A Thomistic Reappraisal of Novel Accounts for What Constitutes Death in the Clinical Setting

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Part 1: The Clinical Picture and Questions

Introduction

I am. *That* I exist is the truth on which all other truths about me are predicated. But *how* do I exist? What does it mean to be a living human person? We say that I am a substantial unity of a material body and spiritual soul. And when my soul no longer animates my body, when the two separate, I am dead.

But it seems this is not so simple. The determination of these states of living human person and once-living (but no longer) human person in the clinical setting has become complicated. What is the empirical evidence that convinces us *this* person is alive while *this other* person is dead? How do the metaphysical realities manifest themselves in clinical situations?

In some cases this is clear. When one stops breathing and has no heartbeat, he is dead. But in medical school we were taught to check pupillary reflexes, as "fixed and dilated" was a required notation in the chart. Was this a superfluous piece of examination of a corpse? Was it additional evidence that there was no oxygenation and blood flow to the brain, specifically to the brain stem? Was it confirming cardiopulmonary cessation? Or was it evidence that brain failure had ensued, and <u>this</u> is the real issue of death? Was it that the lack of function of circulation and respiration really were simply signs that the brain had died, and that was why we could make a declaration of death?

We accept that the metaphysical reality manifests itself in some manner in empirical observations. As Pope John Paul II said, "With regard to the parameters used today for ascertaining death...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...."[1] In other words, we are called collectively not only to a faultless understanding of the clinical data—in its strengths and limitations—but also to a metaphysical precision in distinguishing life from death. Over the last 60 years, several explanations have been developed to justify neurologic criteria to determine death as the cardiopulmonary criteria do not seem to apply in cases where certain medical technologies have intervened. Some of these alternate justifications have had little regard for any philosophical underpinnings of the event while others strive to intertwine the two.

Part 1 of this paper will identify six ways of thinking through clinical distinctions between a living human and a corpse. The clinical perspective of a medical professional will be presented, and philosophical questions to be considered will be proposed. Then Part 2 will take the six arguments articulated in Part 1 and examine them from the vantage point of Thomistic metaphysics. This reappraisal will bring out a number of issues that are

[1] John Paul II. Address of the Holy Father John Paul II to the 18th International Congress of the Transplantation Society. The Holy See. August 29, 2000. https://www.vatican.va/content/john-paul-ii/en/speeches/2000/jul-sep/documents/hf_jp-ii_spe_20000829_transplants.html.

important for ongoing conversation about brain death and other life-and-death distinctions.

Irreversible coma

The foundational paper of this discussion was released on August 5, 1968, in the *Journal of the American Medical Association.* It was a "Special Communication" under the title "A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death."[2] This four-page document holds the expectation, based on the full title, of being an expert opinion or consensus statement, genres familiar to medical professionals. In its form and content, however, it proves to be neither of these. Unlike the usual form of this type of work, this report fails to make reference to any other scientific publications, specifically lacking citations to any empirical studies or related scientific literature.[3] The first sentence of the report states not only the goal of the paper but the methodology used. "Our primary purpose is to define irreversible coma as a new criterion for death."[4] The "reasoning" used for this new definition and the resulting criterion for death is the medical authority of the ad hoc committee.

As a result, it is difficult to map out a clear argument from the Harvard Report. At best, the reasoning used is as follows:

[2] Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Brain Death. "A definition of irreversible coma." *Journal of the American Medical Association* 205 (1968):337-40.
[3] Indeed, the only reference provided in the entire paper is to an address of Pope Pius XII nine years earlier to an International Congress of Anesthesiologists.
[4] Ad Hoc Committee, "A definition of irreversible coma," 337.

1. If there has been a severe injury to the brain and 3 (or 4) specific clinical features are present, then the person is in the state of irreversible coma.

2. Irreversible coma signifies that the brain is dead.

3. If the brain is dead, then the person is dead.

4. If the person is dead, the medical authority should declare the person dead.

5. If the medical authority has declared death, then the person is legally dead.

6. Therefore, a person with severe brain injury and the necessary clinical features is dead.

If we consider each of these statements of this argument, questions of validity arise. First, there is simply a proposed medical definition of irreversible coma. Apparently this is not a pre-existing definition, but a new one created for the purpose of this report.[5] However, in declaring this definition for "irreversible coma," one would expect some explanation with reference to empirical studies as to how it is that the authors can state that *this* set of conditions causes a state identified as "irreversible."[6] Next, this

[5] John P. Lizza, "The conceptual basis for brain death revisited: Loss of organic integration or loss of consciousness?" In *Brain Death and Disorders of Consciousness,* ed. Machado and Shewmon (New York: Springer, 2004), 51. Lizza points out that the Harvard Committee's explanation lacked clarity, as the criterion for "irreversible coma" had been used previously to describe the condition of individuals in a deep coma or persistent vegetative state. In addition, Alexander Morgan Capron notes that the Ad Hoc Committee was equating brain death with irreversible coma, "which is a condition of (limited) life, not of death, as the French indicated when they first described the state of death as one 'beyond coma'"; see "Brain Death – Well Settled yet Still Unresolved," *The New England Journal of Medicine* 344, no. 16 (2001): 1244. The Ad Hoc Committee was therefore identifying the concept of irreversible coma in a distinctly new way.

[6] President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research, *Defining Death: Medical, Legal and Ethical Issues in the Determination of Death* (1981), 10. Here the document notes that the "epidemiology of total and irreversible brain cessation" including "relative proportion of survivals and deaths" is not well documented. Therefore, the Commission itself conducted a "small empirical study" in 1980

phenomenon of "irreversible coma" is equated with a "dead" brain: "An organ, brain or other, that no longer functions and has no possibility of functioning again is for all practical purposes dead."[7] One could easily ask whether this wording is an admission of imprecise reasoning—if something is dead "for all practical purposes," then it is not dead unequivocally.

Stated another way, is the word "dead," properly assigned to a once-living *organism*, equally appropriate when applied to a single *organ* of an organism?[8] Is this an exact equality, an analogous use of the term, or possibly a misuse of the term "dead"? The authors also equate at least in some way the "brain" with the "person." Perhaps they are simply stating, again without any proof, that it is self-evident that if a brain is nonfunctional, then the entire organism, which depends so integrally on the brain, must be dead. Or perhaps they are attributing the essence of personhood to the brain. None of the steps of the reasoning here provides clarity. Finally the remainder of the statements are a call to medical authority and therefore legal (or societal) authority to follow the previously

which they published in an appendix. In this appendix they note, "The Commission was unable to locate any data on the number of patients who have permanently lost all brain functions, despite ventilator-maintained respiration and circulation, or on the relative proportion of this and other outcomes among comatose patients receiving respirator support." (89) As this was 13 years after the Harvard Report, clearly the Ad Hoc Committee had no more data on which to base its conclusions. In addition, the President's Council on Bioethics notes that by that date reports that "brain dead" bodies could be supported up to 107 days "justify caution and skepticism toward sweeping claims about the total instability of the 'brain dead' body and the imminent collapse of the body's systems"; see *Controversies in the Determination of Death: A White Paper by the President's Council on Bioethics* (2008), 42.

[7] Ad Hoc Committee, "A definition of irreversible coma," 337.

[8] Capron comments that the Harvard Ad Hoc Committee "introduced what continues to be a basic problem by using a term ('death') that is appropriate for organisms to describe the loss of function in an organ (the brain)"; see "Brain Death—Well Settled yet Still Unresolved," 1244. Similarly, the President's Council identifies the issue as "the living or dead status of the human individual, not the individual's brain"; see "White Paper," 17.

listed points, completing the argument and establishing the conclusion that irreversible coma is death.

It can be said that “at best,” this is the reasoning used in the Harvard Report. In fact, it is not really possible to trace an orderly argument in this foundational paper, a fact noted by several later authors.[9] While some critics find the reasoning so faulty as to say it is simply a false claim, others note that while no one could uphold the logic of the Harvard paper authors, the conclusion that “brain death” is death still holds. And so, several other explanations have been given to support the neurologic criteria as a means of determining death has occurred.

Recognizing integration

One of the earliest of these lines of reasoning utilized the concept of integration. In 1981, James L. Bernat, Charles M. Culver, and Bernard Gert were the first in a major scientific journal to invoke the loss of integration of the organism as a whole to justify whole brain death as a legitimate criterion for death.[10] As the argument goes, a living

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[9] Robert D. Truog and Franklin G. Miller note, “The arguments about why these patients should be considered dead have never been fully convincing”; see “The Dead Donor Rule and Organ Transplantation,” *The New England Journal of Medicine* 359, no. 7 (2008): 674. And writing 50 years after the Harvard Report, Robert M. Veatch observes, “In fact, it has now become clear that no reasonable person accepts the Harvard committee position that ‘brain death’ is a plausible definition of death”; see “Would a Reasonable Person Now Accept the 1968 Harvard Brain Death Report? A Short History of Brain Death,” *Hastings Center Report* 48, no. 6 (2018) S7.

[10] “On the Definition and Criterion of Death,” *Annals of Internal Medicine* 94 (1981): 389-394. Many others have continued this line of reasoning using the “integration” concept; for two examples, see Maureen L. Condic, “Determination of Death: A Scientific Perspective on Biological Integration,” *The Journal of Medicine and*

human person (or any living being) is not simply an amalgamation of living cells and viable tissues, nor even of several functioning subsystems, but rather an assembly of organ systems that operate in an integrated whole under the direction of a single integrating organ. This argument can be summarized as follows.

1. For the person to be alive, the life functions of the body must be working together (integrated).
2. This integration is realized by the activity of the brain.
3. If the brain is severely and irreversibly damaged, it can no longer direct the integration of the body's life functions.
4. If the body's life functions are no longer integrated, the body is no longer alive but dead.
5. Therefore, a severe and irreversible brain injury indicates the person is dead.

Is there empirical evidence for the statement which identifies the brain as the exclusive integrator of the body, or could this be attributed at least in part to other organs or organ systems? Or does this integration take place in a way that cannot be attributed to the organ or system level of organization? Or perhaps a better question is whether the *integrating* capacity of the brain here is being substituted for the *animating* principle of the

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Philosophy 41, no. 3 (2016): 257-278; and Melissa Moschella, "Deconstructing the Brain Disconnection-Brain Death Analogy and Clarifying the Rationale for the Neurological Criterion of Death," *The Journal of Medicine and Philosophy* 41, no. 3 (2016): 279-299.

body, defined as the soul?[11] In this argument, have the brain and the soul become equated and therefore interchangeable? Is it possible that certain functions or systems of the body work in tandem, side by side, without coordinated efforts? If so, how many or how few of these are required in order for the body to qualify as being integrated?[12] Is the scientific line between integrated and not integrated as clear as the metaphysical line between life and death?[13]

"Wholeness" based on fundamental vital work

A third way of distinguishing between a living human person and one who is dead considers the "wholeness" of the organism as the criterion which identifies life but does not consider "integration" as the determining feature. Rather, as the President's Council on Bioethics posited in their White Paper from 2008, the persistence or cessation of the organism's "fundamental vital work" is what defines the being's wholeness and therefore whether it is alive or dead.[14] The fundamental vital work of an organism is its ability or capacity to maintain self-preservation. Self-preservation manifests itself as the organism's

[11] As Hans Jonas asserts, "In a certain analogy to [the old soul-body dualism]," the new proposed definition of death "holds that the true human person rests in (or is represented by) the brain, of which the rest of the body is a mere subservient tool. Thus, when the brain dies, it is as when the soul departed: what is left are 'mortal remains'"; see *Philosophical Essays: From Ancient Creed to Technological Man* (The University of Chicago Press, 1974), 139.

[12] Jeff McMahan, "An Alternative to Brain Death," *Journal of Law, Medicine, & Ethics* 34, no. 1 (2006): 46. The author questions "how much the brain must contribute to the integration of functioning among the parts of the organism in order for the organism to be alive."

[13] Condic makes an additional distinction between integration and coordination, attributing the former to the brain and allowing the latter to happen in other systems causing a "resemblance" to a living organism. Brain dead bodies and human patients with high spinal cord injuries are no longer human organisms, but a human cell in a culture dish is. Patients with spinal cord injuries are living human beings according to Condic, but brain dead bodies are not; see "Determination of Death," 267-268.

[14] "White Paper," 60.

"need-driven commerce with the surrounding world," which requires capacities of receptivity of outside stimuli, appropriate response to these stimuli to obtain the organism's needs, and an inner drive that induces these actions of "commerce" with the external world.[15] The "wholeness" argument may be summarized as follows:

1. For the person to be alive, that person must be a whole organism.
2. Wholeness requires the capacity for self-preservation.
3. Self-preservation is achieved through the organism's need-driven commerce with the surrounding world (its fundamental vital work).
4. When the organism has lost the ability to perform its fundamental vital work, it cannot preserve itself and so is no longer whole.
5. Therefore, an organism that can no longer perform its fundamental vital work lacks wholeness and is dead.

Supporters of this argument provide as an example the situation of a person in an irreversible apneic coma. Without brain function, the body cannot sense its need for gas exchange, cannot respond on its own to its need to obtain oxygen and to eliminate carbon dioxide, and has no drive to do so. It cannot perform the necessary "need-driven commerce with the surrounding world," so it has lost its ability for fundamental vital work. Therefore, in the case of irreversible apneic coma known as "brain death" (or by these authors as

[15] Ibid.

"total brain failure"), this lack of wholeness is the indication that death has occurred.[16] In the case of a severe injury to the brain, the necessity of a mechanical ventilator to maintain the functions of the body is proof the person has lost the internal drive to breathe and so has lost the ability for self-preservation. Therefore, the organism can no longer be said to be whole.[17]

It seems that the proponents here have created a circular definition or at least a criterion which might allow for degrees. Is life defined by wholeness, or is wholeness defined by the organism being alive? Does not *any* degree of illness or injury suggest lack of wholeness? Can one truly say that the ability of self-preservation is *the* defining feature of being alive? Many apparently living beings depend on others to maintain their lives. Consider, for instance, a newborn infant or a critically ill patient in the intensive care unit. Interestingly the model provided for "need-driven commerce with the surrounding world" is one using terms suggestive of particular powers of the soul, namely the senses (receptivity), a kind of appetite (inner drive), and then the resulting physical actions (willed or instinctual) of the body in response to these.[18] Is it sufficient to say that a lack of *these* powers implies the lack of wholeness that determines death has occurred? What if other powers remain? "Receptivity" in this argument is especially associated with

[16] The President's Council attempted to justify use of the new term, "total brain failure"; see "White Paper," 12 and 19. However this terminology was not adopted by subsequent authors. As Martin Smith notes, the "proposal that 'total brain failure' should replace the traditional term 'whole brain death' may be viewed as unhelpful. Intensivists are accustomed to supporting other 'failing' vital organ systems to recovery and any suggestion that 'total brain failure' is reversible misrepresents the fundamental principles of brain death"; see "Brain death: time for an international consensus," *British Journal of Anaesthesia* 108, S1 (2012): 17.
[17] Ibid., 63.
[18] Ibid., 61.

consciousness, or at least "felt awareness" that can be readily observed in higher animals, including man. However, does a lack of *evidence* for consciousness or awareness in any given case mean that these are not present? Recent studies have called such a claim into question.[19] The authors, therefore, seem to be predicating wholeness (and therefore life) on functional states that are not always present—or at least not demonstrably so—in living beings.

Rational capacity

This leads to several more lines of reasoning in which the human person is identified essentially by functioning on levels that correspond with powers of the soul. In a fourth line of reasoning, the presence of higher brain functions is what distinguishes life from death. According to this view, intellect, imagination, memory, and personality are essential characteristics of a human person.[20] Without these, while life might be present, it

[19] See Joseph L. Verheijde, Mohamed Y. Rady, and Michael Potts, "Neuroscience and Brain Death Controversies: The Elephant in the Room," *Journal of Religions and Health* 57 (2018): 1745. The authors note that "…contemporary neuroscientific findings augment the concerns about the validity of [the] biological definition [of death]….they indicate that some core assumptions about brain death are demonstrably incorrect, while others lack sufficient evidential support. If behavioral unresponsiveness does not equate to unconsciousness, then the philosophical underpinning of the definition based on loss of capacity for consciousness as well as the criteria, and tests in brain death determination are incongruent with empirical evidence. Thus, the primary claim that brain death equates to biological death has then been de facto falsified." Similarly, Y.G. Bodien et al. provide empirical evidence in a prospective cohort study conducted at six international centers "…that cognitive motor dissociation is more common than previously realized" and recognize standardization of methods to detect this phenomenon Is needed in part because "of the bioethical implications of the findings"; see "Cognitive Motor Dissociation in Disorders of Consciousness," *The New England Journal of Medicine* 391, no. 7 (2024): 606.

[20] See Henry K. Beecher and H. I. Dorr, "The New Definition of Death: Some Opposing Views," *International Journal of Clinical Pharmacology, Therapy and Toxicology* 5, no. 2 (1971): 120-124; and Robert M. Veatch, "The Whole-Brain-Oriented Concept of Death: An Outmoded Philosophical Formulation," *Journal of Thanatology* 3 (1975): 21. Similarly, McMahan reasons that "…you are in fact a mind, a mind that is necessarily embodied," and therefore "we die or cease to exist when we irreversibly lose the capacity for consciousness." From there he concludes that

is not *human* life. And the human person is then in reality dead.[21] This argument is as follows:

1. Consciousness, ability to reason, imagination, and memory (that is, higher brain functions) are essential to a human being.

2. These higher functions are found in the neocortex of the brain.

3. If there is permanent loss of function of the neocortex, these higher functions essential to a human being no longer exist.

5. If these functions essential to a human being no longer exist, then the human being no longer exists.

6. Therefore, permanent failure of the neocortex is the death of the human being.

At least one author suggests this line of reasoning is most in keeping with the Judeo-Christian understanding of the human person distinguished by the intellectual faculties which are lacking in other animals.[22] But a number of questions must be considered. Can

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"…although brain death is not sufficient for the biological death of a human organism, it is sufficient for the death or ceasing to exist of a person"; see "Alternative," 47-48.

[21] As McMahan emphasizes, "cerebral death is here advanced as the criterion of the death or ceasing to exist of the person and not for the death of the human organism. It is, however, the death of the person and not that of the organism that is of moral significance"; see "The Metaphysics of Brain Death," *Bioethics* 9, no. 2 (1995): 121.

[22] Veatch notes that "the defenders of higher-brain-oriented definition of death" have an argument which is less of a slippery slope than those who argue for whole-brain death; see "The Impending Collapse of the Whole-Brain Definition of Death," *The Hastings Center Report* 23, no. 4 (1993):21. According to Veatch, proponents of higher-brain-oriented death can "rely on classical Judeo-Christian notions that the human is essentially the integration of the mind and the body and that the existence of one without the other is not sufficient to constitute a living human being. Such a principle provides a bright line that would clearly distinguish the total and irreversible loss of consciousness from serious but not total mental impairments."

we say the *presence* of rational functions determines whether a human being is alive or not? Does the loss of these faculties truly indicate the death of the person? Does this not equate a single power of the soul with actual personhood? In what sense can we talk about a human organism which is not a human person?[23] Are rational faculties simply the work accomplished by material of the neocortex? Or do these powers transcend the matter of the body and therefore constitute the soul more in keeping with the precise claim of the Judeo-Christian tradition?[24]

<u>Sentience</u>

A fifth argument considers whether sentience is maintained or even possible in a state of "brain death." The difference between a non-animal living being and an animal is that an animal is sentient—that is, has sense perception and awareness of the external world and so can respond to it. Note that this concept was also used in the aforementioned third argument that identified a living being with a "need-based commerce with the surrounding environment." In the present argument, however, proponents note that consciousness and the ability to reason are dependent upon sense perceptions. In other words, consciousness and reasoning cannot exist unless sentience is present. Using this line of thought, it would be clear that a being that is not sentient cannot have the higher-

[23] McMahan, Condic, Moschella, and others continue to make distinctions among human persons, human beings, and human organisms.

[24] Consider the formulation of the Pontifical Council for Justice and Peace: "The human person is an intelligent and conscious being, capable of reflecting on himself and therefore of being aware of himself and his actions. However, it is not intellect, consciousness and freedom that define the person, rather it is the person who is the basis of the acts of intellect, consciousness and freedom. These acts can even be absent, for even without them man does not cease to be a person"; see *Compendium of the Social Doctrine of the Church*, (USCCB Publishing, 2007), §131.

order functions of reasoning nor even of consciousness. Their conclusion is not simply that the once-human person now lacking sentience is injured or ill, but no longer human or even an animal—and so, the human being is now dead.[25] Their line of reasoning can be summarized as follows:

1. Human beings are distinguished from animals by consciousness and the ability to reason.

2. Consciousness and the ability to reason depend upon sense perception (sentience) of the surrounding world.

3. Sentience is a quality that distinguishes an animal being from a non-animal being.

4. Sentience depends upon a functioning brain.

5. When the brain no longer functions and cannot recover the capacity (in the future) to function, the being no longer has sentience.

6. If the being no longer has sentience, that being will necessarily lack consciousness and the ability to reason.

7. If the being no longer has consciousness or the ability to reason, that being is no longer human; and if lacking sentience, no longer an animal.

[25] This is the argument of Patrick Lee and Germain Grisez, "Total Brain Death: A Reply to Alan Shewmon," *Bioethics* 26, no. 5 (2012): 275-284.

8. Therefore, a once-human being which now has permanent loss of brain function is no longer human (or even an animal).

9. Therefore, when the brain no longer functions, there is no longer a human being, which indicates death.

On the clinical side there is an underlying assumption in this argument that sentience is connected specifically with the function of the brainstem, at least with the brainstem as the relay center between sense organs and the cortex of the brain. The reflexes of the cranial nerves, which form the central part of the examination of a patient in the determination of brain death, are based in the brainstem. If the cranial nerve reflexes are not present, this is taken as evidence that the brainstem is not functional.[26]

But we might consider whether testing the cranial nerves is sufficient to say that *all* sense perceptions are absent or whether others may still be present. Do baroreflexes (those that monitor blood pressure in the arteries) qualify as sense receptors, and would their continued function or other types of reflexes not based in the brainstem (such as those centered in the spinal cord) be sufficient proof that sentience continues? If that were the case, would the conclusion be that the death of at least an animal organism has not yet occurred? Or, as these are involuntary reflexes, which do not allow for or require awareness, do they not qualify in the category of sentience? Philosophical consideration of this argument might question whether it is valid to say that a particular type of living

[26] The cranial nerve examination is specified as part of the necessary evaluation for brain death in multiple papers, including the following: Ad Hoc Committee, "A definition of irreversible coma"; Bernat, Culver, and Gert, "Definition and Criterion"; and the President's Council, "White Paper."

organism can change its species due to the permanent loss of some once-present function. Can we seriously posit that some human organisms are not human persons?[27] And that once-human organisms can become akin to plant organisms? Do we not generally accept that an ill or diseased or injured human body (or human person) is still a living human body (or living human person)? Would not the same be true if the illness or injury is in the brain?

Vegetative functions and interdependence

While arguments about the rational faculties and the sensitive faculties of the human person are used to validate the neurologic criterion of death, those that consider the vegetative functions are used to repudiate the concept of brain death. These arguments approach the discussion either by finding fault with the claim that there is loss of "integration" in the setting of brain death or by addressing the issue from the understanding of a systematic anthropology.[28] Such an argument might be summarized as follows:

[27] In the same year the Harvard Ad Hoc Committee Report was published, a German-trained practitioner of homeopathic medicine who became a medical philosopher and contributor to bioethics in the United States made such distinctions. He wrote, "For man, one might say, may dies as a man, long before he dies as a biological being," as "having irreversibly lost consciousness,…we might well agree that such an individual as a man has indeed died. It is this difference between being alive as a human being and being alive as a biological structure, and this polarity of not being alive as a human being and being alive as a biological structure that allows us (a) to remain intellectually honest, (b) circumvent the charge of murder, and (c) serve the organ transplanters"; see Otto E. Guttentag, "Organ Transplantation from the Deceased," *Linacre Quarterly* 35, no. 3 (1968): 174.

[28] D. Alan Shewmon, "Recovery from 'Brain Death': A Neurologist's Apologia," *The Linacre Quarterly* 64, no. 1 (1997): 30-96; Nicanor Pier Giorgio Austriaco, "In Defense of the Loss of Bodily Integrity as a Criterion for Death: A Response to the Radical Capacity Argument," *The Thomist* 73, no. 4 (2009): 647-659; E. Christian Brugger, "Are Brain Dead Individuals Dead? Grounds for Reasonable Doubt," *The Journal of Medicine and Philosophy* 41, no. 3 (2016): 329-350; Jacek Maria Norkowski, "Brain based criteria for death in the light of the Aristotelian-Scholastic anthropology," *Scientia et Fides* 6, no. 1 (2018): 153-188; Doyen Nguyen, "Why the Thomistic Defense of 'Brain Death' is not Thomistic: An Analysis from the Perspectives of Classical Philosophy and Contemporary

1. A living human being is not simply an association of independently acting cells, but an organism whose life functions are carried out by interdependently operative organ systems.

2. In a human being who has met the neurologic criteria for "death," there is clearly evidence that the operative organ systems (circulatory, digestive, excretory, etc.) continue to function interdependently.

3. As long as these organ systems continue to act interdependently, even if not at their full potential, it seems necessary to presume that the human being is still a living human organism.

4. Therefore, the neurologic criteria alone are not sufficient to indicate the death of a human being.

What does this interdependence of organ systems look like in the hospital room of a person who has met the neurologic criteria for determining death? Oxygen and carbon dioxide diffuse across healthy alveolar tissue in the lungs. Healthy red blood cells circulate through the vasculature of the lungs by contractions of healthy cardiac muscle and exchange transported carbon dioxide for oxygen. Oxygen itself is needed for the continued function of the heart; but this energetic process also requires nutrients. Nutrients provided enterally are absorbed across surfaces of healthy intestinal tissues into the bloodstream or

Biophilosophy," *The Thomist* 82 (2018): 407-46; and Cody Feikles, "It is Time for the *Ethical and Religious Directives* to Allow an Objection to Brain Death Testing," *The National Catholic Bioethics Quarterly* 24, no. 3 (2024):511-536.

may be delivered directly (parenterally) into the bloodstream. Other healthy tissues (liver, kidneys, pancreas, etc.) from their respective functioning vascular beds absorb these nutrients and carry on their proper metabolic functions. Healthy liver tissue catabolizes nutrients for its own energetic processes (also dependent on delivered oxygen) and can assimilate these in storage forms (as can skeletal muscle and other tissues). Healthy renal tissue continues an elaborate filtration process of incoming blood resulting in production of urine for excretion of water and solutes in a manner regulated largely within the kidneys themselves. The pancreas continues to monitor blood sugar levels releasing insulin and glucagon. This list could be expanded but is sufficient to suggest the picture of functioning organ systems which are not only dependent upon each other but are working together to maintain the life of an organism apparently independently of the brain.[29]

The significance of the organs listed above is that they are precisely the organs desired for transplant: if they were not healthy, they would not be of use to an organ recipient, and no neurologic criteria to determine death would be needed. While some might point out that these organs cannot continue indefinitely when a person has met the

[29] While many authors who argue against neurologic criteria for the determination of death would agree with this physical description of the "brain dead body," it is notable that there are other authors who support one of the various definitions of "brain death" and yet would also attest to this very same description of that body. Truog and Miller note that "these patients look very much alive; they are warm and pink; they digest and metabolize food, excrete waste, undergo sexual maturation, and can even reproduce….The arguments about why these patients should be considered dead have never been fully convincing"; see "Dead Donor Rule," 674. In addition, Michael Nair-Collins and Franklin G Miller explain, "The ventilator can blow air in and out of the bronchial tree. But it alone cannot trigger gas exchange…and therefore it cannot supply usable oxygen to any tissues of the body; and hence it cannot 'trigger' kidney function or adrenal function or immune function or liver function or skin function, and so forth. And it certainly cannot cause the functioning of all of these organs and tissues to operate in a coordinated fashion with one another….all organs and tissues mutually influence each other, and all are mutually *inter*dependent on each other"; see "Do the 'brain dead' merely appear to be alive?" *Journal of Medical Ethics* 43 (2017): 752.

neurological criteria for death, at the time they are explanted from the brain-dead body, these organs are in fact maintaining their typical function.

Further, is it not evident that the ongoing functioning of organs and systems and their interdependence is consistent with an understanding of life in view of Christian anthropology? If the soul is one, while having several powers (rational, sensitive, vegetative), then evidence of any one of the powers (for example, the vegetative powers) must indicate the presence of the soul whether or not there is *evidence* of sensitive or rational powers.[30] Interdependent functioning of organ systems does not depend on a single organ acting as the cause for interdependence, but is properly attributed to the soul itself. Hence, do the arguments by some justifying brain death simply neglect a true understanding of the soul?

Several authors have included lists of individually identifiable and observable physiological mechanisms which are credited as accounting for "continued health of vital organs in the bodies of patients diagnosed with total brain failure" and note that these "go a long way toward explaining the lengthy survival of such patients in rare cases."[31] On these lists are biological processes such as wound healing, detoxification of cellular wastes, immune responses, maintenance of body temperature, and other homeostatic mechanisms.

[30] As Cody Feikles relates, "According to St. Thomas Aquinas, the inability of the soul to exercise its rational or sentient powers does not (1) imply the soul's total absence, or (2) imply that the person's body is now a non-human body being animated by a non-human soul. Indeed, Aquinas holds that the presence of the vegetative powers alone is sufficient to affirm the presence of the rational soul still united to a human body." See Feikles, "It is Time," 515. For a similar but less developed articulation of the same argument, see also Doyen Nguyen, "Evolution of the Criteria of 'Brain Death': A Critical Analysis Based on Scientific Realism and Christian Anthropology," *The Linacre Quarterly* 86 no. 4 (2019): 297-313.
[31] President's Council, "White Paper," 57.

They acknowledge cases of "lengthy survival" as being due to "globally coordinated work…performed by multiple systems, all directed toward sustained functioning of the body as a whole."[32] Yet they maintain that these are simply independently operating organs or systems; and while they allow for some degree of coordination, they insist this is not an integration that defines the unity necessary to claim there is a functioning, living organism.[33] Can the philosopher, who understands the biological significance of wound healing and maintaining body temperature and other mechanisms of homeostasis not ask whether this is all not evidence the *soul* is responsible for this "global coordination" and is still acting as the animating principle?[34]

The mechanisms on these lists do not happen in isolation. Wound healing depends upon oxygen and nutrients and excretion of toxins. Menstruation depends upon vascular beds primed by hormones from other organs with active circulation affected by a functioning heart. Successful gestation of a child in utero depends entirely on myriads of mechanisms provided by the mother's living body. Perhaps some have been distracted by reports that hair and nails grow after death. But they do not. This is a medical myth.[35]

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[32] Ibid.

[33] For example, Melissa Moschella simply disallows the possibility of "decentralized" unity past the embryonic state of human development, and so concludes that the brain-dead body is not a unified whole; see "The human organism is not a conductorless orchestra: a defense of brain death as true biological death," *Theoretical Medicine and Bioethics,* 40 (2019): 437-453.

[34] According to E. Christian Brugger, "The human soul is that which confers life on the body, its animating principle; but it not only animates, it organizes and integrates the activity of the parts; it makes the body a living whole, confers on it integrative function"; see "Are Brain Dead Individuals Dead? Grounds for Reasonable Doubt," *The Journal of Medicine and Philosophy* 41, no. 3 (2016), pp 329-350.

[35] Rachel C. Vreeman and Aaron E. Carroll address this myth as follows: "As…numerous dermatologists explain, dehydration of the body after death and drying or desiccation may lead to retraction of the skin around the hair or nails. The skin's retraction can create an appearance of increased length or of greater prominence because of the contrast between the shrunken soft tissues and the nails or hair. The actual growth of hair and nails, however,

Hair and nail growth depends upon delivered oxygen and nutrients and excretion of wastes – and none of this happens after death. But they all do happen in life.

Interdisciplinary challenges

Perhaps one problem is that clinicians have not explained well enough to ethicists trained in philosophy what it is that we see on the biological level. And perhaps philosophers do not have the proper questions to pose. And clinicians do not have the background to see how a Christian anthropology plays itself out in the hospital bed of a dying but not-yet-dead patient. And philosopher-ethicists have never been at the bedside with enough understanding to marvel at the mystery of life when it is far too easy to say "that person is gone" simply because we can no longer recognize him as "the person he once was."

With respect to the considerations presented here, the medical implications are staggering. The ethical implications are overwhelming. It is immensely challenging to think about the pastoral ones.

Arguably part of the difficulty is so few people, even medical professionals, have a personal, first-hand experience of a regular, normal human death, at the very moment it happens, one that involves neither technological interventions that must be withdrawn for death to occur nor complex diagnostic procedures to satisfy a carefully-constructed protocol to say death has happened. How many physicians or ethicists have been with a

requires a complex hormonal regulation not sustained after death"; see "Medical Myths," *British Medical Journal* 335 (2007): 1288.

man when he simply takes his last breath? It is so perfectly clear that *at that moment*, but not before, he is dead. He was alive and now he is not. Anyone who has been privileged to be present for that moment when a soul passes into eternity to meet the Lord knows there is no lack of clarity in saying he *was* but now he *is* not. At least not on this earth. That kind of clarity is what must be evident in all cases. For it *is* a matter of life and death.

Part 2: The Thomistic Reappraisal

Having considered six lines of reasoning for distinguishing life and death in Part 1, we will now reappraise these arguments in light of the thought of Aquinas, then propose a broader context for exploring the question of "brain death" and related life-and-death questions.

Appeals to medical authority

Beginning with the argument derived from the Harvard Report, we are faced with a number of terminological difficulties, including with the word "death" itself. The report opens by proclaiming that a "new criterion for death" is being defined. "Death" here seems to mean what we normally mean by it, namely, the loss of life in a human being, an organism of the human kind. A few paragraphs later, however, the report introduces another kind of "death" when it says that "an organ, brain or other, that no longer functions and has no possibility of functioning again is for all practical purposes dead."[36] "Death" here

[36] Ad Hoc Committee, "A definition of irreversible coma," 337.

means the non-functioning of a part of the organism, and not the loss of life of the organism itself. This is an analogical use of the term "death." The remainder of the report aims to demonstrate that "death" in the second sense is a sufficient condition for declaring "death" in the first sense. However, the distinction between the two senses of "death" is not always attended to, either in this report or in the voluminous literature on brain death that has followed in its train.

For example, the Harvard Report insists that in cases of the kind being considered (cases of what it calls "irreversible coma"), "Death is to be declared and then the respirator turned off."[37] What has been diagnosed is "death" in the second sense, the non-functioning of the organ of the brain. The report continues to refer to one in this state as a "patient" and this patient of course is still breathing with the assistance of the artificial respirator. Yet the physician's declaration must carry the first sense; this is made clear later in the report where the reason is given for declaring death before the patient is taken off the respirator: "It will provide a greater degree of legal protection to those involved."[38] The law is interested in "death" in the first sense, and so this is what the physician must be asserting, if this assertion is to offer him any legal protection. The report offers a description of "irreversible coma" or "brain death" and presents a method for diagnosing it. By calling this state "death" the physician is then able to declare death; this move is valid only if the "death" of an organism is simply equivalent to the non-functioning of this particular organ,

[37] Ibid., 338.

[38] Ibid., 339. Legal protection of physicians involved in end-of-life decisions was a serious concern, especially since the ethics of withdrawing life-sustaining treatments was not as firmly established at that time. See Guttentag, "Organ Transplantation from the Deceased," 172-4.

but of course this is the point to be demonstrated, whereas through the equivocal use of "death" it has simply been assumed.

A second terminological difficulty arises with the phrases "definition of death" and "determination of death." A definition of death in the philosophical sense would be a statement of the essence of death: it would identify the genus and specific difference of the thing. However, according to a Thomistic understanding of death, there can be no proper definition of death, since life is the being of the living ("vivere autem est esse viventium")[39] and death is the cessation of life.[40] True, the traditional explanation of death as "separation of the soul from the body"[41] is a kind of definition, but it is a negative definition, which points to the lack of soul where once soul was present. Death is, in other words, a kind of privation.[42] This is not a sign of a deficiency in the definition but of the fact that the thing being defined is itself a defect, an absence, a form of 'non-being.' It is immensely important, but it is not at all helpful for the kind of determination with which the Harvard Report is concerned.

The phrase "determination of death" is also ambiguous. It could and often does refer to finding out (determining) if death has occurred, in the sense in which we might "determine" if it is raining by looking out a window. The Latin root *determinatio*, however,

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[39] Thomas Aquinas, *Quaestiones disputata de anima*, q. 1. English translation by James H. Robb, *Questions on the Soul* (Marquette University Press, 2009), 47.
[40] This is the argument made by Robert Spaemann in "Is Brain Death the Death of a Human Person?" in *Love & the Dignity of Human Life: On Nature and Natural Law* (Eerdmans, 2012), 53.
[41] The definition goes back at least to Socrates: see Plato's *Phaedo*, trans. G.M.A. Grube, in *Five Dialogues* (Hackett, 1981) 64c. For Thomas's use of the same definition, see *De anima*, q. 8, arg. 4.
[42] Thomas calls death "a privation of existing" (privatum esse). *De malo* q. 1, a. 1, ad 2. English translation by Richard Regan, *The De Malo of Thomas Aquinas* (Oxford University Press, 2001), 63.

suggests something more than passive observation; *determino* means literally "to enclose within boundaries [*termini*]" and by transference "to fix, settle, determine."[43] This is the sense in which Thomas Aquinas explains how human laws are derived from the natural law: the way of *determinatio* is the way of specification of a general precept. Thomas gives the example that "the law of nature has it that one who does wrong is to be punished, but that he be punished in a particular way is a determination of the law of nature."[44] In fact, the Harvard Report seems to be doing something very like *determinatio* in this legislative sense when it appeals to physicians to agree on "a new criterion for death."[45] Former criteria are declared "obsolete" and "controversial." The explicit basis for the new criterion is based on pragmatic considerations (what is to be done), rather than on new observations (what is). Death has thereby been made into a *determinatio*, an act of fixing the boundaries, namely the boundaries of life. The 'legislators' – those who have authority of *determinatio* – are the physicians, who then pass on the results of their reasoning to civil legislators and to the public.

The question of authority is tied to the question of certainty—that is, of knowledge. Who has the knowledge to be able to say that death has occurred? The Harvard Report assumes that physicians hold this authority. The source of this authority is presumably the greater certainty possessed by the physician in assessing that death has occurred in a

[43] Lewis and Short, *A Latin Dictionary* (Clarendon Press, 1879), s.v. "determino," http://folio2.furman.edu/lewis-short/.

[44] Thomas Aquinas, *Summa Theologiae* I-II, q. 95, a. 2 (San Paulo ed. [1988], 960a): "sicut lex naturae habet quod ille qui peccat, puniatur; sed quod tali puniatur, hoc est quaedam determinatio legis naturae." Translations of the *Summa Theologiae* are the authors'.

[45] Ad Hoc Committee, "A definition of irreversible coma," 337.

particular case. The physician is trained to observe things that the lay observer could easily overlook. This is the traditional reason for calling in a doctor at the death of a member of the family:

> … it has been customary and prescribed by law to consult the physician at such times, who has to confirm the judgment of family members. This confirmation is not based on a different, scientific definition of death, but on more precise methods to identify the very phenomena already noted by family members.[46]

In other words, when it comes to knowledge of *what death is*, the medical professional has no special expertise. His expertise, and the authority based on that expertise, lies in more accurate methods of ascertaining signs of life.

What the Harvard Report seems to assume, however, is authority of a different kind. The Report opens by stating that “our primary purpose is to define irreversible coma as a new criterion for death.”[47] The authors of the Report claim the authority to state the criterion for death: while this “criterion for death” could be understood as referring to identifying signs that death has occurred, i.e. noting the lack of certain signs of life, it has become clear that the Report intended to assert a new definition of death.[48] But if death is

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[46] Spaemann, “Is Brain Death the Death of a Human Person?” 47.

[47] Ad Hoc Committee, “A definition of irreversible coma,” 337.

[48] A similar slide from identifying signs of death to “defining death” can be found in the history of the 2006 conference of the Pontifical Academy of Sciences (PAS). The conference was called to discuss “Signs of Death” and its proceedings bear this title. Yet the concluding statement signed by the majority of participants (mainly neurologists) is titled, “Why the concept of brain death is valid as a definition of death”; see *The Signs of Death*: The Proceedings of the Working Group 11-12 September 2006, ed. Marcelo Sánchez Sorondo (Vatican City: Pontifical Academy of Sciences Scripta Varia 110, 2007). http://www.pas.va/content/accademia/en/events/2006/signsofdeath.html.

not something of which medical professionals have special knowledge, then we should not take this Report as having more authority than any other group of persons on this question.[49]

Loss of integration

The second argument presents us with yet another possible equivocation, namely the term "integration," which could be taken to mean the "unity" or "wholeness" of a living being. In this sense, unity would be coextensive with life, that is, with the being of a living thing. Unity is what belongs to every being insofar as it is undivided, and it remains undivided so long as it remains a being of that kind.[50] "Integration" can also refer, however, to "functioning as a whole," and this is how it is used in the integration argument discussed above, which asserts that in order for a person to be alive, the life functions must be working together, i.e., integrated.[51] However, the *functioning* of the organism as a whole is not the same as the *being* of the organism as a whole. In sleep, Thomas notes, the senses "are rendered inoperative," as also happens through "an excess of their own proper sensible objects."[52] One could also say that disease of every kind is a sort of non-functioning of the body as a whole. The definition cited above assumes a more pervasive non-

[49] I have referred to the authors "taking on" this authority, but we should note the impetus coming from civil law that made it seem necessary for them to do so: the Report quotes *Black's Law Dictionary* (fourth ed., 1951) as saying that death is "defined by physicians"; see Ad Hoc Committee, "A definition of irreversible coma," 86.

[50] Thomas Aquinas, *ST* I, q. 11, a. 1 (San Paulo ed., 46a): "... unum non addit supra ens rem aliquam, sed tantum negationem divisionis: unum enim nihil aliud significat quam ens indivisum. … esse cuiuslibet rei consistit in indivisione. Et inde est quod unumquodque, sicut custodit suum esse, ita custodit suam unitatem." ("... 'one' does not add something to a thing beyond being besides the negation of division, for one signifies nothing other than undivided being. … the being of any thing consists in being undivided. And therefore each thing preserves its unity as it preserves its being.")

[51] See Bernat, Culver, and Gert, "Definition and Criterion," 392.

[52] Thomas Aquinas, *De anima*, q. 8.

functioning, but nonetheless, its failure to distinguish between non-functioning and non-being opens the way to grave misunderstanding.

The brain of course is relevant in thinking about the unified functioning of the organism, insofar as it seems to be the main organ responsible for the "functioning of the organism as a whole"—or, in other words, the brain seems to be the "central organ." The question of which is the "central" organ is an old one, debated by the ancients and medievals. Fortunately, we do not need to know the answer to this for our purposes, for this question is about functioning as a whole, not being a whole.[53] We are interested in the death (that is, the non-being) of the organism, and "everything is one in the same way in which it is a being."[54] And the way in which a human being (or any living being) is a being is through its life: through its soul, soul being the life of the body—that is to say, the being and the actuality of the body. The soul, as St. Thomas puts it, gives existence and specific nature, both to the body as a whole and to each part of the body.[55]

Fundamental vital work

The "fundamental vital work" argument seems to offer an alternative to the "integration" argument, but ultimately is subject to a similar critique. "Work" seems to capture Aristotle's *energeia* (ἐνέργεια) and Thomas's *operatio*. To say that any "work" constitutes the unity or wholeness of something is to say that this thing is one and whole through that work, which is something accidental to the being which works. It is to say that

[53] It is possible that there be two central organs, one central to sense-related functions (the brain) and the other central to vegetative-type functions (the heart).
[54] Thomas Aquinas, *De anima*, q. 9 (Robb, 130).
[55] Ibid., q. 10 (Robb, 139).

this thing is one in an accidental sense and not substantially. For example, we speak of the work of an orchestra (playing music) as what constitutes the unity of the orchestra; it does so precisely because an orchestra is not a "substantial whole" but rather an "accidental whole": the parts of an orchestra are substances themselves, who continue to be the substances they are when they gather together for the purpose of making music.[56] To assert that any *operatio*, any work, is the unity of the living being, is to suggest that the way an organism is one is like the way an orchestra is one. If this strikes us as problematic, then we may find that like Thomas, we have to side instead with Aristotle, and say that the being, the actuality of the living being, is not any one of its "works" but is its soul or life; thus Aristotle calls soul "first actuality of a natural body that is potentially alive."[57] It follows that we cannot infer non-being from non-working: we cannot infer from the absence of any particular "work," no matter how "vital," that the organism no longer exists, for as Thomas puts it, "a thing that has a soul is not always in actuality with respect to a work of life (*operum vitae*)."[58]

Loss of rational, sensitive, and vegetative activity

In order to bring the remaining three arguments into conversation with a scholastic framework, we need to think not only about the distinction between operation and being,

[56] The metaphor of the human organism as an orchestra with the brain as conductor has appeared in recent literature on brain death, e.g. Melissa Moschella, "The human organism is not a conductorless orchestra: a defense of brain death as true biological death," in *Theoretical Medicine and Bioethics* 40.5 (Oct. 2019): 437-543. The point here is not to engage the questions of whether an orchestra can operate without a conductor or whether the brain should be compared to a conductor, but rather to highlight the deficiency of the metaphor as a whole. Compared to an orchestra, a living organism represents an ontologically different kind of unity.

[57] Aristotle, *De anima* II.1.412a27-28. English translation by Terence Irwin and Gail Fine, *Aristotle: Introductory Readings* (Hackett, 1996), 81.

[58] *ST* I, q. 77, a. 1 (San Paulo ed., 363a): "Invenitur autem habens animam non semper esse in actu operum vitae."

but also about the distinction between the essence of the soul and its powers. Here is another possible equivocation on "capacity" which could mean what Thomas refers to as a "power of the soul" or what he calls the "subject of a power." Thomas identifies the soul as the principle of its powers, which are diverse. The subject of a power, on the other hand, is an "operative potency, that is a power to operate."[59] The organ-power composite is the subject of those powers that require a bodily organ.[60] The absence of an operation does not immediately indicate absence of the subject of an operative power, much less absence of the principle of that power. That the subject of a power can exist in the absence of operation is evident when we consider completely normal examples, such as the lapse of rationality that occurs in sleep, the lapse of sensation experienced in temporary numbness; and the lapse of reproductive activity in the periodic sterility of the menstrual cycle. In all these cases, the subject (and of course the power) remain in the temporary absence of operation.

But what about damage to the organs in which the power operates? Thomas's distinction would cause us to say that the subject of the power is indeed absent, since the subject is the organ-power composite. But the soul as principle of the power remains, such that if a damaged organ could somehow be repaired, the power could again function.[61] If,

[59] *ST* I, q. 77, a. 5 (San Paulo ed., 366a): "subiectum operativae potentiae, quod est potens operari."
[60] Ibid. For Aquinas, intellect and will are exceptions insofar as the operations of these powers occur without a bodily organ; thus, the subject of the intellect and will is the soul alone. This will be explained more fully later in this paper, in direct response to the fourth argument.
[61] See Aristotle, *De Anima* I.4.408b21-22: "... if the old man could recover the proper kind of eye, he would see just as well as the young man." Translated by J. A. Smith in *Aristotle: Basic Works*, ed. Richard McKeon (Random House, 1941).

then, all the powers are rooted in the soul as principle,[62] then all living powers are present at least virtually so long as life is present. In brief, the principle of all life-powers is present so long as the soul (that is, life) is present, while the subject of the power is present so long as there is life and the necessary organ. This distinction prepares us to consider the remaining arguments, all of which infer death from the absence of some kind of life-activity.

The fourth argument correctly recognizes rationality as what distinguishes human animals from other animals. It is not, however, able to demonstrate the absence of either the power or the subject of rational activity. It cannot demonstrate the absence of a power without demonstrating the absence of life, but that some (lower-level) life activities are present is assumed—otherwise, the argument would have no point. But in the case of rationality (if by this we mean what Thomas calls *intellectus*), the subject and principle of the power are one and the same. For the intellectual act is an immaterial act, and an immaterial act requires an immaterial subject. That is, intellect, the power which enables us to reason, is a power whose subject is simply the soul, not the soul and body. It is a spiritual (immaterial) power which does not have an organ through which it acts.[63] According to its normal way of operating, the intellect does of course make use of an organ, the brain, in order to provide content for its thought. But its actual operation is immaterial and hence unobservable by empirical instruments. What we do observe when we "observe" brain states are not the cause of intelligence, but the data on which intelligence works, and

[62] *ST* I, q. 77, a. 5, ad 1 (San Paulo ed., 366b): "... omnes potentiae dicuntur esse animae, non sicut subiecti, sed sicut principii ..."
[63] *ST* I, q. 76, a. 1, ad 6 (San Paulo ed., 352b).

what we observe in perceiving words and other intelligent signs, are the effects of intelligence.[64]

Thomas recognizes the difficulty of maintaining the thesis that the human soul is on its own a subject, a spiritual substance, and at the same time maintaining that the soul is the form of a material body with which it forms one thing, a living animal. It would seem easier to maintain that a man has two 'souls' – one which is responsible for his thought and volition, for the personal acts which we associate with being human; the other of which would be his 'material soul,' that which animates his body. This would mean that there could be two deaths for a single human being: the death of the person and the death of the organism. The problem, of course, is that this thesis totally undermines the substantial unity of the human being.[65] It is essentially the Cartesian view of man as an inexplicable conjunction of *res cogitans* (thinking thing) and *res extensa* (extended thing). There is probably no point more central to Thomas's account of the human soul than this: the human soul is both a spiritual substance—which is immortal and able to exist on its own—and the form of a material body. Only by holding together these two theses can the substantial unity of the human person as thinking animal be explained.

With regard to sentience, the fifth argument rightly observes that the power to sense is what makes a living being an animal. This power is what Thomas would call the

[64] Spaemann, "Is Brain Death the Death of a Human Person?" 53.

[65] The Council of Vienne (1312) affirmed the understanding of the human soul as "anima forma corporis." Denzinger-Schönmetzer, *Enchiridion Symbolorum*, ed. 34 (Barcelona: Herder, 1967), §902. The Fifth Lateran Council (session 8, 19 Dec. 1513) affirmed the immortality of the intellective soul (Denizinger, §1440). Pius IX in the brief "Eximiam tuam" (15 June 1857) affirmed the teaching on the rational soul as informing the body immediately (Denizinger, §2828).

specific difference which differentiates animal life from vegetable life. The fifth argument also rightly observes the close connection for human animals between rationality and sensation. Yet the argument relies on an equivocation between "capacity" in the sense of "power of the soul" and "capacity" in the sense of "subject of a power," which leads to the surprising conclusion that a being could remain an organism and yet be dead (dead as an animal but not dead as a vegetable?). If this were true, then by implication there are either actually or potentially multiple souls in a human being. According to the first alternative, a human being would have at once a rational soul, a sensitive soul, and a vegetative soul. The first two having departed, the third could still remain. As already noted, when we introduce multiple substantial forms, we sacrifice the unity of the being. An organism that has three souls is not one, but three organisms. According to the second alternative, the one soul which animates the human being would be potentially multiple souls. This would make a human like one of the "worm-like animals, which possess one soul in act and several in potency."[66] But this is not true of any of the higher animals, whose complexity does not allow for such division of the body. Therefore, if the soul is indeed the form of the body, one cannot maintain that death has occurred *and* that there is still an organism.

It seems to be true, as the argument says, that sentience depends on a functioning brain, and that rationality depends on sentience. In other words, the activity of sensation, or at least the acts of interior sense powers, make use of the brain as its organ, and if the

[66] Thomas Aquinas, *De anima*, q. 10 (Robb, 141). Aristotle was aware of the ability found in some species of flatworms to regenerate entire bodies from fragments. For a contemporary account, see Peter W. Reddien and Alejandro Sánchez Alvarado, "Fundamentals of Planarian Regeneration," *Annual Review of Cell and Developmental Biology* 20 (2004): 725-757.

requisite part of the brain is non-functioning, there is no subject of that particular sense power. And the activity of reasoning makes use of the products of sensation; "the soul cannot understand without a phantasm" is the Scholastic axiom.[67] But the absence of activity is not the absence of a power, as we have seen, nor is absence of the subject of a power equivalent to absence of the principle of the power.

Finally, with regard to nutritive or vegetative operations and powers: such powers are indeed identified by Aristotle and Aquinas as the fundamental (i.e. most basic) vital powers. If we consider circulation and respiration as manifestations of vegetative powers in an animal, then it makes sense to look for these as signs of life. The brain, according to Aquinas, is mainly the organ of the interior sense powers, and therefore severe damage to the brain would indicate not so much the loss of the subject of vegetative operations, but the loss of the subject of sensitive operations. More recent research—for instance, Alan Shewmon's work—seems to indicate that the brain is not the integrator (or coordinator) of all the vegetative operations.[68] This is a question worth pursuing, but is not actually necessary to know the answer for our purposes here. Even if the brain *does* turn out to be the organ responsible for the coordination or integration of vegetative operations, this activity of coordinating or integrating is not itself the life of the organism, but one of the operations of the soul, which is its life. The absence of life (that is the soul, first actuality) is what death is, not the absence of any particular operation or coordinated set of operations.

[67] Thomas Aquinas, *In III De anima* , lect. 6 (Rome: Commissio Leonina, 1984), 45.1: 231b133-134): "*anima* non potest intelligere *sine fantasmate*."

[68] See, for example, D. A. Shewmon, "The Brain and Somatic Integration: Insights into the Standard Biological Rationale for Equating 'Brain Death' with Death," *Journal of Medicine and Philosophy* 26 (2001): 457–78; and "Brain Death: Can It Be Resuscitated?" *Hastings Center Report* 39.2 (2009): 18-24.

If no "vital operations" can be observed, this is taken as a reasonable sign of death, which is not itself observable.

<u>A broader context in which to set the question of brain death</u>

There is a certain way of approaching the history of philosophy, says Timothy Noone, such that we come to it with our contemporary questions in hand, saying, "Do you have any materials … that could help us with our questions?" "Notice," he continues, "that behind such questions there is no serious interest in asking whether our questions are the right questions."[69] In this colloquium, we are asking questions about brain death and we are going to Thomas Aquinas for help in answering them. And so we ought to do: there are excellent reasons for attending to an authority who assimilates so much of patristic and ancient thought, and whose thinking has shaped so much of the Church's articulation of the deposit of faith. We want to know what Thomas said about death and life, but not so much because *he* said it; rather, we want to know what he said insofar as his insights and formulations help us in our task of understanding the realities before us. Professor Noone's warning, however, indicates a subtler danger— that we will so attend to those parts of Thomas's thought that relate explicitly to our questions, that we will miss other insights, which might be even more relevant, had we thought to put to him a different question.

For this reason, I want to conclude by suggesting a broader context for Aquinas' thinking on death which might be helpful to keep in mind. That context, unsurprisingly, is

[69] Noone gave these remarks in his inaugural lecture for the Kurt J. Pritzl OP chair of Philosophy at CUA, published in *Mystery & Intelligibility: History of Philosophy as Pursuit of Wisdom*, ed. Jeffery Dirk Wilson (The Catholic University of America Press, 2021), 52.

both anthropological and theological. Put simply, it is the human and spiritual significance of death, which tends to be obscured by the obsession with identifying a precise "moment of death," after which we can safely treat the body as a corpse. Ironically, for the sake of saving a human life, the most important moment of another human life may be overlooked.

First, Aquinas understands death in general as a punishment for original sin. As punishment (*poena*) it is something suffered.[70] But human death has the possibility of being not only suffered, but in a certain sense, something "done." That is, by accepting death, one makes it an act and not merely something passively endured. Second, the Christian tradition thinks of death as a moment of transition and of encounter. It is a *transitus* from one mode of living to another, since the life of man is his soul, which is immortal, and cannot be destroyed.[71] Third, human death has been transformed by Christ's having suffered it in loving obedience and overcome it: the language of the Cross as the tree of *Life* is not poetic excess, for on the Cross, Christ who is our life, died. The One who died is at the same time God Who Is Life Itself, whom death cannot hold. If we believe in Christ's death and resurrection—united with him in grace—we die and rise with him; the character of death is forever changed by this event, and not only for the one who believes, but for all creation. The sort of questions that these considerations suggest are evidently rather different from the ones we encounter in the "brain death" literature—questions like the following:

[70] See *De malo*, q. 5, a. 4: "Whether death and other defects of this life are punishment for original sin."
[71] *ST* I, q. 75, a. 6; *De anima*, q. 14.

First, if death is in some sense something we 'do,' then it is a moral act: something that can be done well or ill. What then constitutes a "good death" and how does a person prepare to die well? And then, how do the modern circumstances of death relate to a good death? Do they make it easier or harder to achieve? On this subject, Josef Ratzinger observes:

> Indeed, sickness and death are becoming purely technological problems to be handled by the appropriate institution. These basic human things are thus pushed to the margins, not just so far as our deliberate thoughts about them are concerned, but socially, structurally. They cease to be physical and metaphysical problems which must be suffered and borne in communion of life, and become instead technical tasks technically handled by technical people.[72]

Second, if death is a punishment, ought we to desire it as just? Can we do that and still seek to avoid it as long as we can? If death is an encounter, ought we to desire it under this aspect? Can we at the same time desire it and fear it? Can we desire it for another, or only for ourselves? Third, if death is now, thanks to Christ's saving work, joined with the promise of resurrection, what does this mean for how we treat the bodies of the dead? What are the most appropriate ways of affirming in our actions towards the dead that we believe in the resurrection of the body? Perhaps we need to be more wary about turning death, which is a physical and metaphysical problem, into mainly a problem of "praxis." In our anxiousness to "determine" death, let us not forget what death is.

[72] Josef Ratzinger, *Eschatology: Death and Eternal Life*, 2nd ed., trans. Michael Waldstein (The Catholic University of America Press, 1988), 70.