



# Where Life Lies: Defending the Concept of Higher Brain Death from a Thomistic Perspective

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*My paper seeks to bring into agreement a Thomistic understanding of the human soul and the modern medical concept of “higher brain death.” Navigating an intense personal event catalyzed my argument that the destruction of the faculties which rationality requires is what constitutes death in an individual. This has ramifications for anyone wondering about what it means to be alive—as well as those in the medical field.*

## INTRODUCTION

MY GRANDFATHER LOOKED LIKE he was only asleep: he had a pulse, his eyelids fluttered occasionally, and his chest rose and fell—with the aid of a ventilator. I, fresh off the plane from Wheaton, had just found my grandmother within the depths of the Cleveland Clinic. Uncertainty swirled. Less than 48 hours ago my grandfather was complaining of a headache; now we were positive something was terribly wrong, but unsure as to what exactly had happened. As I stood beside his hospital bed that gray December morning, my understanding of what it means to be alive began to be fundamentally transformed.

In this essay, I’ll attempt to understand what happened to my grandfather through a Thomistic lens, which will lead me to argue that a close reading of Aquinas mandates that the contemporary understanding of what constitutes brain death must be expanded. The first half of this essay will be primarily exploratory: I will compare and contrast brain death with vegetative states, examine Aquinas’ understanding of what it means to be human, and discuss the Thomistic understanding of rational thought—the intellect. The second half will use the groundwork provided to defend the traditional concept of brain death from a Thomistic perspective and argue that this definition must be expanded. I will then consider some selected objections before finally offering a brief conclusion.

## TOTAL BRAIN DEATH VS. OTHER TYPES OF BRAIN DAMAGE

The mechanical ventilator my grandfather had been using that morning was introduced during the 1950’s. In addition to its surgical uses, it also allowed physicians to maintain traditional signs of life in patients which had sustained a critical and irreversible brain injury. Without a ventilator and other life supporting measures, these patients would have died in the traditional sense. The negative impacts of constraining the definition of death to cardiorespiratory failure quickly became clear; in addition

to the emotional burden on that particular patient’s family, allocating resources to brain dead patients caused a drain on hospitals and denied those in need of a hospital bed the chance of treatment. Simultaneously, surgical advances allowed for the successful transportation and transplantation of organs, thereby creating a difficult situation in which the demand for healthy organs far outpaced their supply. It was clear that a new definition of death was needed—one which carried the same legal meaning as cardiorespiratory death.

In 1968, an Ad Hoc Committee convened in Harvard Medical School declared that individuals were dead given the “irreversible loss of all functions of the brain, including the brainstem.”<sup>1</sup> The brain was, and still is, determined to be an integrator which coordinates bodily processes, and its inability to function precludes the body from functioning as well; as a result, cardiorespiratory death follows the withdrawal of intensive care. This definition was quickly adopted by state and federal legislatures and, legally, remains synonymous with cardiorespiratory death. As the criteria for whole brain death are relatively clear, the determination to withdraw intensive care measures is mandated by law.

Yet brain injuries are not always this comprehensive, nor is the extent of the damage immediately clear—as was the case with my grandfather. What is more likely is that a patient is in a vegetative state, a minimally conscious state, or suffers from locked-in syndrome. Individuals in a minimally conscious state or who are “locked in” show at least some activity in parts of the brain besides the brainstem—most importantly, the areas of the brain which are responsible for rational thought. The brainstem is responsible for regulating life-sustaining measures; the structures for rational thought exist within the higher brain. Figure 1, below, illustrates this point:

<sup>1</sup> Ajay Kumar Goila and Mridula Pawar, “The Diagnosis of Brain Death,” *Indian Journal of Critical Care Medicine*, 131 (2009): 7-11.

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FIG. 1. The authors of the study argue that the area within the triangle, the precuneus and adjacent posterior cingulate cortex, is responsible for consciousness. Note that even in minimally conscious states, there is substantial activity whereas there is none for patients a vegetative state.<sup>2</sup>

Taking this into consideration, this paper will focus on patients who have sustained a critical and irreversible injury to their “higher brain” in addition to those with destroyed brainstems. These are individuals who are in a persistent vegetative state as well as those who have undergone whole brain death.

Individuals are classified as being in a persistent vegetative state (PVS) if they remain in a vegetative state for over one year.<sup>3</sup> Patients who exist within a PVS have suffered permanent, irreversible damage to the parts of their brain which are responsible for, among other things, memory and imagination: this distinction will be important later in the essay.

Whether or not individuals in a PVS are alive is in high dispute. Legally, the answer is yes: in the absence of a court or do not resuscitate order, the hospital is obligated to keep the patient alive through artificial means. Without pre-written consent by patients to withdraw life support, their families are often required to liquidate the patient’s estate to pay for their intensive care—a financial burden which serves as a multiplier on the emotional one. Therefore, in addition to defending the traditional concept of brain death, I will argue in this essay that a Thomistic framework for understanding the human soul implies that patients in a PVS are also dead.

As time progressed, my grandfather’s health did not improve. Subsequent neural scans showed significant

<sup>2</sup> Steven et al, “Brain Function in Coma, Vegetative State, and Related Disorders,” *The Lancet Neurology* 3, no. 9: 537-546.

<sup>3</sup> The Multi-Society Task Force on PVS, Medical Aspects of the Persistent Vegetative State, *New England Journal of Medicine* 330 (1994): 1499-1508.

damage to the area within the triangle seen in Figure 1; moreover, he was unable to be weaned off of the ventilator. The ethical devil lay in the details: his brainstem was relatively undamaged, so he was not declared brain dead. Yet between his transfer from hospital to hospice, I began to wonder whether my grandfather was truly alive. To understand whether a Thomistic framework would deem he was so, we must determine what Aquinas says it means to be a living human.

#### WHAT DELINEATES HUMANS FROM OTHER ANIMALS?

Aquinas relies on an inherited Aristotelian framework to explain the relationship between the soul and the body, agreeing with Aristotle that “the soul is the cause or source of the living body.... It is the source or origin of movement, it is the end, it is the essence of the whole living body.”<sup>4</sup> This hylomorphic account of being dictates that the soul is the organizing principle of matter, so it follows that all living organisms have one: plants have vegetative souls, animals have appetitive souls, and humans have rational souls. These different types of souls vary in their complexity and ability. For example, the vegetative soul of an aspen is sufficient for its needs insofar as it fulfills the requirement of a tree to acquire sunlight and water. Humans, on the other hand, are slightly more complex than plants—in addition to seeking the preconditions for survival, we also create music, invent societies, and fly spaceships. But what allows us to do this, and what separates us from other animals?

For Aquinas, the answer is obvious: human beings can reason. While humans do have instincts like animals, our cogitative faculty is substantially different:

[Human beings] apprehend the individual thing as existing in a common nature, and this because it is united to intellect in one and the same subject. Hence it is aware of a man as this man, and this tree as this tree; whereas instinct is not aware of an individual thing as in a common nature, but only in so far as this individual thing is the term or principle of some action or passion.<sup>5</sup>

It is important to note that Aquinas believes that this ability, otherwise known as the intellect, is not the soul but is rather a power of the soul: “the active intellect, of which [Aristotle] speaks, is something in the soul.”<sup>6</sup> Yet when

<sup>4</sup> Aristotle, *De Anima*, Book II Part 4.

<sup>5</sup> Thomas Aquinas, *Commentary on Aristotle’s De Anima*, 2.13.298.

<sup>6</sup> Thomas Aquinas, *Summa Theologica*, 1a79.4.

explaining human behavior, it is difficult to overstate the importance of the intellect. Life, the proper functioning of the soul, necessitates the proper functioning of the intellect. Essentially, this means an individual is able to command the sensory organs (responsible for the five senses) through the intellect: “Now life is shown principally by two actions, knowledge and movement.”<sup>7</sup> To die, therefore, is to have the soul separate from, and thereby cease to inform, the matter of the body. Operating within a Thomistic definition of death is contingent upon accepting his belief in the unicity of substantial forms:

Thus, we say that in “this man” there is no other substantial form than the rational soul, and that by it man is not only man, but animal, and living being, and body, and substance, and being.<sup>8</sup>

Aquinas makes it clear that an individual cannot regress from a rational soul to an appetitive or vegetative one. All aspects of humanity are bound up in one informing principle of matter; under this Thomistic framework, I will argue that the destruction of the delineating factor between humans and other beings is what constitutes the death of a particular individual.

#### THE INTELLECT AND NEURAL COMPLEX

Yet according to Aquinas, the intellect, the very thing that distinguishes humanity from animals, is not found within the body:

[W]hatever is received into something is received according to the condition of the recipient. Now a thing is known in as far as its form is in the knower. But the intellectual soul knows a thing in its nature absolutely: for instance, it knows a stone absolutely as a stone; and therefore, the form of a stone absolutely, as to its proper formal idea, is in the intellectual soul. Therefore, the intellectual soul itself is an absolute form, and not something composed of matter and form. For if the intellectual soul were composed of matter and form, the forms of things would be received into it as individuals, and so it would only know the individual: just as it happens with the sensitive powers which receive forms in a corporeal organ; since matter is the principle by which forms are individualized. It follows, therefore, that the intellectual soul, and every intellectual substance which has knowledge of forms absolutely, is exempt from composition of matter and form.<sup>9</sup>

<sup>7</sup> *Summa Theologica* 1a75.1.

<sup>8</sup> Aquinas, *On Spiritual Creatures*, Article 3.

<sup>9</sup> *Summa Theologica*, 1a75.5.

Aquinas believes that our ability to differentiate between this tree and that tree requires an abstraction as to what a tree actually is. For example, if we came across something totally unknown to us but with a trunk and leaves, we would more likely than not call it a tree—because we are able to superimpose our knowledge of the form of a tree onto that thing in front of us. The immaterial abstraction of what constitutes a tree, Aquinas reasons, must be stored in an immaterial organ, as he purports that sensory organs are incapable of abstraction. Why he believes this is outside the scope of this paper, and the main takeaway is that the intellect does not rest in any physical organs within the body.

That being said, the intellect cannot, and does not, act alone. Aquinas believes the process of cognition begins with information being received through the five external senses and then being transmitted to what he calls “internal senses.” There are five internal senses: imagination, memory, estimation, phantasia, and common sense. The imagination and phantasia produce phantasms, which are “the sensory data that are necessary preconditions for intellectual cognition.”<sup>10</sup> Aquinas deems phantasms absolutely critical for intellectual cognition:

[I]f the active intellect were related to the possible intellect as an active object is related to a power... it would follow that we would immediately understand all things... But, as it is, the active intellect is related not as an [active] object, but rather as what actualizes [cognitive] objects. What is required for this – besides the presence of the active intellect – is the presence of phantasms, the good disposition of the sensory powers, and practice at this sort of operation.<sup>11</sup>

The immaterial, intellectual operations human beings conduct while bodies are rationally ensouled cannot happen without the presence of the phantasia; it is the phantasia working in conjunction with the other internal senses, specifically the imagination, that allows for the proper functioning of the intellect. While “animals are largely governed by their imaginations,”<sup>12</sup> human beings possess these functions to a higher degree.

Aquinas, in his commentary on Aristotle’s *De Anima*, remarks that the type of imagination—and therefore phantasia—found in humans is improved to such a degree by the presence of the intellect that its operation is substantially distinct from those found even in what he deems higher animals: “brute animals have no power above the

<sup>10</sup> Eleonore Stump, *Aquinas*, 17.

<sup>11</sup> *Summa Theologica*, 1a79.4.

<sup>12</sup> *Commentary of Aristotle’s De Anima*, 3.6.660.

imagination wherewith to regulate it, as man has his reason, and therefore their imagination follows entirely from the influence of the heavenly bodies.”<sup>13</sup>

I’ll refer to the five internal senses as the neural complex and eventually argue that the intellect requires the proper functioning of the neural complex as a precondition for rational ensoulment.

Given our current understanding of the human brain, is it possible to determine the location of the neural complex? Neuroimaging has shown that the neural complex is supported by a wider set of brain areas beyond the hippocampus... [such as] the medial and lateral prefrontal, posterior cingulate cortex, retrosplenial cortex, and lateral temporal cortices.<sup>14</sup>

These areas of the higher brain are distinct from the brainstem, which is responsible for the regulation of vital cardiac and respiratory functions.<sup>15</sup>

#### A THOMISTIC ARGUMENT FOR WHOLE BRAIN DEATH

Knowing what we now know about the Thomistic understanding of humanity and life, is it possible to expand the criterion of death beyond the cessation of cardiorespiratory function? Aquinas recognized that the proper functioning of some bodily functions, such as respiration, was necessary for the soul to inform the body. Aquinas noted that their removal signified death:

[T]he union of soul and body ceases at the cessation of breath, not because this is the means of union, but because of the removal of that disposition by which the body is disposed for such a union. Nevertheless, the breath is a means of moving, as the first instrument of motion.<sup>16</sup>

Upon consideration of the above, both defenders and critics of a Thomistic understanding of brain death agreed that only a properly disposed body meets the conditions for rational ensoulment.

Aquinas’s inherited hylomorphic framework necessitates a coordinating agent of the body: “[T]he powers of the soul are diffused throughout the whole body by the heart. Therefore, the heart is nearer to the soul than the other parts of the body, and thus the soul is united to the

<sup>13</sup> *Summa Theologica*, 1a.86.4.

<sup>14</sup> Sinéad Mullally and Eleanor Maguire, “Memory, Imagination, and Predicting the Future,” *Sage* 20, no. 3 (2013): 220-234. Recall the image from page 2: the idea that the posterior cingulate cortex was responsible for higher reasoning was the key result of that particular study.

<sup>15</sup> Robert Joynt, *Encyclopedia Britannica*, s.v. “Brainstem.”

<sup>16</sup> *Summa Theologica*, 1a 76.7.

body by means of the heart.”<sup>17</sup>

In a modern context, it is easy to imagine that Aquinas would have considered the brain a better physiological candidate than a heartbeat and breath in that integrative role. Jason Eberl concisely argues that the cause of respiration—the brain—is responsible for integration:

[I]f there is a primary organ that causes respiration, and respiration is an essential activity for bodily integration, thereby signifying a rational soul’s union with its body, then the causal functioning of the primary organ is an integrative activity and an essential sign of rational ensoulment.”<sup>18</sup>

I agree with Eberl that an updated Thomistic framework confirms the concept of whole brain death. But how would it be applied in cases such as my grandfather?

#### A THOMISTIC ARGUMENT FOR HIGHER BRAIN DEATH

By January of 2020, it was clear that my grandfather had sustained massive damage to his “higher brain,” but his brainstem was largely intact. Due to his age and preexisting health issues, it was clear that his condition would not improve; yet, utilizing the definition of brain death provided by Eberl, my grandfather would technically have been alive. While his neural complex was irreversibly destroyed, Eberl would argue that his intact brainstem still served as an integrator for the rest of the body. This is where he and I diverge.

Because the intellect needs material structures in place to function within a body, the neural complex constitutes a precondition for rational ensoulment. Therefore, considering the Thomistic belief in the unity of substantial forms, the destruction of the neural complex results in the death of an individual. This leads me to argue that complete and irreversible damage to the areas of the higher brain responsible for the proper functioning of the intellect, even without the total destruction of the brainstem, constitutes death.

In an attempt to find a metaphysical grounding for his practical ethical applications, Eberl undermines his own argument in saying that the destruction of the neural complex does not constitute death. He disagrees with the “claim that the radical capacity for sentience [in human bodies] is the essential divisor between rationally ensouled human beings and non-human bodies.”<sup>19</sup> Yet it is clear that

<sup>17</sup> Aquinas, *Disputed Questions: On the Soul*, 9.13.

<sup>18</sup> Jason Eberl, “A Thomistic Defense of Whole Brain Death,” *The Linacre Quarterly* 83, no. 3 (2015): 235-250.

<sup>19</sup> Eberl, “A Thomistic Defense of Whole Brain Death,” 235-250.



it is the presence of the intellect that separates a rational soul from an appetitive or vegetative one. Aquinas, in his doctrine of the unicity of substantial forms, makes it clear that a rationally ensouled human could not, definitionally, regress from a rational soul to an appetitive or vegetative one. For the proper functioning of the intellect in a human body, the *structures by which the intellect is supported—that provide the input and basis for rational based decision making*—constitute the prerequisites for rational ensoulment.

If we were to agree with Eberl's reductionist argument, we would have to affirm that it is just the brainstem that is the precondition for rational ensoulment. This leaves him open to his own counterexample: "[I]t becomes theoretically possible to claim that a dog, mouse, hydrangea, or cell phone is informed by a rational soul based on mere assertion-without-evidence that it possesses radical capacities for life, sensation, and rational thought."<sup>20</sup> If we only examined the brainstem to determine whether a being was alive, we could hypothetically claim that a dog once had the capacity for rational sentience and is therefore dead. Additionally, Eberl's argument would imply that individuals with a functioning neural complex but a destroyed brainstem—individuals suffering from "locked in" syndrome—are not alive, when they clearly are: one such individual, Jean-Dominique Bauby, was able to author a book.<sup>21</sup>

An examination of the neural complex precludes any conversation about life or death. Insofar as those structures are permanently destroyed, the necessary conditions for rational ensoulment no longer exist.

Eberl's metaphysical obligations re-established, it is easy to see that the real reason for dismissing this possibility of higher brain death is ethically driven:

[I]ndividuals in a persistent vegetative state, like Terri Schiavo, exhibit no reliable evidence of conscious awareness at any level. There are other types of patients, however, who are minimally conscious or who suffer severe dementia to the point that, while sentient at a basic level, they lack sufficient neocortical functioning to support a reasonable inference that they possess the radical capacity for rational thought.<sup>22</sup>

Eberl improperly unifies two distinct states of brain damage: persistent vegetative states and minimally conscious states. An individual in the former state has no activity in their neural complex, reflecting its destroyed state; an individual in the latter has some activity, showing that it is still intact. This lack of delineation

<sup>20</sup> Ibid.

<sup>21</sup> *The Diving Bell and the Butterfly* is the name of that book.

<sup>22</sup> Eberl, "A Thomistic Defense of Whole Brain Death," 235-250.

allows him to argue that practically, it is impossible to determine whether an individual possesses the necessary structures for rational ensoulment. Because of that, physicians could potentially withdraw intensive care from individuals who are still alive.

Eberl is exactly right in saying that it is oftentimes exceedingly difficult to determine how much higher brain damage an individual has sustained; this was exactly the case with my grandfather. Numerous examples exist of patients emerging from vegetative states, which lends credibility to his concern that an overly simplified criteria for diagnosing higher brain death, one solely based off of the absence of activity in the neural complex, would have dangerous ethical consequences. This is why I argue that it is not the lack of activity, which in many cases is temporary, but the complete destruction of the neural complex which constitutes death. Because patients that exist in a persistent vegetative state have a rate of recovery which approaches zero yet lack the benefit of a legal framework that would declare them dead, Eberl's ethical objection does not apply.<sup>23</sup>

The logical conclusion of the above argument concerning whole brain death is that what constitutes brain death must be expanded to include patients in a persistent vegetative state, for their destroyed neural complexes do not meet the necessary preconditions for rational ensoulment.

Under this extended framework, then, my grandfather did not meet those necessary conditions.

#### CONSIDERING VARIOUS OBJECTIONS

The metaphysical objections to higher brain death addressed, I will now briefly turn to considering objections against its grounding: whole brain death. Because arguments for higher brain death are predicated upon a belief in whole brain death, these objections have consequences for both arguments.

The first objection perceives an incongruity between my point of view and the Thomistic belief that the intellect is distinct from the body. This objection argues that arguments for whole brain death would concede a connecting point between the body and the intellect. This would imply that the soul is corruptible, something which Aquinas explicitly rejects: "the intellectual principle which we call the human soul is incorruptible."<sup>24</sup>

<sup>23</sup> The Multi-Society Task Force on PVS, Medical Aspects of the Persistent Vegetative State, *New England Journal of Medicine*, no. 330 (1994): 1499-1508.

<sup>24</sup> Aquinas, *Summa Theologica*, 1a.75.6. By "corruptible" I mean the human soul could decay in the same way the soul of an animal does.

This view does not take into account how Aquinas originally viewed the interaction between the intellect and the body. Aquinas believes that the intellect understands the body by viewing it as its object: “[O]ur intellect’s object is the nature of a material thing as that by which it understands.”<sup>25</sup> The intellect can exist apart from the body, but not function in the manner that is most beneficial for it.

Therefore, to make it possible for human souls to possess perfect and proper knowledge, they were so made that their nature required them to be joined to bodies, and thus to receive the proper and adequate knowledge of sensible things from the sensible things themselves; thus, we see in the case of uneducated men that they have to be taught by sensible examples. It is clear then that it was for the soul’s good that it was united to a body, and that it understands by turning to the phantasms. Nevertheless, it is possible for it to exist apart from the body, and also to understand in another way.<sup>26</sup>

While Aquinas believes the intellect can function without a body, it is for the soul’s benefit that it receives input from the neural complex. This is why the New Testament focuses on the resurrected body as a prerequisite to the beatific vision: “[I]f the Spirit of Him who raised Jesus from the dead dwells in you, He who raised Christ from the dead will give life to your mortal bodies also through His Spirit that dwells in you.”<sup>27</sup>

Michel Accad, a physician, provides the second objection. He purports that the assertion that intensive care “masks” death is incorrect, as it implies

the ventilator, for example, which only manifests a simple power of insufflation, can account (momentarily) for the very complex effect of bodily integration—a task precisely attributed to the remarkably complicated brain.<sup>28</sup>

Moreover, there are numerous cases of bodies surviving for longer periods than expected.<sup>29</sup> An excellent contemporary example would be the case of Jahi McMath, a teenager from California. After being declared brain dead in 2013 following complications from a routine surgery, she

<sup>25</sup> Aquinas, *Summa Theologica*, 1a.87.2.

<sup>26</sup> Aquinas, *Summa Theologica*, 1a.89.1.

<sup>27</sup> Rom. 8:11

<sup>28</sup> Michael Accad, “Of Wholes and Parts: A Thomistic Refutation of ‘Brain Death,’” *The Linacre Quarterly* LXXXII, no. 3 (2015): 217-234.

<sup>29</sup> Alan Shewmom, “Recovery from ‘Brain Death’: A Neurologist’s Apologia,” *The Linacre Quarterly* LXIV, no. 1, (1997): 30-96.

remained under intensive care for several years and eventually underwent puberty.

I believe Accad misses the forest for the trees: without a ventilator, the body *would* undergo cardiorespiratory death. The ventilator, and, for that matter, the multitude of highly complex machines that kept Jahi McMath alive, does not *integrate* the body on behalf of the brain but is a lesser *substitute* for *one* vast variety of bodily functions that result from a functioning brain. What will follow the withdrawal of intensive care is, ultimately, the cardiorespiratory death of an individual who is either brain dead or in a PVS. Moreover, the case of Jahi McMath is unrepresentative, for she had structures of the neural complex in place: “[L]arge areas of her cerebrum, which mediates consciousness, language, and voluntary movements, were structurally intact.”<sup>30</sup>

## CONCLUSION

To conclude, I find it critical to explain that I make the argument for higher brain death on behalf of individuals who are unable to withdraw intensive care from a family member who has undergone higher brain death due to their lack of previously stating that they would not want to be resuscitated (a DNR) and are unable to get a court order to withdraw intensive care. A Thomistic framework followed to its logical conclusion would have two consequences. First, it would afford families comfort that their decision to withdraw life supporting measures is warranted. Second, it would provide a framework by which laws could be updated to reflect this understanding of death. Both would result in a more compassionate approach to the patient and their family.

Part of the reason for the writing of this paper was to take comfort in the fact that withdrawing intensive care was to simply remove the mask which concealed the death of my grandfather from the wider world: in February, the family made the difficult decision to withdraw intensive care from my grandfather. Legally, he was not considered dead until that day in February, yet a Thomistic understanding of the human soul would put his death the day I arrived at the Cleveland Clinic in December.

It is perhaps a bit unsettling to argue my grandfather was dead, when, for months after his initial stroke, he seemed to be alive. Yet maybe his view of what it meant to be alive was closer to both mine and Aquinas’s: he made clear that he did not want to be resuscitated, perhaps realizing that life without consciousness was not really life at all.

<sup>30</sup> Rachel Aviv, “What Does it Mean to Die,” *The New Yorker*, February 5, 2018.

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