Dualist and Animalist Perspectives on Death

A Comparison with Aquinas

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In 1968, with the published report of the ad hoc committee of the Harvard Medical School,[1] many scholars and medical practitioners began to abandon the traditional cardiopulmonary criteria for determining when a human being has died. They argue that, since the brain is the central organ which regulates the body's metabolic functions, irreversible cessation of the functioning of the brain as a whole—cerebral cortex, cerebellum, and brain stem—constitutes death. This "whole-brain" criterion of death is based on the understanding that a human organism cannot function *as a unified whole* without a functioning brain.[2]

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[1] See "A Definition of Irreversible Coma: Report of the Ad Hoc Committee of the Harvard Medical School to Examine the Definition of Death," *Journal of the American Medical Association* 205.6 (August 5, 1968): 337–340.

[2] The whole-brain criterion has received legislative approval in several nations, including the United States in the Uniform Determination of Death Act. See 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* (Washington, D.C. Government Printing Office, 1981). In addition, it has received moral approval from the Roman Catholic Church. See John Paul II, "Address to the 18th International

The general acceptance of whole-brain death led to the postulation that perhaps not every part of the brain need irreversibly cease functioning for death to occur. Some scholars recognize that the so-called "higher-brain" functions of the cerebral cortex are responsible for the peculiarly human "personal" activities of conscious rational thought and volition. Hence, an argument is made that the death of a human *person* occurs when his cerebral cortex has been rendered irreversibly nonfunctional. This "higher-brain" concept of death is used as the basis to argue that patients in an irreversible *persistent vegetative state* (PVS) are no longer persons and thus should be considered dead.

In this essay, I will outline two contemporary metaphysical accounts of human nature—substance dualism and biological reductionism, also known as "animalism"—by elucidating the views of two representative theorists. I will show how these two accounts conceive of death and which of the above criteria each advocates. I will then contrast these accounts with St. Thomas Aquinas's view of human nature and death.[3]

Contemporary Perspectives on Human Nature and Death

Substance Dualism

According to Richard Swinburne, representing a *substance dualist* account of human nature, a human person has a material substance (body), to which his physical properties belong, and an immaterial substance (soul), to which his mental properties belong. During a person's "normal earthly life," both components exist linked together.[4] That a person "normally" exists as a soul and body linked together, however, does not entail that a person *must* exist in this way. Swinburne contends that a body is a *contingent* component of a person.[5] A person is essentially a soul, and a soul may be temporarily linked to a body which, for that period of time, is also a component of the person.

Swinburne argues for dualism by first asserting that "it is logically possible that persons continue to exist when their bodies are destroyed."[6] He imagines scenarios in which a person is able to experience and act either through someone else's body or without any body altogether. Swinburne concludes that there must be an immaterial

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Congress of the Transplantation Society" (August 29, 2000), reprinted in *National Catholic Bioethics Quarterly* 1.1 (Spring 2001): 89–92; and R. White, H. Angstwurm, and I. Carrasco de Paula, eds., *Working Group on the Determination of Brain Death and Its Relationship to Human Death* (Vatican City: Pontificia Academia Scientiarum, 1992).

[3] Another important contemporary view worth discussing in this context is *constitutionalism*; space does not permit me, however, to compare this view with Aquinas's in this essay. See Lynne Rudder Baker, *Persons and Bodies: A Constitution View* (Cambridge: Cambridge University Press, 2000).

[4] See Richard Swinburne, *The Evolution of the Soul*, rev. ed. (New York: Oxford University Press, 1997), 146.

[5] Ibid.

[6] Ibid., 147.

component of persons by virtue of which they are able to exist as disembodied.[7] Since it is at least logically possible for a person to survive without his body, there must be something more to a person than his body alone, and this something is the essential part of the person that preserves his identity through bodily change.[8]

It is difficult to determine when a person's life ends on a substance dualist construal of human nature. Since a person is essentially an immaterial soul, the end of a person's existence is the same as the end of the soul's existence. According to Swinburne, a person shares in the biological life of a human body only contingently. The question of when a person's *biological life* ends is in terms of when his soul's union with a human body ends. There does not appear prima facie any clear criterion by which to demarcate this boundary. Swinburne contends that what is required for a person—a soul—to be conjoined to a human body is the body's having the relevant *capacities* for those features that are definitive of a soul, i.e., logical thought, moral awareness, and free will.[9] Swinburne thus defines the end of a person's biological life in terms of the body's ceasing to exemplify the soul's definitive features. Swinburne describes a "person" as a being that "has a mental life of at least the kind of richness and complexity which humans have."[10] While the "richness and complexity" to which Swinburne refers are vague terms, he seems to mean at least a soul's definitive features listed above. What seems to follow from this understanding of personhood is that a person's soul would separate from his body if the mental features of which it was capable did not have the "richness and complexity" of a person's. It thus appears that Swinburne would advocate a "higher-brain" definition of death, in which a person's biological life ends if his body's cerebral cortex—the "higher" part of the brain responsible for conscious rational thought—irreversibly ceases to function.

Nevertheless, Swinburne holds that the same "individual"—say, John—may still be present in what is now merely an animal body, where the individual is no longer capable of conscious rational thought but retains the capacity to experience basic sensations. In such a case, John's soul is no longer the soul of a *person* in that it is capable of only an animal-like mental life: "'Person' must … be a phase-sortal, since an individual could cease to have a mental life of that complexity [i.e., the complexity required for personhood]; and yet in continuing to have sensations, continue to exist."[11] Thus, while John is not yet *dead* in this state, he no longer exists *as a person*. The criterion for John to cease being conjoined to a particular material

[7] Ibid., 151–154.

[8] See Richard Swinburne, "Personal Identity: The Dualist Theory" in *Personal Identity*, eds. Sydney Shoemaker and Richard Swinburne (Oxford: Blackwell, 1984), 27.

[9] See Richard Swinburne, *The Christian God* (New York: Oxford University Press, 1994), 25.

[10] Ibid., 31.

[11] Swinburne, *Christian God*, 31. Swinburne imagines a scenario in which a person's body is transformed into that of a gorilla. While the same individual persists through the change, he ceases to be both "human" and a "person." For Swinburne's account of "animal souls," defined as having a lower degree of conscious mental activity than the souls of per-

body, according to Swinburne, is the body not exemplifying any degree of mental life. John ceases to exist as a person if key areas of his cerebral cortex irreversibly cease to function; i.e., John's soul ceases to be the soul of a person, but remains conjoined to its body.[12] But John does not cease to be connected to his body until it exhibits no degree of mental life whatsoever through the total inactivity of the cerebral cortex. Hence, a body that is merely biologically alive without any capacity for sensation or conscious awareness would exist without an individual being conjoined with it; such a body would have no soul at all.

Animalism

Eric Olson asserts that a human being is not most fundamentally a *person*, or even a *human person*, but an *animal* of the species *Homo sapiens*.[13] Olson separates the concept of "person" from that of "human animal" and contends that the latter concept is fundamental to the nature of human beings.

To show the metaphysical distinction between the concepts of person and human animal, Olson considers the case of patients in a PVS. If accurately diagnosed, a patient in a PVS would be irreversibly unconscious and thus have no psychological states and no capacity to have psychological states again in the future, yet the body lives:

> When you lapse into a persistent vegetative state, the human animal associated with you appears to survive. There is still a living human animal there even after your psychological features have been completely and irrevocably destroyed; your life-sustaining functions were never disrupted … Nor does it seem that one animal has ceased to exist and been replaced by a new and numerically different animal. Hence, the animal that survives the loss of its mental properties is you, if you are an animal, and so you can persist without psychological continuity of any kind.[14]

Olson thus separates the concept of "person" from that of "human animal" by understanding the former wholly in terms of psychological features:

> Personhood is a complex psychological property: the difference between a person and a non-person is a difference in psychological capacities … a person is a rational being capable of thought, consciousness, and a certain kind of self-awareness that involves thinking of itself as tracing a path through time and space."[15]

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sons, see *Evolution of the Soul*, 180–183. Defining personhood as a "phase sortal" means that it is a category to which something may belong temporarily, but not essentially. Hence, according to Swinburne, an individual may exist without being a person.

[12] Swinburne does not elaborate on the degree of moral respect John deserves when he remains embodied but is no longer a person; presumably, it would be no more than any other animal that is not a person.

[13] See Eric Olson, *The Human Animal: Personal Identity without Psychology* (New York: Oxford University Press, 1997), 30.

[14] Ibid., 17.

[15] Ibid., 103. Olson bases his understanding of personhood on John Locke's widely accepted definition. See Locke's *An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon Press, 1975), II.27.9.

A human animal, on the other hand, need not have any psychological states or capacities. Rather, biological states and capacities define the nature of an animal's existence, and a certain genetic structure defines the nature of certain animals as *human*. In the case of PVS, the patient ceases to exist as a person, but may continue to exist as a living human animal.

Olson further argues that a human being is fundamentally an animal and exists as a person only for a period of time: "you could cease to be a person . . . without thereby ceasing to exist."[16] He claims "that *person* is analogous to *infant* or *adult* or *philosopher*, in that something may be a person at one time and a non-person at another."[17]

Olson notes that most philosophers accept that "person" is a *substance concept*, defined as follows:

> Every particular object falls under some kind or concept that tells us, in a special sense, what the object is, and not merely what it does or where it is located or some other accidental feature of it. And that concept determines persistence conditions that necessarily apply to all (and perhaps only) things of that kind.[18]

Substance concepts are contrasted with *phase sortals*, "such as *child*, *athlete*, or *philosopher*, which persons can belong to temporarily."[19] Olson argues that "person" is not a substance concept to which human beings belong. Rather, "our substance concept—what we most fundamentally are—is not *person*, but *Homo sapiens* or *animal* or *living organism*."[20] Human beings are persons in a phase sortal sense; i.e., a human animal may be a person for part of its existence, but is not fundamentally a person.

By identifying a human being with a biological organism, Olson holds that a human being's existence ends when the human organism ends its functional biological existence: "like other animals, we persist as long as our life-sustaining functions remain intact."[21] Olson thus disagrees with the higher-brain definition of death and holds that a human being remains alive even if irreversibly comatose: "A human vegetable that can be kept alive with a feeding tube is still a living human animal, even though it no longer has any mental functions."[22] Nevertheless, Olson also holds that a human being no longer exists as a "person" once the higher-brain functions have irreversibly ceased. Death finally comes for a human being once the *brain stem* ceases to function:

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[16] Olson, *Human Animal*, 24.

[17] Ibid., 25.

[18] Ibid., 28. Olson derives this concept from David Wiggins, *Sameness and Substance* (Cambridge, MA: Harvard University Press, 1980), 15.

[19] Ibid., 29. See Wiggins, *Sameness and Substance*, 24.

[20] Olson, *Human Animal*, 30.

[21] Ibid., 89. It is worth noting that one may identify a human being with a biological organism but disagree with Olson that a human being terminates at death; rather, a human being remains until the body has decomposed. See David Mackie, "Personal Identity and Dead People," *Philosophical Studies* 95.3 (September 1999): 219–242.

[22] Olson, *Human Animal*, 89.

"I have suggested that your brain stem, as the organ that is chiefly responsible for directing your life-sustaining functions, is essential to you, for without it there is no Lockean life [i.e., the life of a person] and no living human organism at all."[23]

Thomistic Perspective on Death

Aquinas's account of a human being's death begins with his understanding of a rational soul as a human body's substantial form and its *unitive* function as such: "the body is united by the soul; a sign of which is that, when the soul departs, the body is dissolved."[24] As the substantial form of a human body, a rational soul is the principle of the body's (1) existence (*esse*), (2) unified organic functioning, and (3) specific nature as a "human" body.[25] Aquinas understands a rational soul to be the principle of a human body's organic functioning and to operate by means of a *primary organ*.[26] Aquinas, following Aristotle, identifies the primary organ as the heart, although contemporary science would identify it as the brain.[27]

Aquinas defines death in two ways: "Since death is the loss of life, it must be similarly distinguished so that it designates at one time the loss of that union by which a soul is united to a body as form, and at another time the loss of the operation of life."[28]

Although he separates two understandings of the term "death" with respect to human beings, Aquinas nevertheless considers them united in one and the same event. When the union of a rational soul and its body is dissolved, the dissolution of the body's unified organic functioning immediately follows.[29]

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[23] Ibid., 140.

[24] Aquinas, *Summa contra gentiles* (SCG), II.58. All translations of Aquinas are my own, from the Leonine edition of Aquinas's works: *S. Thomae Aquinatis Doctoris Angelici Opera Omnia* (Rome: Commissio Leonina, 1882–). For an interpretive analysis of Aquinas's overall metaphysical account of human nature, see Eberl, "Aquinas on the Nature of Human Beings" *Review of Metaphysics* 58.2 (2004): 333–365. This section is derived from Eberl, "A Thomistic Understanding of Human Death," *Bioethics* 19.1 (February 2005): 29–48, and *Thomistic Principles and Bioethics* (New York: Routledge, 2006), ch. 3. Following Aristotle, Aquinas defines a "rational" soul as a soul that has the relevant capacities for life, sensation, and rational thought and is the type of soul proper to the human species. A "sensitive" soul, on the other hand, has the relevant capacities for only life and sensation, and is the type of soul proper to all non-human species of the animal genus. A "vegetative" soul has the relevant capacities for only life and is proper to all non-animal living organisms. See Aristotle, *De anima*, II.2–3.

[25] See Aquinas, SCG, II.68; *Quaestio disputata de spiritualibus creaturis*, IV; *In Aristotelis librum de anima commentarium*, II.1–2; and *Summa theologiae* (ST), III, Q. 50.5, reply 1.

[26] See Aquinas, *Quaestio disputata de anima* (QDA), IX, reply 13; X, replies 4 and 11; and XI, reply 16; and *Scriptum super sententiis magistri Petri Lombardi*, I.8.v.3, reply 3.

[27] For justification of this shift in interpreting Aquinas's account, see Eberl, "Thomistic Understanding of Human Death," 31–32.

[28] Aquinas, *Quaestiones disputatae de veritate*, XIII.4, reply 2.

[29] Ibid., XXV.6.

Aquinas understands death to occur because a pre-mortem human body is not *perfectly* informed by its rational soul. As a result, material defects can arise in the body that eventually render it unable to actualize the soul's vegetative capacities. The body thus becomes unsuitable for having a rational soul as its substantial form.[30]

Aquinas thus identifies a human being's death, defined metaphysically as a rational soul's separation from the body it informs, as when the body is no longer able to actualize the soul's *vegetative* capacities. The clinical criterion for determining the occurrence of this event is the loss of vital metabolic functioning as evidenced by, according to Aquinas, the cessation of respiratory activity.[31]

Despite his explicit acceptance of the cessation of respiration as the clinical criterion for determining a human being's death, it is reasonable to contend that Aquinas would accept the *whole-brain* criterion. This interpretation is advocated by Philip Smith, Benedict Ashley, and myself in agreement with the Pontifical Academy of Sciences Working Group on the Determination of Brain Death and Its Relationship to Human Death (December 10–14, 1989): "A person is dead when there has been total and irreversible loss of all capacity for integrating and coordinating physical and mental functions of the body as a unit."[32]

In Thomistic terms, when such integrative unity has been irreversibly lost, a body is no longer *proportionate* for rational ensoulment, for it can no longer materially support a soul's proper capacities in a *unified* substance.[33] Ashley specifically argues that the cessation of whole-brain functioning constitutes death, based on the principle that a rational soul "moves" the heterogeneous parts of its body through a primary organ.[34]

An additional reason for holding to the whole-brain criterion of death is that it defines death in terms of the *one* organ that is directly correlated with *all* of a human being's proper capacities—vegetative, sensitive, and rational—the loss of

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[30] See QDA, VIII, reply 9; IX, reply 16; and XIV, replies 13 and 20. Aquinas considers such "defects" to be the result of original sin and not from the fact *simpliciter* of a human being's natural embodiment; see ST, suppl. 75.1, reply 5.

[31] See ST, I, Q. 76.7, reply 2. The relationship between the presence of a rational soul and a body's respiratory activity merits further discussion that I can provide here. Elucidating this relationship is important insofar as it bears on the role artificial means of life-support, such as mechanical ventilation or cardiopulmonary bypass machines, may have with respect to the metaphysical constitution of a human being dependent upon such means to continue respiring and circulating oxygenated blood. I discuss this issue in *Thomistic Principles and Bioethics*, 50–53.

[32] White, Angstwurm, and de Paula, *Working Group on the Determination of Brain Death*, 81. See Philip Smith, O.P., "Brain Death: A Thomistic Appraisal," *Angelicum* 67.1 (1990): 3–35; Benedict Ashley, O.P., "Integrative Unity and the Human Soul," *National Catholic Bioethics Quarterly* 1.1 (Spring 2001): 7–9; Ashley and Kevin O'Rourke, O.P., *Health Care Ethics*, 4th ed. (Washington, D.C. Georgetown University Press, 1997): 316–337; and Eberl, "Thomistic Understanding of Human Death" and *Thomistic Principles and Bioethics*, ch. 3.

[33] See Smith, "Brain Death," 24–25, and Ashley, "Integrative Unity," 8.

[34] See Ashley, "Integrative Unity," 7–8.

which coincide in a single, empirically verifiable event.[35] I thus contend that, from a Thomistic standpoint, the irreversible cessation of whole-brain functioning constitutes a human being's death and can be understood as *the* event which indicates a rational soul's separation from the body it informs.[36]

Comparative Analysis

Thomism and Substance Dualism

Although Aquinas and Swinburne agree that a human person has a soul which is essential to the person's existence, they differ with respect to the relationship a person's soul bears to the body. Swinburne asserts that a soul exists as a complete substance, and appears to *identify* a person with his soul: "The person is the soul together with whatever, if any, body is linked temporarily to it."[37] Aquinas clearly holds that a person is *composed* of his soul as a metaphysical part and asserts that a soul does not exist on its own as a complete substance: "For if it is natural for a soul to be united to a body, it is contrary to nature for it to be without the body, and without the body existing it does not have its natural perfection."[38] Only something that has, on its own, the necessary constituents for "its natural perfection" can be a substance; thus, a soul alone cannot be a substance.

It is incumbent on adherents of substance dualism to account for a human person's *unified* existence and the proper ascription of activities to him, given their contention that a human person is composed of two substances of diverse natures:

> A person has a body if there is a chunk of matter through which he makes a difference to the material world, and through which he acquires true beliefs about that world . . . Our bodies are the vehicles of our knowledge and operation. The "linking" of body and soul consists in there being a body which is related to the soul in this way.[39]

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[35] Ibid., 8.

[36] Ibid., 9. See Corrado Manni, "A Report on Cerebral Death" in *The Dignity of the Dying Person: Proceedings of the Fifth Assembly of the Pontifical Academy for Life*, eds. Juan de Dios Vial Correa and Elio Sgreccia (Vatican City: Libreria Editrice Vaticana, 1999), 106. The whole-brain criterion has been challenged as a valid criterion for determining a human organism's death, most notably by D. Alan Shewmon; see his "The Brain and Somatic Integration: Insights into the Standard Biological Rationale for Equating 'Brain Death' with Death," *Journal of Medicine and Philosophy* 26.5 (October 2001): 457–478. Space does not permit me to respond to such challenges in this essay, but I do so in *Thomistic Principles and Bioethics*, 54–60.

[37] Swinburne, *Evolution of the Soul*, 146. To be clear, Swinburne holds that a person's body is, properly speaking, a *part* of him; but nonetheless it is also a complete substance on its own that is somehow conjoined to the person's other substantial part: his soul. For a critique of this notion of "compound dualism," see Eric Olson, "A Compound of Two Substances" in *Soul, Body, and Survival: Essays on the Metaphysics of Human Persons*, ed. Kevin Corcoran (Ithaca, NY: Cornell University Press, 2001), 73–88.

[38] ST, I, Q. 118.3. See also Eleonore Stump, *Aquinas* (New York: Routledge, 2003), 42, 209–210.

[39] Swinburne, *Evolution of the Soul*, 146.

According to Swinburne, a person's soul and body are "linked" by virtue of the body's transmitting sense-data to the soul and the soul's moving the body to perform actions. To emphasize the difference between Swinburne and Aquinas, notice that Swinburne says that "the person *is* the soul" and that "a person *has* a body."

Aquinas, on the other hand, asserts that "my soul is not me"[40] and conceives of a human person as one *unified* substance with two metaphysical parts: a rational soul and matter. Hence, a human person is identified with the *soul-body composite*, and the ascription of activities is to the person himself, not to either of his parts: "The action of anything composed of matter and form is not of the form alone or the matter alone, but of the composite … Therefore, if an intelligent substance is composed of matter and form, understanding will be of the composite itself."[41]

It is further incumbent on substance dualists to explain how a material body and an immaterial soul can interact, considering problems such as Jaegwon Kim's "causal-pairing problem." Kim argues that there is no metaphysical relation by which a particular immaterial soul may be causally linked with a particular material body: "What relation might perform the job of pairing soul A's action with the change in M [a material body], a relation that is absent in the case of soul B's action and the change in M?"[42] Since *spatial* relations are ruled out because immaterial souls are, by nature, nonspatial, Kim can devise no other criterion by which soul A, and not soul B, can be "paired" with M. This problem, however, does not arise in Aquinas's account, since a rational soul and the matter it informs are not two substances which *inter*act.[43] Rather, the *composite* of soul and matter—a human person—is what acts by virtue of his constituent parts. A rational soul and its material body are thus causally paired, in that a particular rational soul's essential nature includes its being "paired" with a particular human body as its substantial form. This pairing of form and matter is no more problematic in the case of human persons than in the case of trees or tables.[44]

Aquinas's view coheres with a human person's phenomenal experience of embodiment.[45] One does not directly perceive one's body as a detachable part sepa-

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[40] Aquinas, *Super Primam Epistolam ad Corinthios lectura*, XV.2.

[41] SCG, II.50; see QDA, VI, reply 14; QDSC, XI, reply 20.

[42] Jaegwon Kim, "Lonely Souls: Causality and Substance Dualism" in *Soul, Body, and Survival: Essays on the Metaphysics of Human Persons*, ed. Kevin Corcoran (Ithaca: Cornell University Press, 2001), 36.

[43] See Eleonore Stump, "Non-Cartesian Substance Dualism and Materialism without Reductionism," *Faith and Philosophy* 12 (October 1995): 518.

[44] This comparison of Aquinas's and Swinburne's respective accounts is derived from the author's presentation, "Aquinas and Varieties of Dualism," at *Metaphysics 2006: Third World Conference*, sponsored by the Idente Study and Research Foundation, in Rome, Italy (July 6–9, 2006).

[45] See John Kavanaugh, S.J., "What Is It Like to Be Bats or Brains? Similarities and Differences Between Humans and Other Animals," *Modern Schoolman* 76 (1998): 73–79; Kavanaugh, *Who Count as Persons? Human Identity and the Ethics of Killing* (Washington, D.C.: Georgetown University Press, 2001).

rate from oneself. It takes abstract thought-experiments, such as those Swinburne utilizes, to make a case for dualism. Aquinas, while he conceives of the body as separable from the soul at death, nevertheless considers this an "unnatural" mode of existence and invokes the doctrine of bodily resurrection to restore a human person to his complete, natural state.[46] Swinburne even admits that "Aquinas's system does have some advantages over classical dualism—for example, it enables him to bring out the naturalness of a person being embodied and the temporary and transitory nature of any disembodiment."[47] Using our first-person phenomenal experience of natural embodiment as a datum, then, the Thomistic account of death is more fitting, because it identifies the end of human person's life with the cessation of biological life. It also has the virtue of being more *economical* in that it involves only one death event, as opposed to a conceptually forced distinction between the death of a person and the death of an organism: "The higher-brain standard … inherits this implication: that in cases of PVS or permanent coma, two beings die—first a psychological being, later an organism—one more than we generally assume."[48]

Thomism and Animalism

There is basic agreement between Aquinas and Olson in terms of a human being naturally existing as a human animal.[49] An important difference between the two, however, regards the status of a human animal as being essentially a *person*. Olson claims that a human animal is a person accidentally; i.e., one can be a human animal without being a person—Olson considers PVS patients to be a relevant example—but a human being cannot exist without being a human animal in the sense that one cannot exist without one's body.[50] Aquinas opposes the latter claim by asserting that, while a human being naturally exists as a substance composed of a rational soul informing an animal body, a human being may exist and preserve his identity as composed of his soul alone. Furthermore, a human being remains a human animal in such a state, because all the capacities proper to his animal existence, that is, vegetative and sensitive capacities, are preserved in his separated soul. It is merely the case that one cannot actualize such capacities without the body's proper material organs.

Despite Olson's assertion that a human being ceases to be a person if he is irreversibly unconscious, Olson holds that a human being continues to exist *simpliciter* as an animal until biological death ensues with the cessation of brain-stem functioning. At first glance, this would seem to cohere with the whole-brain criterion that, as argued above, is a valid interpretation of Aquinas's account of human death. Olson's brain-stem criterion, however, differs in that the irreversible cessation of cerebral functioning is not

[46] See Eberl, "The Metaphysics of Resurrection: Issues of Identity in Thomas Aquinas," *Proceedings of the American Catholic Philosophical Association* 74 (2000): 215–230.

[47] Swinburne, "Personal Identity," 32.

[48] David DeGrazia, "Persons, Organisms, and Death: A Philosophical Critique of the Higher-Brain Approach," *Southern Journal of Philosophy* 37.3 (1999): 428.

[49] See ST, I, Q 76.3; and Aquinas, *In duodecim libros metaphysicorum Aristotelis expositio*, VII.3.1326.

[50] See Olson, *Human Animal*, 17.

required for a human being to die. In other words, one could die as an *animal*, but survive as a *person* who is identified with his cerebral cortex alone. This is what may occur in extreme cases of "locked-in" syndrome, in which a patient suffers damage to the brain stem, typically due to a bilateral lesion, while the cerebral cortex remains functional. In such cases, a person may be consciously aware, but unable to move his body, except perhaps his eyes.[51] In cases where the damage to the brain stem is such that it can no longer control heartbeat and respiration, requiring patients to be supported by artificial means, the human animal, according to Olson, has ceased to exist.

According to Olson, the person who survives after such a case of brain-stem death is not *the same person* who existed before the brain stem ceased to function.[52] For since the numerically same animal no longer exists after brain-stem death, the numerically same person can no longer exist. If I am essentially an animal, I cannot survive my biological demise (brain-stem death). If, however, my cerebral cortex continues to function, then there will be psychological continuity between me (before brain-stem death) and the person who exists after I die; but we two are not the same person. Rather, the person who exists after I have suffered brain-stem death is best understood as my "Parfitian successor."[53] This term refers to the idea that, for all practical, social, and moral purposes, the person who may exist after I suffer brain-stem death can be considered "me"; nevertheless, from a strict metaphysical standpoint, that person is not me, since I am essentially an animal who died when my brain stem ceased to function. This conclusion would also follow if my brain stem were replaced by a functionally equivalent artificial brain stem.[54]

Olson's account is problematic because, among other reasons, it is severely *counterintuitive*.[55] The intuition that the continuity of one's consciousness is sufficient

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[51] See E. Smith and M. Delargy, "Locked-In Syndrome," *British Medical Journal* 330.7488 (February 19, 2005): 406–409; S. Laureys et al., "The Locked-In Syndrome: What Is It Like to Be Conscious but Paralyzed and Voiceless?" *Progress in Brain Research* 150 (2005): 495–511; J. Bernat, "How Much of the Brain Must Die in Brain Death?" *Journal of Clinical Ethics* 3.1 (Spring 1992): 24. The term "brain-stem death" is sometimes used in reference to whole-brain death, but my use of the term here is intended to apply only to cases in which the brain stem ceases to function while other critical areas of the brain, particularly the cerebral cortex, remain functional.

[52] If the cerebral cortex alone is even sufficient to constitute a person; perhaps all that exists is consciousness without a subject.

[53] Olson, *Human Animal*, 68–70. For Derek Parfit's account of personal survival without numerical identity, see his *Reasons and Persons* (Oxford: Oxford University Press, 1984), part III.

[54] Olson, *Human Animal*, 142. For an additional critique of Olson's brain-stem criterion of death, see David Hershenov, "Olson's Embryo Problem," *Australasian Journal of Philosophy* 80.4 (December 2002): 502–511.

[55] See Sydney Shoemaker, "Review of *The Human Animal*," *Nous* 33 (1999): 503; Thomas Crocker, "Review of *The Human Animal*," *Review of Metaphysics* 52 (1998): 163. There are more serious objections raised to Olson's overall account of human nature and personal identity, but space does not permit me to rehearse them here.

for a person to survive—in the strict, and not merely practical, sense—is quite strong. Would Aquinas's view fare any better on this score? Aquinas's account, as shown above, is compatible with the whole-brain criterion of death, which requires that *all* of the brain's critical functions of "integration, control, and behavior" irreversibly cease functioning for a human being to die both as a person and as an organism.[56] Brain-stem death, while a necessary condition for death to occur according to the whole-brain criterion, is not a *sufficient* condition. Both brain-stem death *and* irreversible cessation of cerebral functioning must ensue for a human being to die.

It seems problematic, though, to assert that a human being could survive brain-stem death, as thus composed of a functional cerebrum alone. Olson is correct when he asserts that a human animal, in order to maintain its integrative unity as an *organism*, requires a functioning brain stem. Hence, the present scenario would leave us with a human being who exists as a person without existing any longer as an animal. This contradicts the thesis that human beings are *essentially* animals—a thesis on which Aquinas and Olson agree. As noted above, however, Aquinas's concept of the nature of a rational soul allows for a human being to persist as composed of a soul alone and to persist as an *animal* in such a state by virtue of the rational soul's possessing all the vegetative and sensitive capacities that define the nature of a human animal. While these capacities cannot be actualized by the soul without informing a material body, the soul possesses them nonetheless, and this suffices for the soul to compose an animal even in the absence of a material body.

While this conclusion also strikes a chord of counterintuitiveness, its reasonableness can be shown by comparison with the capacity for self-conscious rational thought that is definitive of persons: something is not a person unless it possesses this capacity. Someone who is temporarily comatose or in a state of dreamless sleep is not actually self-consciously rational, but nonetheless retains this capacity and thereby remains a rationally ensouled person. In the Thomistic view, even someone who is irreversibly comatose retains the capacity for self-conscious rational thought even if he will *never* actualize this capacity again until after death.[57] Therefore, lacking the material substratum necessary for a capacity to be actualized does not entail that the capacity itself is lacking or that the nature of the substance has changed: a person may persist with the capacity for self-conscious rational thought even if his cerebrum is irreversibly nonfunctional. Analogously, a human animal may persist with the proper capacities for life and sensation even if it lacks a body with the organs required for those capacities to be actualized. So long as one's rational soul exists with those capacities, one persists as both a person and an animal. Thus, Aquinas can say what Olson cannot: the same person survives if he suffers the loss of brain-stem functioning but retains cerebral functioning, and thereby self-conscious awareness and rational thought.

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[56] See James Bernat, "A Defense of the Whole-Brain Concept of Death," *Hastings Center Report* 28.2 (March-April 1998): 14–23; Bernat, "The Biophilosophical Basis of Whole-Brain Death," *Social Philosophy and Policy* 19.2 (Summer 2002): 324–342.

[57] See Eberl, *Thomistic Principles and Bioethics*, 95–97.

Conclusion

As several interpreters of Aquinas have shown, his metaphysical account of human nature straddles the boundary between dualism and materialism: he holds both that human persons have an immaterial soul and that we are essentially animals.[58] Nevertheless, Aquinas offers a unique perspective on human nature that can be set in contrast to the extreme positions of substance dualism and animalism, and this allows him to avoid key problems that plague these alternatives. Unlike substance dualism, Aquinas's account does not suffer the "causal-pairing" problem between soul and body, for his account describes a built-in relationship between the two, such that a particular body cannot even exist or function without being informed by a rational soul. This difference results in the significant contrast between the Thomistic perspective on human death and that of the substance dualist, in that the latter would have no reason to hold that one's soul continues to be related to a body that has suffered the irreversible loss of cerebral functioning. For Aquinas, it is reasonable to maintain that a rational soul continues to inform the body of a PVS patient so long as the body remains biologically alive with the integrative unity definitive of an organism.

Aquinas's view differs from Olson's animalist approach in that Aquinas maintains "person" as a substance concept definitive of what a human being is essentially. Aquinas thus avoids the charge leveled against Olson that he does not connect "what is most important to us and about us with what we most fundamentally are."[59] Aquinas's account also trumps Olson's by advocating the whole-brain criterion of death over Olson's brain-stem criterion, which suffers from counter-intuitive consequences. While Aquinas's account certainly has its own challenges to meet, both in general and with respect to the understanding of human death, it has clear advantages over the extreme views of substance dualism and animalism.

[58] See Eberl, "Aquinas on the Nature of Human Beings"; Stump, "Non-Cartesian Substance Dualism"; and David Braine, *The Human Person: Animal and Spirit* (South Bend: University of Notre Dame Press, 1994).

[59] Baker, *Persons and Bodies*, 164.