible cessation of all brain activity (in the cerebrum, cerebellum and brain stem). This is then considered the sign that the individual organism has lost its integrative capacity.

“With regard to the parameters used today for ascertaining death - whether the "encephalic" signs or the more traditional cardio-respiratory signs - the Church does not make technical decisions. She limits herself to the Gospel duty of comparing the data offered by medical science with the Christian understanding of the unity of the person, bringing out the similarities and the possible conflicts capable of endangering respect for human dignity.”³³

The Pontifical Academy for Science addressed the issue of doubts about death by the brain criterion in 2006. They argued for the following conclusion:

- There is not more than one form of death.

³² Ibid.

³³ ADDRESS OF JOHN PAUL II TO THE 18th INTERNATIONAL CONGRESS OF THE TRANSPLANTATION SOCIETY Tuesday 29 August 2000, n.5
www.vatican.va/holy_father/john_paul_ii/speeches/2000/jul-sep/documents/hf_jp-ii_spe_20000829_transplants_en.html

- So-called “brain death” means the irreversible cessation of all the vital activity of the brain (the cerebral hemispheres and the brain stem). This involves an irreversible loss of function of the brain cells and their total, or near total, destruction. The brain is dead and the functioning of the other organs is maintained directly and indirectly by artificial means.
- Loss of all brain function is death because it is associated with loss of integration of the body as a single whole.
- Death by the brain criterion can only be diagnosed with certainty if there is evidence that there is no blood supply to the brain, and that the “established clinical criteria” was in most circumstances a reliable indicator for the loss of all brain function.³⁴

The President’s Council on Bioethics report in 2009 was therefore a significant development that breaks the existing consensus between the secular world and the Church in relation to the Council rejecting the integration view. The Council wrote:

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,

³⁴ Pontifical Academy of Sciences *Why the Concept of Brain Death is Valid as a Definition of Death: Statement by Neurologists and Others* Vatican 2006
http://www.vatican.va/roman_curia/pontifical_academies/acdscien/2008/excerpt_signs_of_death.pdf

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.³⁵

The majority position within the Council then went on to abandon the loss of integration view on which Church teaching is based. They rejected it on biological grounds largely on the basis of the evidence of Alan Shewmon and his collaborators.

In place of the integration view they substitute the view that it is what an organism “does” that distinguishes every organism from non-living things, and what it does distinguishes a *living* organism from the dead body that it becomes when it dies.

They then claim that the work of the organism, expressed in its commerce with the surrounding world, depends on three fundamental capacities:

1. Openness to the world, that is, receptivity to stimuli and signals from the surrounding environment.
2. The ability to act upon the world to obtain selectively what it needs.
3. The basic felt need that drives the organism to act as it must, to obtain what it needs and what its openness reveals to be available.³⁶

³⁵ President’s Council Op Cit p. 6

³⁶ Ibid. p. 61

The majority concludes that appreciating these capacities as mutually supporting aspects of the organism's vital work will help us understand why an individual with total brain failure should be declared dead, even when ventilator-supported "breathing" masks the presence of death. Thus they have abandoned the integration view and in its place adopted what they have called a *mode of being* view, which requires the living being to be receptive to stimuli, act upon the world to obtain what it needs, and be driven by basic felt needs.³⁷

There may be a degree of opportunism in the majority view relying on the Shewmon view in this way. Shewmon does not support the *mode of being* view put forward by the Council; rather, he argues for a more restrictive view that would exclude diagnosing death on the grounds that the brain is dead. Tragically, his arguments have been used to argue for an even more liberal view than the determination of death by the brain criterion.

Shewmon's empirical argument against the view that brain death results in total loss of integration is summarised in the following passage:

It takes only a single property at the level of the 'organism as a whole' to prove that there is a 'whole'. But the bodies of TK [a patient] and other long-term survivors in brain death demonstrate many holistic properties, such as, for example: complex homeostasis of hundreds if not thousands of interacting chemicals and enzymes, assimilation of nutrients and elimination of wastes, proportional growth, maintenance of body temperature (albeit subnormal and

³⁷ Ibid.

with the help of blankets), wound healing, overcoming of infections, ability to recover from illnesses serious enough to require hospitalization and be discharged home again, systemic stress responses to noxious stimuli, feedback balance of various endocrine functions, etc.³⁸

Some of these functions, such as maintenance of the endocrine system may indeed occur in patients diagnosed by the clinical criteria alone, but that is an argument against relying on the clinical criteria by which death of the brain may be diagnosed even though some brain function continues.

As I have argued earlier the clinical criteria are not sufficient. For instance, the clinical criteria would permit diagnosis of death in those patients who do not develop diabetes insipidus. In such patients the endocrine functions continue to be moderated by the hypothalamic pituitary axis within the brain and they should not be considered to be dead according to the legal and ethical definition that there is irreversible loss of all function of the brain.

I am therefore puzzled as to whether Professor Shewmon's empirical observations of integrative functions in those diagnosed as dead according to the brain criterion are due to the widespread but nevertheless (in my view) improper diagnosis of death by the brain criterion by the clinical criteria alone, which permits the diagnosis even though some functions of the brain continue. If that were so then Professor Shewmon's argument is not sufficient to reject the loss of integration thesis supported

³⁸ Shewmon, D.A. "The brain and somatic integration: insights into the standard rationale for equating brain death with death" *J. Med. Philos.* 2001, Vol 26, pp.457-478

by the Church. Rather, it is an argument for stricter medical criteria for the determination that there is irreversible loss of all function of the brain.

A second puzzle I have is over Professor Shewmon's inclusion, in his list of integrative functions in those who are dead according to the brain criterion, of functions such as wound healing, homeostasis, assimilation of nutrition, waste elimination, overcoming illness and infection. Are these really activities of the organism as a whole in the sense that Pope John Paul II meant when he referred to the integrative capacity of the individual organism? Are such functions sufficient for us to say that "the unitary and integrated whole that is the personal self" is continuing to exist?

Our problem is, as Pope John Paul asserted, that no scientific technique or empirical method can identify directly the separation of the life principle or soul from the body that is death. At best we are relying on evidence that the body is no longer integrated, and empirically that that is a permanent state. The assumption is that, were the body to continue to be informed by a human soul, that connectedness would be evident in the integrated functioning of the body. Professor Shewmon's observation raises the question as to what counts as integrated functioning of the body. We can refer to the functions of clusters of cells in the body, of complex organs and even the interrelated functions of organs, but do such functions indicate the unitary and interrelated whole that is the personal self?

I chaired an Australian Government committee that developed national ethical guidelines for the care of people who are in an unresponsive or minimally responsive

state. It was my conviction that when there was some brain function, in the circumstances of unresponsiveness, we still needed to give them the benefit of the doubt and continue to treat them with the full respect due to a human being. In part that view was based on the fact that some people had recovered responsiveness, and even meaningful communication, after prolonged periods of unresponsiveness. However I asked myself this question: suppose the technology developed to the point that we could identify a condition from which no one had ever recovered responsiveness and suppose we knew with certainty that there were no thought processes occurring within the body and none possible in the future. Suppose further that some brain functions continued; would it be reductionist to consider that such a person was dead?

The teaching of the Church is clearly that such a person is an integrated whole and must be considered a living human being. However I suspect that such a circumstance would have produced a different outcome from the unanimous decision that my committee made to favour a presumption in favour of continued nutrition and dehydration for those in an unresponsive state unless the method of delivery became overly burdensome³⁹.

As a Catholic I am opposed to such reductionism. However, I am not convinced that we are guilty of reductionism if we claim that wound healing, homeostasis, assimilation of nutrition, waste elimination, and overcoming illness and infection are not sufficient evidence of the unitary and interrelated whole that is the personal self. The notion of the unitary and interrelated whole that is the personal self does require

³⁹ National Health and Medical Research Council *Ethical Guidelines for the Care of People in Unresponsiveness (Vegetative State) or a Minimally Responsive State* Australian Government 2008

something more. On the other hand, I am inclined to hold that I must give the benefit of the doubt to a patient who retains some brain functions because we do recognise empirically that brain functions are associated with the integration of the entire organism. That is not to say that the person is reducible to his or her brain function, but that empirically some brain function is essential to integration of the entire human body because the two systems of the body that communicate between the parts of the body, the neural and endocrine systems, both rely on the brain to mediate them. Without at least some brain function, all the parts of the body are no longer in communication with each other, and their functions cease to interrelate. Functionally, a body without brain function has lost integration in the sense of the parts communicating with each other as a unified whole.

In that respect the Shewmon arguments against adopting the brain criterion for death have not served us well because the notion of integration is not a communicative notion but a lesser notion that would seem to have little to do with the notion of the separation of the life principle or soul from the body. It does seem important that “integration” at least means “intercommunicative”.

6. Donation after Cardiac Death

A further development in relation to the determination of death is a return to using death defined by the irreversible loss of circulation or “donation after cardiac death” (DCD). In many ways this may be a helpful development, because it creates the possibility of more organs being available. Only a small proportion of people die in the circumstances of catastrophic brain injury and supported by a ventilator – the two essential circumstances for organs being available after death by the brain criterion.

Many more people die through failure of the circulatory system. It is also helpful if the circulatory criterion is used because it avoids some of the conceptual difficulties of death by the brain criterion. People more readily accept that death has occurred when the heart has stopped beating permanently.

However, the recent development of diagnosing death by the circulatory criterion also has some problems. The first is the practice of undertaking interventions before death in order to make organs more available after death. The proposals include administering drugs to stop blood clotting when it ceases to flow and to surgically create access to the femoral arteries in the groin. The placement of large tubing to make it easy to flush the major organs with a cool preserving solution as soon as death is diagnosed overcomes the difficulty of accessing the arteries when blood flow stops and there is no blood pressure.

A second problem is that there is no agreement over how long circulation must cease before death can be diagnosed. The time involved varies depending on the cause of death and on the age of the patient. Children can recover after a much longer time than adults. The circumstances are likely to be when death by irreversible loss of circulation happens after life support has been withdrawn. Such withdrawal may include drugs called inotropics that sustain heart function or it may involve withdrawal of a ventilator. If the loss of circulation is a result of withdrawal of a treatment it raises a question about irreversibility. Could not the patient be resuscitated and the treatment be re-applied to re-establish circulation? The loss of circulation would therefore not be irreversible. The law requires that, for a diagnosis of death, the loss of circulation must be irreversible.

Finally, it is important that those involved in transplantation are quite separate from the decision to withdraw life support and to diagnose death. However the urgency of the timing means that the transplant team will have to be notified and involved prior to death in order to make obtaining major organs possible before they are too badly damaged by being left warm and without blood flow.

7. A Catholic Response to Determining Death

The American Bishops accept that the determination of death should be made by the physician or competent medical authority in accordance with responsible and commonly accepted scientific criteria⁴⁰. The “Ethical and Religious Directive for Health Care Services” make no more demand than that.

The Catholic Health Australia (CHA) *Code of Ethics Standards*, following Pope John Paul II, explains death by the brain criterion in these terms:

The death of a human being consists in the total disintegration of the unitary and integrated whole that is the personal self. Although death is an event which cannot be directly identified, biological signs or ‘clinical marker’ that inevitably follow can be recognised with increasing precision. These clinical markers indicate the irreversible loss of the integrated and coordinated life of the person as a single living organism.⁴¹

⁴⁰ United States Conference of Catholic Bishops *Ethical and Religious Directives for Catholic Health Care Services, Fourth Edition*, Issued by NCCB/USCC, June 15, Copyright © 2001, Inc. Accessed 1/10/09 <http://www.usccb.org/bishops/directives.shtml>

⁴¹ Catholic Health Australia *Code of Ethics Standards* Approved for publication by the Australian Catholic Bishops Conference 2001, p.46

The CHA document then goes on to warn about pressures to change the way that death is determined from the loss of all brain function to the loss of some brain function and the need to resist such a change and to try to perfect the diagnostic criteria for death.

The question for us today is whether the accepted standard for determining death by the brain criterion, as it is explained by the President's Commission (and by ANZICS which sets the Australian medical standard) is acceptable or whether it has developed along the lines that are warned against by the CHA. It is certainly the case that the President's Commission rejected the philosophical explanation on which the Church has relied in its acceptance of death by the brain criterion. Instead the Commission has proposed an entirely reductionist view as more consistent with the current practice of diagnosing death by the clinical criteria, and the latter allow that some brain functions may continue in a person who has been diagnosed as dead in this way.

The literature identifies several different views of death:^{42,43:}

- Disaggregators
 - Death is a process, not a single event, and the key question is when removal of organs may begin. Thus Peter Singer⁴⁴ holds that the definition of death is not the issue. We can treat someone as dead and take their organs if they are no longer able to experience harm. We do

⁴² I owe much of this analysis to Robert M. Veatch "The Death of Whole-Brain Death: The Plague of the Disaggregators, Somaticists, and Mentalists" *Journal of Medicine and Philosophy* 2005 30(4):353-378

⁴³ This analysis was previously published in Nicholas Tonti-Filippini "New Issues in Organ Donation" *Linacre Quarterly*, Vol 7 Number 4 November 2006

⁴⁴ Peter Singer *Rethinking Life and Death: The Collapse of Our Traditional Values* St. Martin's Griffin: New York 1994

not have to declare that they actually are dead. Some, like Singer, thus reject what is called the dead donor view.⁴⁵

- Integrationists
 - Loss of *all* brain function
- Somaticists
 - no integration at organ level (Alan Shewmon)
- Mentalists
 - Permanent lost consciousness or irreversible coma (Veatch)
- Mode of Being
 - No spontaneous respiration and no other signs of interaction with environment (President's Commission, 2008)⁴⁶

The Christian tendency to accept that the integrationist view is based on the notion that the human being is an embodied spirit and the soul is the form of the body – it forms matter into life. Irreversible loss of the integration of the body indicates that the matter is no longer formed or informed by a soul. We can then link a traditional understanding that death is the separation of the soul from the body with an integrationist view and in that respect hold that, given that the soul is the substantial form of the body, and the life and the type of life imply the presence of a soul and, in our case, an intellectual soul. Christians cannot say confidently that the soul has separated from the body if the body remains actively integrated in the sense that the organs are in communication with each other and functionally related as a single unity.

⁴⁵ Peter Singer “Is Our Changing Definition of Death for the Better?” *USA Today*, May 18, 1995

⁴⁶ Presidential Commission, *Ibid.*

The point I wish to add to this conclusion is that the notion of integration implies that the parts of the whole are intercommunicative with each other. Empirically the brain is necessary for that intercommunication, because it mediates the two systems that are essentially responsible for that intercommunication, the neural and endocrine systems.

The debate over this position among Christians in some way mirrors an age-old debate:

- St. Augustine (influenced by Plato) thought that there were many souls for different functions of the body and that there were two deaths - of body and of person.
- St Thomas Aquinas (influenced by Aristotle) though that the human being had only one soul and therefore only one death.

St Augustine taught that when ‘the brain by which the body is governed fails’, the soul separates from the body: Thus, when the functions of the brain which are, so to speak, at the service of the soul, cease completely because of some defect or perturbation – since the messengers of the sensations and the agents of movement no longer act –, it is as if the soul was no longer present and was not [in the body], and it has gone away’.⁴⁷

What Augustine seems to have meant is that the person as we know him has died when the functions of the brain *that are at the service of the soul* cease completely. That is to say, he thought that bodily life may continue even though the soul has departed. The departure of the immortal soul is what the Church then and now

⁴⁷ St Augustine (*De Gen. ad lit.*, L. VII, chap. 19; PL 34, 365).

understands to be the death of the person even though he or she will be resurrected. Death of the person, of course, does not mean death of the immortal soul, but its separation from the body.

The significance of Augustine's position is that while the Church now believes that death is a single event that happens when the soul leaves the body and that this is characterized by the complete loss of integration of the body, Augustine adopted a view that when the parts of the body that maintain thought and memory no longer function, the soul has departed and therefore death of the person may in effect precede death of the body. This is what is referred to in modern terms as the "two deaths view".

Augustine's two deaths view is different from St Thomas's which has been Church teaching since the Council of Vienne, namely, that it is the soul that forms or informs the body. On this view, Pope John Paul II asserted that death is a singular event, not two events, and occurs when there is complete loss of integration. This happens when when all parts of the brain have died. The contemporary view of the Church is that the departure of the soul is the death of the body and that what remains possesses only the non-integrated life of the individual organs, rather than the life of the body as an integrated whole. On the other hand, Augustine acknowledged that departure of the soul could happen even though the body continued to function and to live, the loss of soul being reflected in the loss of capacity for thought and memory, not the loss of life of the body.

It is entirely consistent with the way in which the Church describes death to consider death to refer to the end of earthly life but not the end of the immortal soul. Thus at 1016 the Catechism states:

By death the soul is separated from the body, but in the resurrection God will give incorruptible life to our body, transformed by the reunion with our soul. Just as Christ is risen and lives forever, so all of us will rise at the last day.

It is a mystery to us what happens between death and resurrection. It is not at all clear that human beings experience life for a time as a soul only. There is no contradiction in referring to the death of the person and believing in resurrection of the body as the reuniting of an immortal soul with the body.

However, by contrast, the *Two Deaths* or *Mentalist* view (irreversible loss of consciousness) requires some significant conceptual leaps. First, it would seem to involve an acceptance of either materialism or dualism, and second, a rejection of the Council of Vienne that adopted the Boethius/Aquinas notion of the unity of the human person with the soul as the substantial form of the body.

It also involves a medical leap in relation to consciousness and the observability of unconsciousness. In reality consciousness is an inference we draw from a person's behaviour. Loss of consciousness is not an observable or measurable phenomenon. That prompts the question whether irreversible coma is diagnosable while some brain functions continue. The evidence would suggest that it is not.

The significance of integration for the Church has been that while it exists we are unable to hold that the soul has left the body because integration provides evidence of the soul forming or informing the body as a united whole. The words "forming" and "informing" were used in the decree that proclaimed the doctrine at the Council of Vienne:

".....the only begotten Son of God, subsisting eternally together with the Father in everything in which God the Father exists, assumed in time in the womb of a virgin the parts of our nature united together, from which he himself true God became true man: namely the human, passible body and the intellectual or rational soul truly of itself and essentially informing the body.

".....We, therefore, directing our apostolic attention, to which alone it belongs to define these things, to such splendid testimony and to the common opinion of the holy fathers and doctors, declare with the approval of the sacred council that the said apostle and evangelist, John, observed the right order of events in saying that when Christ was already dead one of the soldiers opened his side with a spear. Moreover, with the approval of the said council, we reject as erroneous and contrary to the truth of the catholic faith every doctrine or proposition rashly asserting that the substance of the rational or intellectual soul is not of itself and essentially the form of the human body, or casting doubt on this matter. In order that all may know the truth of the faith in its purity and all error may be excluded, 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 of itself and essentially, is to be considered a heretic."

We can take from this doctrine that the ongoing causative effect of the soul is its informing the body. Therefore the type of integration which is relevant is a communication of information to all parts of the body. Because integration implies unity, the type of integration that is relevant is the transfer of information that keeps the body united and hence a single whole. On those grounds the transfer of information merely between one part of the body and another may be insufficient to establish that the soul had not separated from the body. Further, circulation in itself is not a transfer of information that integrates the body. Rather it is a means by which information might be transferred such as happens through the endocrine system. Similarly in a person lacking both a unified neural system and a unified endocrine system, healing of one part of the body involving activities of other parts of the body would seem to involve only parts rather than the whole and hence is not integrative in the sense of preserving the unity of the whole.

Most of the examples that Shewmon has given of integration in someone who lacks all brain functions do not involve integration in the sense of a communication that unites the parts of the whole. They do not provide evidence that indicates that the soul has not separated from the body. However his claim, that a body that has suffered complete loss of all brain function can maintain homeostasis, does challenge the integration explanation. Homeostasis is the maintenance of equilibrium in the body with respect to various functions, such as blood pressure and the chemical

compositions of the fluids and tissues.⁴⁸ Homeostasis would seem to involve the transfer of information in a way that keeps what is left of the body functioning as a single dynamic unit thus one might conclude that it is evidence that the body is being maintained as a single functioning being with the parts in a functioning relationship to one another. I am troubled by this though in general I do not think that Shewmon has been rigorous enough in what he considers to be integration. The evidence of integration is employed as evidence that the soul may remain and therefore the concept needs to be integration in the relevant sense of preserving functional unity of the body which is the effect of the soul continuing to “form the body”. I am inclined to conclude that it is difficult to hold that that functional unity of the body can exist when a major part, the brain, is no longer functioning. The remaining integration can only be partial.

Shewmon’s claims about homeostasis in people who have suffered loss of all brain function have been regarded as controversial and were not accepted by the Pontifical Academy for Life⁴⁹. To support his claim Shewmon has made available the medical reports of a man known in the literature as “TK”. His evidence has been accepted by the President’s Council on Bioethics⁵⁰ and given as the reason for rejecting the notion of loss of integration as an explanation for death by the brain criterion. It is deeply troubling that the President’s Commission accepted that evidence as a reason for abandoning the integration explanation for death by the brain criterion. My view is

⁴⁸ Stedman’s Medical Dictionary, 27th Edition 2005

⁴⁹ Pontifical Academy of Sciences *Why the Concept of Brain Death is Valid as a Definition of Death: Statement by Neurologists and Others* Vatican 2006

http://www.vatican.va/roman_curia/pontifical_academies/acdscien/2008/excerpt_signs_of_death.pdf

⁵⁰ President’s Council on Bioethics *Controversies in the Determination of Death: A White Paper*

January 2009, Chapter 4, Accessed December 2009 from

<http://bioethicsprint.bioethics.gov/reports/death/index.html>

that they did not give adequate consideration to what integration was meant to be in relation to its being evidence that the soul had not separated from the body.

Somaticists, such as Alan Shewmon, maintain that the body has no primary integrative organ and that if brainstem mediated somatic integration 'counts' for life-death status, so should spinal cord mediated somatic integration. They argue that the body without brain function remains an integrated whole, and therefore, loss of all brain function does not result in loss of an integrated whole. But Shewmon does overlook the intercommunicative meaning of integration. What he considers to be "integrative" is something less than would seem to be meaningful in the context of considering that death is the separation of the life principle or soul from the body. The latter would require that the parts are intercommunicative and the body remains a functional whole.

The President's Council on Bioethics wished to reaffirm the ethical propriety of the "dead donor rule" (DDR) and the ethical acceptability of the neurological standard (total brain failure, including the brain stem) as well as the cardiopulmonary standard (irreversible cessation of both cardiac and respiratory functions). The Council rejected the use of patients in permanent vegetative states (post coma unresponsive state) as organ donors. In relation to death they recognised two important positions on death: the *Integrationist* (like JP II and Pontifical Academy), and the *Mode of Being* (both described earlier). The Council rejected the two deaths approach (loss of consciousness and loss of bodily life).

In relation to the Integrationist and Mode of Being views, the majority rejected the *Integrationist* view by accepting the *Somaticist* view of integration. But instead of adopting the latter conception of death they instead proposed a new view, the *Mode of Being* view. The Council majority then placed emphasis on spontaneous breathing as evidence that the human mode of being continues as an interaction with the environment, and that loss of spontaneous breathing is significant though not sufficient to diagnose death if there is evidence of other aspects of the human mode of being such as consciousness. Therefore the medical determination of death by the *Mode of Being View* could be diagnosed without requiring loss of all brain function.

All that is required is:

- Evidence of loss of spontaneous breathing
- No other evidence of interaction with environment

Loss of clinical brain stem responses is taken to supply that evidence, provided that masking circumstances are excluded.

The *Mode of Being* view rather than the *Integrationist* view allows some brain functions (such as hypothalamic pituitary axis in mid brain) to be present in a person diagnosed as dead by the brain criterion. It depends only on loss of spontaneous respiratory function and no evidence of brain stem functions.⁵¹

The problem is that the Church has supported the notion of determining death by the brain criterion on the grounds that the brain is essential for the body to be an

⁵¹ President's Council on Bioethics *Controversies in the Determination of Death: A White Paper* January 2009 Accessed December 2009 from <http://bioethicsprint.bioethics.gov/reports/death/index.html>

integrative whole. This requires evidence of loss of all brain function. However it would appear that many in the medical fraternity, including the President's Council majority, reject the scientific basis of this *Integrative* view on the grounds that the body without a functioning brain retains some integration. They hold that it is still an integrated whole. The alternative *Mode of Being* view based on loss of breathing and consciousness admits that continued integration and some brain function may continue in someone who is diagnosed as dead by the brain criterion. The *Mode of Being* view is most definitely not consistent with the above doctrine established at the Council of Vienne.

In Australia, the fact that ANZICS too has adopted a standard that allows some brain function would seem to be on the same philosophical plane as the President's Council and to have rejected the philosophical approach taken by the Church indicates that as Catholic we can no longer rely on the secular application of the concept of death according to the notion that there is irreversible loss of all brain function. The secular medical standards would not seem to apply that definition strictly.

The chair of the President's Council, Dr Edmund Pellegrino MD, basically jumped ship, rejecting not only the President's Council majority, but also the position taken by the Church in favour of defining death by the irreversible loss of all brain function. He said in his minority report⁵² that defining death as separation of soul and body does not provide a working definition of death, and that lacking an adequate working definition of death means that the clinical determination of death by the brain criterion remains uncertain.

⁵² http://www.bioethics.gov/reports/death/pellegrino_statement.html

Instead he asserted that the irreversible loss of circulation remains a more certain determination of death than loss of all brain function. In effect Pellegrino reverted to the original view espoused by Hans Jonas⁵³ at the time of an earlier President's Commission.⁵⁴ That Commission accepted the view put forth by the Harvard Committee which then informed the US uniform definition of death according to the brain criterion.

With Jonas, Pellegrino asserts that we do not know with certainty the borderline between life and death, and a definition cannot substitute for knowledge. Moreover, we have sufficient grounds for suspecting that the artificially supported condition of the comatose patient may still be one of life, however reduced. Thus we have reason for doubting that, even with the brain function gone, a patient is completely dead. In this state of marginal ignorance and doubt the only course to take is to lean over backward toward the side of possible life.

Another dissenting member of the President's Commission in 2009 was a philosopher, Alfonso Gomez-Lobo. He argued that if a body is able to process nutrition, eliminate waste, and exhibit proportional growth, homeostasis, etc., and moreover, it engages in these functions in an integrated manner, we correctly deem it to be alive. If it fails to do this, and starts to decompose and disintegrate, we will

⁵³ H. Jonas, "Against the Stream," in *Philosophical Essays: From Ancient Creed to Technological Man* (Englewood Cliffs, NJ: Prentice-Hall, 1974), 138. cf. President's Council on Bioethics *Controversies in the Determination of Death: A White Paper* January 2009, Chapter 3, Accessed December 2009 from <http://bioethicsprint.bioethics.gov/reports/death/index.html>

⁵⁴ President's Commission for the Study of Bioethical Problems in Medicine and Biomedical and Behavioural Research *Defining Death* Washington DC July

rightly judge it to be dead. On that basis Gomez-Lobo claimed that loss of brain function does not equate with death.⁵⁵

There is a need to resolve the public confusion that has begun to be generated, and is likely to become worse now that there is a division of opinion between the Church and those like ANZICS and the President's Commission who have moved away from an integrationist view. The Church holds that death can be diagnosed on the basis of evidence that shows a complete loss of brain function, but may not be diagnosed if there is still some function of the brain.

This would seem to be the situation that the CHA Code of Ethical Conduct⁵⁶ warns about: changes are being made to the way that death is determined, moving from the loss of all brain function to the loss of some brain function. The Code indicated the need to resist such a change and for Catholic hospitals try to perfect the diagnostic criteria for death.

In that respect it remains important to ensure that so-called brain death is a term that is not used loosely or for anything other than loss of all function of the brain. It is also important to distinguish between death by the brain criterion and irreversible coma (or unresponsiveness).

As has been discussed above, the ANZICS statement and the NHMRC concede that the clinical criteria alone do not establish loss of all function of the brain, but may indicate that a known process resulting in destruction of parts of the brain and evident

⁵⁵ http://www.bioethics.gov/reports/death/gomezlobo_statement.html

⁵⁶ Op Cit

by other testing and the medical history, has extended to include parts of brain stem. The clinical tests may be sufficient for the UK definition of death as brain stem death, but they would appear not to be sufficient for the American, Canadian, Australian and New Zealand legal context which requires evidence of loss of all brain function.

In that respect, Catholic hospitals could insist that ancillary tests including brain perfusion tests be done standardly as part of diagnosing death by the brain criterion to establish greater certainty that loss of all function of the brain had indeed occurred.

Further from a family perspective, potential donors and their families might be advised by the Church that in our pluralist society there are different views and different practices about death by the brain criterion, and that they would have a right to insist that the apnoea test not be done prior to a negative blood flow test result because it is not of therapeutic benefit and may be harmful if there is some remaining brain function. The diagnosis of death by the brain criterion should therefore involve imaging of blood flow to the brain to ensure that that there was indeed loss of all brain function. Doing so would also provide families with some convincing images indicating lack of blood supply to the brain and greater confidence that death had indeed occurred. Doing the blood flow test first would also avoid concerns about the Apnoea test causing brain damage.

In relation to Donation after Cardiac Death (DCD) there is a need to resolve some key issues surrounding the diagnosis in the circumstances of a controlled death. First, there is a need for clarity about there being an independent decision to withdraw life

support on the genuine grounds that it is either ineffective or overly burdensome, and consent has been obtained to withdraw that treatment.

Second, there needs to be a clear policy that determines how soon after cessation of circulation it is considered irreversible, so that death may be declared and organ procurement begun. The policy needs to recognize that children may involve a much longer time and the cause of death may be relevant. It is also the case that if hearts are obtained for transplantation after cardiac death, then the community may question whether the loss of circulation at the time of death was indeed irreversible.

There is also a need to resolve the issue whether cessation of circulation must be irreversible or on the other hand only permanent on the grounds that resuscitation will not be attempted and life support treatment will not be restored. It would be an odd situation if death could be declared and then a change of treatment decision resulted in circulation being restored.

The use of interventions (such as femoral cannulation or treatment to prevent clotting) before death to facilitate organ procurement of transplantable organs after death should only be permitted if the patient, while competent, had consented to such non-therapeutic procedures for the purpose of organ procurement and transplant, or the family had good reason to think that that was the patient's view. Such treatments are ethically similar to altruistic decisions to donate tissue while one is alive. They are a non-therapeutic intervention that is not in the interests of the patient, but undertaken to facilitate major organ donation to someone else.

