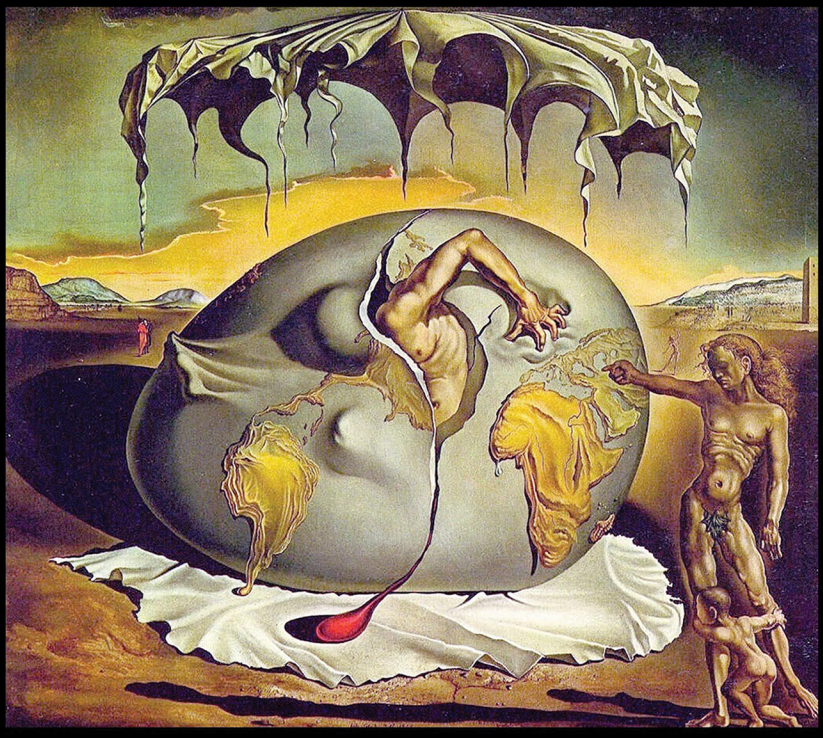
THE NATURE OF HUMAN PERSONS

METAPHYSICS AND BIOETHICS



JASON T. EBERL

The Nature of Human Persons

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THE NATURE OF HUMAN PERSONS

Metaphysics and Bioethics

Jason T. Eberl

Foreword by

Christopher Kaczor

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To Jennifer and August
uxori optimae filiaeque, mulierum optimis

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FOREWORD

The links between metaphysical questions and ethical questions have been a matter of intense discussion since at least the eighteenth century, when Hume declared in his *Treatise on Human Nature* that one cannot derive an "ought" from an "is." At the beginning of the twentieth century, in his *Principia Ethica*, G. E. Moore wrote of the "naturalistic fallacy," which some interpreted as making a point similar to Hume's: ethical truths cannot be derived from metaphysical truths. Recent scholarship, by contrast, has recognized the profound connections between metaphysical and moral questions, and these links are particularly strong when considering questions of personal identity and bioethics.

Jason T. Eberl's book *The Nature of Human Persons: Metaphysics and Bioethics* makes an original and significant contribution to this vital field of inquiry. There are innumerable books in bioethics, but none that takes up issues of human anthropology in anything like the depth found here. This is a bit surprising insofar as questions in bioethics, at least as they relate to human beings, almost invariably involve at least implicitly some view of the human person. Most books will present some view of the human person and perhaps critique an alternative or two. What makes Eberl's contribution so unique is that it surveys and critiques all the major (and many of the minor) alternatives to its own position, including animalism, constitutionalism, four-dimensionalism, substance dualism, and emergent dualism.

A similar point can be made from the perspective of the philosophy of the human person. Numerous books address this topic, but I cannot think of any that also combine the anthropological emphasis with a deep consideration of contemporary issues in bioethics.

I anticipate that *The Nature of Human Persons* will find a warm reception among scholars for its precision and will be especially useful for

students because of its comprehensive nature. Jason Eberl's splendid book offers an indispensable contribution to understanding the relationship between the nature of human persons and bioethics.

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PREFACE

The question of whether there is a shared "nature" common to all human beings and, if so, what essential qualities define this nature is one of the most widely discussed topics in the history of scholarship and remains a subject of perennial interest and controversy. Psychologists, sociologists, anthropologists, biologists, theologians, and philosophers adopt diverse approaches to this topic and various subquestions related to each field of inquiry. This volume offers a *metaphysical* investigation of the *composition* of the human essence—that is, With what is a human being identical or what types of parts are necessary for a human being to exist: an immaterial mind, a physical body, a functioning brain, a soul?—and the *criterion of identity* for a human being across time and change—that is, What is required for me to continue existing as *me* despite physical and psychological changes I undergo over time? This investigation will present and defend a particular theoretical perspective: that of the thirteenth-century philosopher and theologian Thomas Aquinas. Advancing beyond descriptive historical analysis, this volume places Aquinas's account of human nature into direct comparison with several prominent *contemporary* theories: substance dualism, emergentism, animalism, constitutionalism, four-dimensionalism, and embodied-mind theory. There are also *practical* implications of exploring these theories, as they inform various conclusions regarding when human beings first come into existence—at conception, during gestation, or after birth—and how we ought to define death for human beings. Finally, each of these viewpoints offers a distinctive rationale as to whether, and if so how, human beings may survive death. My central argument is that the Thomistic account of human nature includes several desirable features that other theories lack and offers a cohesive portrait of one's continued existence from conception, through life, to death, and beyond.

ACKNOWLEDGMENTS

Many colleagues have contributed to this volume's development at various stages and in myriad ways. I began working on Aquinas's metaphysical account of human nature as a graduate student at Arizona State University, under Prof. Michael White, and then at Saint Louis University, under Prof. Eleonore Stump. Their careful attention to detail and generous giving of their time in reviewing my work were invaluable. Professor White first helped me to see the connection between historical and contemporary analytic approaches to philosophical issues. Professor Stump assisted me greatly in developing this connection in my research and continues to be a *mentor* to me in the truest and most complete sense of the word. My initial work on this volume as part of my doctoral dissertation owes much as well to Fr. Theodore Vitali, C.P., whose zealous regard for the success of his students is quite evident and infectious. My interest in applying Aquinas's thought to issues in bioethics was inspired by the late Fr. John Kavanaugh, S.J., who also mentored me through graduate studies and beyond, having been a continual source of wisdom and learning. Fr. Kavanaugh's inspirational mentorship perfectly exemplified the Jesuit pedagogical virtue of *cura personalis*—"care of the whole person."

Research for this volume has been accomplished at several venues throughout my academic career: Johann Wolfgang Goethe Universität in Frankfurt am Main, Germany; the Center for Philosophy of Religion at the University of Notre Dame; Indiana University-Purdue University Indianapolis; the Centre for Ethics, Philosophy, and Public Affairs at the University of St. Andrews in Scotland; Marian University College of Osteopathic Medicine; and the Albert Gnaegi Center for Health Care Ethics at Saint Louis University. I am extremely indebted to various mentors, colleagues, and students at these institutions who read parts of the manuscript or assisted in the development of certain ideas through either feedback at formal presentations or more informal chats over meals, coffee, or the "MacNiven's Philosophy Roundtable": Jan

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Acknowledging all these contributions to this volume should not be taken to indicate agreement with the arguments therein or responsibility for any errors, which are solely my own.

Finally, I am grateful to the editors and publishers of the following articles and book chapters who granted permission for them to be reprinted, in whole or in part, in the present volume:

Chapter 2
"Aquinas on the Nature of Human Beings." *Review of Metaphysics* 58, no. 2 (2004): 333–65. © 2004 *The Review of Metaphysics*.

Chapter 3
"Varieties of Dualism: Swinburne and Aquinas." *International Philosophical Quarterly* 50, no. 1 (2010): 39–56. © 2010 Foundation for International Philosophical Exchange.

Chapter 5
"Thomism and the Beginning of Personhood." In *Defining the Beginning and End of Life: Readings on Personal Identity and Bioethics*, edited by John P. Lizza, 317–38. © 2009 Johns Hopkins University Press.

"Persons with Potential." In *Potentiality: Metaphysical and Bioethical Dimensions*, edited by John P. Lizza, 97–119. © 2014 Johns Hopkins University Press.

Chapter 6
"A Thomistic Understanding of Human Death." *Bioethics* 19, no. 1 (2005): 29–48. © 2005 Blackwell Publishing Ltd.

"Dualist and Animalist Perspectives on Death: A Comparison with Aquinas." *National Catholic Bioethics Quarterly* 7, no. 3 (2007): 477–89. © 2007 The National Catholic Bioethics Center.

"Ontological Status of Whole-Brain Dead Individuals." In *The Ethics of Organ Transplantation*, edited by Steven J. Jensen, 43–71. © 2011 The Catholic University of America Press.

"A Thomistic Defense of Whole-Brain Death." *Linacre Quarterly* 82, no. 3 (2015): 235–50. © 2015 Catholic Medical Association.

Chapter 7
"The Metaphysics of Resurrection: Issues of Identity in Thomas Aquinas." *Proceedings of the American Catholic Philosophical Association* 74 (2001): 215–30. © 2001 The American Catholic Philosophical Association.

"Do Human Persons Persist between Death and Resurrection?" In *Metaphysics and God: Essays in Honor of Eleonore Stump*, edited by Kevin Timpe, 188–205. © 2009 Taylor and Francis.

Chapter 8
"The Ontological and Moral Significance of Persons." *Scientia et Fides* 5, no. 2 (2017): 217–36. © 2017 Nicolaus Copernicus University.

CHAPTER ONE

What Am I?

Questions of Human Nature and Identity

There are myriad approaches from various scholarly disciplines to respond to the fundamental question of *human nature* "What am I?" Psychologists probe the contents of the conscious and subconscious mind to help individuals understand their authentic *self*. Sociologists observe how human beings *behave* collectively to determine if there are any informative generalizations that may be drawn. Anthropologists and biologists are concerned with how human beings have culturally and physically *evolved* over eons of time. Theologians of different religious traditions seek to define and justify certain *beliefs* about humanity's place in the universe—whether, for example, each of us exists as a special creation in the "image and likeness of God" (*imago Dei*) or is merely a drop in the cosmic ocean of being with no individual essence. Ethicists debate the *moral status* of human beings at various stages of life and what specific rights and duties are applicable to, for example, embryos, fetuses, infants, children, cognitively disabled adults, irreversibly comatose patients, and the deceased. Finally, metaphysicians investigate, among others, the following interrelated questions: "What *composes* a human being?"[1] or "With what is a human being *identical*?" and "What accounts for a human being's *persistence* through time and change?" The first pair of questions is concerned with determining what material or immaterial substance or set of parts is necessary in order for a human being to exist—for example, a living body of the species *Homo sapiens*, a

functioning human (or human-like) brain, a mind distinct from one's body and brain, or a nonphysical soul somehow related to one's physical body. The last question pertains to what is necessary for one to continue existing as the *numerically same* human being despite physical and psychological changes we inevitably experience.

These questions regarding the *ontology* of human beings have been a central concern throughout the history of philosophy, with multiple accounts having emerged of what constitutes the essence of human nature—an area of inquiry sometimes termed "philosophical anthropology." The term *essence* refers to the set of specific parts, properties, capacities, et cetera that are shared by all and only human beings. This is not to say that nonhuman entities may not also possess some of these essential human features, but possessing the entire set—whatever the set comprises—is both necessary and sufficient for one to count as a human being.

In the West, the Greek philosophers Plato and Aristotle offered distinct views of what a human being fundamentally is. For Plato, a human being is identical to an immaterial soul—construed equivalently to what we would today call a "mind"—that is "imprisoned" for a time in a material body before death sets it free, either to be united with another body or to spend eternity contemplating the source of being, truth, and goodness.[2] Aristotle conceived of a human being as a composite unity of an immaterial soul and a material body of which the soul is the formal principle—a view known as *hylomorphism*.[3] This basic controversy regarding a human being's relationship to her material body has continued to drive debate among philosophers throughout the ensuing centuries into the present day. Numerous accounts have been proffered identifying the human essence as an immaterial soul or mind, a living animal body, a functioning brain, or a bundle of psychological states, to cite some of the principal views. Depending on which of these theses one favors, the criterion of a human being's identity through time and change consists in sameness of soul or mind, continuity of biological life processes, continuity of neural functions, or some form of psychological continuity involving memory, personality traits, or self-consciousness.

In contemporary analytic philosophy, the methodological school of thought in which the present investigation is situated, the debate between philosophers who reduce human nature to either its physical or

psychological properties, those who hold that human nature includes both types of properties, and those who argue that human nature transcends such properties has focused on three distinct camps. *Substance dualists* maintain a contemporary version of Plato's view that a human being is identical to an immaterial soul that is conjoined to a material body during one's earthly life. *Reductive materialists* contend that human nature is nothing "over and above" the biological and neurophysiological facts that are subject to empirical scientific investigation: all the physical and psychological states of a human being can be wholly explained in virtue of the physical properties had by one's body. Finally, *nonreductive materialists* take seriously the data provided by empirical science, while nevertheless maintaining that there are some aspects of human nature that cannot be wholly explained in terms of physical properties alone. The nonreductive thesis is not intended to imply that human nature includes an immaterial component that essentially exists with absolutely no reference to a physical body, as substance dualists claim. Rather, the thesis is that some states of a human being—namely, certain types of psychological states—cannot be explanatorily reduced to states of one's physical body, such as neurons firing in the cerebrum; rather, a further psychological explanation is required.

An Alternate Via Media

This volume will present Thomas Aquinas's Aristotelian-influenced hylomorphic view of human nature as a "middle way" between the extremes of substance dualism and reductive materialism that also avoids certain issues that arise for other nonreductive accounts. Though Aquinas lived and wrote in the thirteenth century, scholars continue to find merit and relevance in his ideas. Several distinct movements of "Thomism" throughout the twentieth century bear witness to Aquinas's enduring influence in both philosophy and theology.[4] Most recently, an emerging area of scholarship has sought to place Aquinas's views in fruitful dialogue with those of contemporary analytic philosophers on a variety of topics.[5] Although this approach risks reading Aquinas *ahistorically*—that is, without paying due attention to the historical context in which Aquinas situates his arguments, as well as the concepts and

terminology he utilizes—I will endeavor to remain faithful—particularly in the reconstruction of Aquinas's account of human nature in chapter 2—to Aquinas's texts and to offer justifications throughout for how the Thomistic account, far from being an anachronism of merely historical interest, may be effectively reformulated in contemporary philosophical terms for the sake of fruitful comparative analysis with other contemporary accounts.

In this endeavor, I will be following other recent efforts to accomplish an analytic reconstruction of *Thomistic hylomorphism* in the areas of philosophical anthropology and the philosophy of mind by, among others, Eleonore Stump, John Haldane, Robert Pasnau, Anthony Kenny, Brian Leftow, David Oderberg, and Jeffrey Brower.[6] In chapter 2, I will provide a reconstruction of Thomistic hylomorphism utilizing analytic terminology I contend to be congruent with Aquinas's original conceptual terminology. In chapters 3 and 4, I will compare this reconstructed Thomistic account to several contemporary views representing the three camps described above. It is notoriously difficult to classify Thomistic hylomorphism among the traditional categories of dualism and materialism, for it clearly is neither without qualification.[7] As will be discussed in chapter 3, Aquinas explicitly denounces Plato's substance dualist construal of human nature, in which a human being is *identified* with her soul alone—that is, I = a soul. Yet in chapter 7 I will show how Aquinas understands a human being to be capable of existing after her body's death, *composed of* her soul alone—that is, I exist *by virtue of* my soul but I ≠ my soul; the crucial distinction between the relations of "identity" and "composition" will be explicated in the ensuing discussion. Aquinas's claim that a human being can survive her body's death clearly sets him apart from any reductive materialist view of human nature, which identifies a human being with her physical body—that is, I = a body.[8] Nevertheless, as explicated in chapter 4, Aquinas contends that a human being is essentially an *animal*—that is, I = a human animal. Attempting to reconcile the various claims Aquinas makes about human nature and to classify taxonomically his hylomorphic view in more readily familiar terms can lead to seemingly outrageous paradoxical statements, as when Lynne Baker states, "Thomistic animalists are substance dualists."[9]

An emergent consensus is that, depending upon how certain claims Aquinas holds are stressed, Thomistic hylomorphism can be construed

either as a type of dualism, as a type of materialism, or as utterly incoherent. The primary aim of the present volume is to provide a coherent reconstruction of Thomistic hylomorphism in contemporary terms that is conceptually faithful to Aquinas's historically contextualized account and to show how it differs from certain contemporary forms of dualism and materialism. Whether this means that Aquinas should be understood as offering a distinct type of dualism, a distinct type of materialism, or a completely unique alternative will depend on what each reader understands to be the essential premises defining "dualism" and "materialism." In order to elucidate the nuances of Thomistic hylomorphism, however one further labels it, as well as to demonstrate its advantages as an account of human nature, I will compare it to alternative dualist and materialist views with which hylomorphism has both affinities and differences. In the process, I will derive a set of *desiderata* that I contend any satisfactory theory of human nature ought to fulfill and will show how, while each of the other theories discussed fulfills some of them, Thomistic hylomorphism satisfies them all.

Desiderata for an Account of Human Nature: An Initial Sketch

The following is a list of nine desiderata I contend ought to be satisfied by any account of human nature, along with a brief justification for the value of satisfying each one. More complete justifications will be forthcoming as each arises within the context of the various theories discussed throughout the volume, and a Summative Excursus following chapter 4 will evaluate how completely each theory satisfies them.

The first desideratum is that *it is possible for human beings to survive bodily death*. Such survival can take different forms—such as reincarnation, resurrection, or pure spiritual existence.[10] It is important to note that merely the *possibility* of postmortem survival is countenanced by this desideratum, not the *demonstrability* thereof. I consider this a desideratum for any account of human nature insofar as it is a fundamental belief held by a significant percentage of human beings cross-culturally. Thus I assert that an account of human nature that takes this belief seriously, and can account for its metaphysical possibility, will be stronger for it, whereas accounts that close off this possibility bear a significant

burden of proof for why postmortem survival is not merely false but *impossible*.

The second desideratum is the *acknowledgment that human beings are biological organisms*.[11] This desideratum is derived from several factors: (a) an *evolutionary* understanding of how the present human form has developed and the insights that such an understanding provides to inform an overall anthropological understanding of human nature; (b) the clear evidence of *correlation* between a human being's mental states and neural states of her brain, which does not entail reduction or identification of the former with the latter but which nevertheless affirms a close relationship of some sort between them; and (c) each human being's *phenomenal experience* of her own embodiment.[12] As René Descartes testifies after establishing, following his initial skepticism, that he may trust what he "clearly and distinctly" perceives,

> There is nothing that my own nature teaches me more vividly than that I have a body, and that when I feel pain there is something wrong with the body, and that when I am hungry or thirsty the body needs food and drink, and so on. So I should not doubt that there is some truth in this. Nature also teaches me, by these sensations of pain, hunger, thirst and so on, that I am not merely present in my body as a sailor is present in a ship,[13] but that I am very closely joined and, as it were, intermingled with it, so that I and the body form a unit.[14]

The third desideratum, building on the second, is that *the physical aspect of human nature is not defined in terms of the existence and persistence of material constituents alone but includes the proper organization and functioning of those constituents in a unified organism*. This desideratum involves a rejection of *mereological essentialism*: the thesis that any whole—including living organisms and a fortiori human beings—has all of its parts essentially, meaning that even the slightest micro-level change will result, strictly speaking, in a nonidentical being coming into existence.[15] There are myriad defenses, going back to John Locke in the seventeenth century and—as I will show in chapter 2—Aquinas in the thirteenth century, of how *physical continuity*, and thereby *numerical identity*, of a living organism may be preserved through time and change

of its material constituents.[16] After describing how plants and animals may persist through time despite changes in their material constituents, Locke seminally concludes, "This also shews wherein the Identity of the same *Man* consists; *viz*. in nothing but a participation of the same continued Life, by constantly fleeting Particles of Matter, in succession vitally united to the same organized Body."[17]

The fourth desideratum involves acknowledging that *conscious thought processes—of at least a certain type—are explanatorily irreducible to neural functioning*. There is a long history of debate concerning whether mental states—or at least certain types of mental states—are explanatorily reducible to neural states of one's brain. The claim that mental states are explanatorily reducible means that the existence and nature of such states may be completely accounted for in *physical* terms alone, to the point where perhaps we should even *eliminate* "folk psychological" terms—such as *belief*, *desire*, and *thought*—from our philosophical vocabulary.[18] While it might seem that a denial of explanatory reductionism entails a dualistic account of human nature, this conclusion does not follow insofar as there are attempts at *nonreductive physicalist* accounts of the mind along with a version of dualism known as *property dualism*, which holds that human beings are physical substances whose brains may generate nonphysical mental properties.[19] Reductivists or eliminativists contend that there is a presumption in favor of their respective views insofar as they do not postulate ontological entities—whether substances, properties, or even linguistic concepts—beyond what is necessary to explain mental phenomena, which is an application of Ockham's Razor—see the seventh desideratum. Though I do not have space to outline these arguments in detail, I contend that there is sufficient argumentation by nonreductive materialists, property dualists, and other theorists to deny the reductivist/eliminativist presumption insofar as these views do not adequately explain the existence and nature of mental phenomena.[20]

The fifth desideratum is the recognition that *human beings are "persons" and thus add a significant ontological category of self-conscious, free, and moral beings to the universe.* The *ontological significance* of persons is well defended by Lynne Baker, who calls attention to the irreducible classes of casual properties exhibited by persons that follow from what she considers to be *the*—and I concur to be *a*—defining feature of

personhood: the capacity for a first-person perspective (chapter 4). The thesis that persons, as rational and thereby autonomous beings, are *morally significant* is most aptly expressed by Immanuel Kant in the eighteenth century. After distinguishing what may have a *price* from what has *dignity*—that is, what "is raised above all price and therefore admits of no equivalent"—Kant contends that "morality, and humanity insofar as it is capable of morality, is that which alone has dignity," concluding that "rational nature is distinguished from the rest of nature by this, that it sets itself an end." This conclusion informs the version of Kant's *categorical imperative* that recognizes that "rational beings are called *persons* because their nature already marks them out as an end in itself, that is, as something that may not be used merely as a means, and hence so far limits all choice (and is an object of respect)."[21]

The sixth desideratum, building on the previous ones affirming the ontological significance of human beings as persons and our inherent nature as biological organisms, is that *a human being exists as a unified entity, as both a person and an animal*. The supportive rationale for this desideratum will be explicated in chapter 3, where Aquinas argues against the Platonic dualist thesis that a person merely inhabits or is otherwise causally connected to her body, controlling it as a sailor steers a ship. That the relationship of a person with her body is one not merely of "conjoining" but of *unity* may be further substantiated by the direct first-person phenomenal awareness one has of the state of one's body—echoing the Cartesian conclusion quoted above—which differs in kind from the third-person awareness one would have of, say, damage caused to one's car. Furthermore, the application of Ockham's Razor—see below—requires not postulating entities beyond what is needed to explain the phenomena at hand. As will be shown throughout this volume, both the physical and psychological aspects of human nature may be adequately explained without recourse to a dualistic thesis that involves the ontological separation of one's mind—or any other putatively immaterial substance with which a person is identical—from one's living animal body.

As noted already, the seventh desideratum is an application of the *principle of parsimony*—otherwise known as "Ockham's Razor"—which requires that *there is no postulation of the existence of ontological entities beyond what may be necessary to account for the facts of human nature*—both

those that can be empirically verified and those that are held to be metaphysically possible, such as the possibility of postmortem existence.[22] The fourteenth-century philosopher and theologian William of Ockham provides several distinct formulations of his principle of ontological parsimony:

> It is futile to do with more what can be done with fewer.
> When a proposition comes out true for things, if two things suffice for its truth, it is superfluous to assume a third.
> Plurality should not be assumed without necessity.
> No plurality should be assumed unless it can be proved (a) by reason, or (b) by experience, or (c) by some infallible authority.[23]

It must be noted that Ockham does not provide a supportive rationale for the above assertions; rather, he presumes them—as philosophers and empirical scientists have generally done since—as a *methodological* epistemic truism. Ockham thus does not deny that there may be additional ontological entities that exist beyond proofs of reason, experience, or infallible authority. Hence, an account of human nature that does not postulate, for instance, the mind as a distinct substance from the body should be held as more likely to be true than one that does affirm such a postulate unless it is necessary to explain the phenomena in question; even so, the postulated entity may exist for reasons beyond accounting for the present phenomena.

The eighth desideratum is that *there is a strict criterion of identity for human beings that is both metaphysically determinate and empirically verifiable*. This desideratum involves the rejection of three theses. The first is Derek Parfit's denial that personal *identity* matters to us and his claim that one merely "survives" by virtue of *psychological continuity* with some future person.[24] Parfit's key thought experiment supporting this thesis will be explored in chapter 4. The second rejected thesis is *noncriterialism*, which is the view that there are no criteria of identity over time for persons or objects.[25] The third rejected thesis is that we cannot *epistemically verify* whether a person has persisted as the numerically same person through time and change. Although there are tough cases in which means of epistemic verification of one's persistent identity will be lacking—for example, the fissioning of an embryo producing genetically

identical twins (chapter 5) or one's duplication by a malfunctioning teletransporter (chapter 4)—it does not follow that, in nonbranching cases, one's persistent identity cannot be empirically verified by virtue of either first-person criteria—such as the persistence of one's unique *first-person perspective*—or third-person criteria—such as the physical continuity of one's body, understood in terms of the third desideratum above.

Finally, the ninth desideratum for any account of human nature is that *it coheres with the Transplant Intuition*: namely, the widely held presumption that, in the standard cerebral transplant thought experiment described in chapter 2, one goes wherever one's cerebrum goes.[26] This intuition is fueled by the clear evidence that one's psychological states are at least *correlated* with—if not identical with or reducible to—neural states of one's cerebrum, along with the thesis that personal identity is linked in some way with the continuity of one's psychological states. Although, as a merely presumptive "intuition," this thesis is open to counterargument, which Eric Olson ardently mounts (chapter 4), it is sufficiently powerful that an account that satisfies the desiderata that Olson's animalism does while also preserving this intuition is arguably the more attractive option. Having alluded to some of them already, I will now outline the various contemporary views of human nature that will be further elucidated and comparatively evaluated in the ensuing chapters.

Contemporary Views of Human Nature

Following the reconstruction of Thomistic hylomorphism in chapter 2, chapters 3 and 4 will comprise extended presentations and critiques of several influential accounts of human nature among contemporary analytic metaphysicians. I have elected to treat these particular accounts, not only because of their predominance in the scholarly literature, but also because each offers certain attractive features that cohere with common intuitions about human nature and fulfills at least some of the desiderata described above. Each of these accounts thus serves as a useful comparator to Thomistic hylomorphism, both to highlight various positive commonalities and to show where each of these accounts falls short in some way that Thomistic hylomorphism is able to rectify. Further-

more, the selected accounts have explicit implications with respect to defining the beginning and end of a human being's existence in this life, as well as the possibility of continued existence beyond this life. I will describe these implications in chapters 5, 6, and 7. Here I will offer a brief summary of each view's primary claims.

Richard Swinburne argues for a contemporary version of substance dualism.[27] He contends that human nature consists essentially of an immaterial soul that is, for a period of time, joined to a physical body. A human being is identified with her soul, and her body is only an accidental feature of her existence. Swinburne does not assert that a physical body has nothing at all to do with what a human being is. Rather, he asserts that a body has nothing to do *essentially* with a human being's nature; it is only a peripheral component of one's existence, and thus one does not need a body in order to exist.

Agreeing with various complaints historically lodged against substance dualism—such as how to explain the causal interaction of an immaterial soul with a material body—William Hasker attempts to carve out a via media between substance dualism and reductive materialism. He argues that a conscious mind, endowed with causal powers and libertarian free will, *emerges* from the complex, organized functioning of a human brain.[28] The primary mental phenomenon that leads Hasker to advocate a form of dualism is the *unity of conscious experience*, for which he does not believe a reductive theory of the mind can satisfactorily account. He holds, though, that one's emergent consciousness is, at least initially for its coming-to-be, dependent upon a physical body—specifically, a functioning cerebrum—just as a magnetic field is dependent upon a piece of iron to generate it.

Representative of reductive materialism is Eric Olson's *animalist* view.[29] According to Olson, human nature is fundamentally what biology tells us it is: to be human is to be a living organism with a certain genetic structure. Olson does not allow for the existence of any immaterial component to human nature: a human being is identical to an animal of the biological species *Homo sapiens*.

Exemplifying nonreductive materialism is Lynne Baker's *constitutionalist* approach, in which she claims that a human being has a "first-person perspective" that, while explanatorily irreducible to any purely physical explanation, nevertheless depends upon one's being

constituted by a body with a sufficiently complex brain.[30] Baker argues that no purely physical explanation can adequately account for what it means for a human being to have first-person phenomenal experiences of herself and the world around her. Baker's account takes seriously human "animality," as endorsed by Olson, but does not allow the reduction of a human being to her physical body, as Swinburne and Hasker also contend. Baker is unlike Swinburne, however, and closer to Hasker's view in that her antireductionism does not deny a human being's having a physical body as a fundamental component. A human being with a first-person perspective can exist only as constituted by an appropriate body. Baker explicitly rejects any form of Swinburne's contention that human beings may exist as immaterial substances without physical bodies. Thus the constitution approach can be understood as another via media, like Hasker's emergent dualism, between the Scylla of denying the inherently physical aspect of human nature and the Charybdis of reducing human nature to merely its physicality. A key difference, though, is that Hasker views a human being as an emergent *individual* who conceivably could persist beyond her body's death as a unified consciousness without any supportive material substrate, whereas Baker does not countenance the possibility of a human being existing without a constituting body—although she affirms the possibility that one could persist without being constituted by a *human* body. Thomistic hylomorphism represents another attempt to navigate a via media between more problematic extreme views.

Departing radically from the other accounts described here, all of which understand a human being to exist *wholly* at each temporal instant between the beginning and end points of her life, Hud Hudson advocates a *four-dimensionalist* ontology in which a human being is identical to a "spacetime worm" composed of "person-stages" united by a certain relation of psychological continuity and connectedness, and of whom the later person-stages are appropriately causally dependent upon the earlier person-stages.[31] On this view, a person does not wholly exist at any given time; rather, her existence comprises a series of moments within a temporal boundary—that is, a beginning and an end—just as one's body does not wholly exist at any given spatial point but comprises a congruent set of points within a three-dimensional boundary. Hudson's account offers a relatively novel solution to many problems that afflict three-dimensionalist theories that attempt to account for both the

material composition of human beings wholly existing at a given moment in time and the persistence of human beings through time and change. As is the case with all of the contemporary theories we will discuss, however, four-dimensionalism is prone to criticisms that render it a suboptimal solution to the central questions at hand concerning a human being's composition and persistent identity.

The final account I will examine is not as metaphysically sophisticated, in terms of the detail in which it is developed, as the others explored in this volume; nonetheless, it has been influential in contemporary bioethical debates regarding how human beings ought to be treated at the margins of life. Jeff McMahan's "embodied mind" account is based on an analysis of the foundation for *egoistic concern*, which yields the conclusion that psychological continuity—*à la* Parfit—is what matters to us.[32] McMahan differs from Parfit in holding that the *physical and functional continuity* of the material basis for one's psychology—that is, one's cerebrum or at least certain parts thereof—is both necessary and in itself sufficient for a human being to persist. McMahan's view will lead to a more in-depth discussion of Parfit's "survivalist" view and psychologically based accounts of personhood and personal identity more generally.

Key Concepts: "Human Being" and "Person"

Before beginning this investigation, a couple of key conceptual terms must be disambiguated. The first is *human being*. I have and will continue to utilize this term to refer simply to *whatever it is you and I are*—that is, when someone points to me and another asks, "What is that?" a proper response, without implying any conceptual baggage, is "That is a human being." I am thus not utilizing this term in a metaphysically loaded fashion. Nothing about the essential qualities of human nature is directly implied by my use of the term *human being*. Thus, when Swinburne speaks of my existing as an immaterial soul, he is speaking of a human being existing as an immaterial soul. When Hasker contends that I emerge from a functioning cerebrum, it is the same as saying that a human being emerges thusly. When Olson refers to my being essentially an animal, he is asserting that a human being is essentially an animal. When Baker talks of my being constituted by a physical body,

she is indicating that a human being is so constituted. When Hudson characterizes me as a spacetime worm, he is holding that a human being is a four-dimensional entity. And when McMahan describes me as an embodied mind, he is describing a human being as such. Furthermore, "human being" is the proper translation of Aquinas's Latin term *homo*, which refers to the specific type of being that you and I are.[33]

In most discussions of human nature, the concept of "human being" is conflated with the concept of "person." This is often unfortunate, as there are many conflicting formulations of the latter concept. The earliest philosophical definition of personhood comes from Boethius in the early sixth century, who defines a person as an "individual substance of a rational nature."[34] Later, in the seventeenth century, Locke offers an alternative definition of a person as "a thinking intelligent Being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places."[35] By and large, contemporary philosophers have perpetuated the thesis that a person is any being that exhibits *a capacity for self-conscious rational thought and autonomous volition* and who is thereby *a member of the moral community*. This general definition captures the essence of being a person but omits many distinct nuances that are often contested. For example, what is meant by the term *capacity*? As will be discussed in chapter 5, there are several competing definitions. For example, Robert Pasnau refers to a "capacity in hand" to perform a specific activity, such that one's ability to exercise that capacity—barring some sort of external impediment—is *immediately exercisable*.[36] By contrast, a capacity may be construed as a "radical" or "natural" *endowment* that is constitutive of a being's essential nature; while its actualization may be less proximate than a developed in-hand capacity, its presence—along with any other proper endowments—indicates the existence of a being with the relevant specific nature.[37] It is further debated whether having a capacity for self-conscious rational thought and autonomous volition requires having a human-type cerebrum or whether a different type of organic neurological system or a functionally equivalent silicon information-processing system would suffice. Also controversial is what is required to be a member of the moral community. For example, a severely cognitively disabled human being may not be a *contributing* member of the moral community—in that she does not have the mental capacity to fulfill duties to others—

but may be a *recipient* member—in that she has rights that entail others fulfilling duties toward her.[38]

Furthermore, many philosophers do not utilize the term *human being* in the metaphysically neutral manner I do. Rather, they identify the existence of a human being with that of a living, physical animal of the biological species *Homo sapiens*. As a result, the concept of "person" becomes more restricted than that of "human being." For example, Olson argues that, while you and I are essentially human beings—that is, we are essentially living, physical animals of the species *Homo sapiens*—we each exist as a person for only part of our existence. Olson holds that you came into existence as a human being when a human embryo implanted in your mother's uterus. That embryo was not a person, however, since it was not yet capable of self-conscious rational thought and autonomous volition and was thus not a member of the moral community. You became a person when your cerebrum developed and began to function, since a functioning cerebrum is required for a human animal to exercise the capacity for self-conscious rational thought and autonomous volition. Furthermore, Olson holds that you will cease to exist as a person when your cerebrum irreversibly ceases to function, which may occur long before your body dies, as in the case of patients in a *persistent vegetative state* (PVS). Therefore, according to Olson, there is at least one, and there are possibly more, periods of your existence—the existence of a human being—that do not include the existence of a person.

Additionally, Swinburne and Baker distinguish the concepts of "human being" and "person" by defining the former in terms of the existence of a living, physical animal of the species *Homo sapiens* and the latter in the general way described above. Thus Swinburne argues that you are essentially a person who exists as an immaterial soul and that, for a period of your existence, you also exist as a human being because your soul is causally linked to a human animal. Baker also argues that you are essentially a person but that you are a human being as well by virtue of being constituted by a living, physical human animal. Therefore, while Olson contends that each of us may exist as a human being without existing as a person, Swinburne and Baker contend that we may exist as a person without existing as a human being. For Swinburne, this would occur if one's soul ceased to be causally linked to a human body.

For Baker, it would occur if one were to become constituted by a nonhuman body.

Aquinas, on the other hand, understands the existence of a human being to entail the existence of a person, according to the Boethian definition stated above, while allowing for the existence of persons who are not human beings.[39] Despite the possibility of extant nonhuman persons, you and I could not exist as such beings. You and I are essentially *human persons*. Furthermore, Aquinas does not identify the existence of a human being with that of a living, physical body of the species *Homo sapiens*; rather, he argues that a human being may survive the death of her physical body in an "interim state" between her body's death and resurrection during which she is composed of her soul alone (chapter 7). While a human being's existence *naturally* includes having a biologically "human" body, it is not *essential* to one's existence. Notice that I use the term *body* here and not *animal*, as I will argue in chapter 7 that a human being's postmortem existence preserves her essential *animality* even in the absence of her physical body. We could thus say that a human being = a human animal, but this claim is quite different from Olson's version of this claim insofar as he also claims that a human animal = a living, physical body of the biological species *Homo sapiens*.

The Beginning, the End, and the "Great Beyond"

After carrying out a comparative analysis of Thomistic hylomorphism in relation to the other dualist and materialist views described above, the second half of this volume will offer an investigation of three questions that are of more practical import: When does a human being first come into existence? How should we define the death of a human being? Is it possible for a human being to survive her body's death?

With respect to the first two questions, bioethicists and other philosophers sometimes neglect or outright reject metaphysics—in particular, theories of human nature and personal identity—as useless for offering conclusive arguments regarding the beginning and end of human life.[40] Nevertheless, bioethical positions related to issues at the limits of human life often presuppose some metaphysical understanding of human nature. There is thus at least a tacit need to adopt a meta-

physical account of human nature for the sake of addressing certain types of bioethical issues. In chapters 5 and 6, I will not address any specific issues, such as abortion, embryonic stem cell research, sustaining the life of PVS patients, or transplanting organs from "brain-dead" donors with still-beating hearts. Rather, I will provide metaphysical conclusions concerning when a human person's life begins and ends. Complete responses to the various bioethical issues at hand require combining metaphysical conclusions with a particular ethical theory and taking various values into account; I will, however, provide brief responses to some of these issues in chapter 8.

The third question, taken up in chapter 7, is arguably of value only to those already committed to certain religious tenets that provide for a human being's persistence beyond death. Nevertheless, as noted above, belief in some form of individual postmortem survival is widespread among various cultures and religious traditions. Furthermore, this belief is the centerpiece of Christian theology, and developing a coherent metaphysical account of the Christian doctrine of postmortem existence and bodily resurrection has been a prime concern of scholars, both avowed Christians and those critical of Christianity's rational viability, from its very beginning. Intellectual conflict over the nature of human postmortem life precedes Christianity, however, in the debate between the Pharisees and Sadducees of Judaism around the time of Jesus of Nazareth. The former "not only affirmed the resurrection of the body but the temporary separation of the soul as well," while the latter "denied the resurrection and any meaningful afterlife whatsoever."[41] Insofar as Aquinas is a paradigmatic representative of the Christian intellectual worldview, it will be illuminative to examine his understanding of the nature of postmortem existence and how it stands up against competing dualist and materialist attempts to account for the possibility of life beyond the grave.[42]

CHAPTER TWO

This Is Us

A Hylomorphic View of Human Nature

In this chapter, I will describe a hylomorphic account of the ontological nature of human beings.[1] This description will be from a twofold perspective. I will spend the majority of the chapter elucidating the classical hylomorphic view of human nature found in the writings of Thomas Aquinas. Although Aquinas's account is foundationally indebted to Aristotle's general ontological system developed in his *Metaphysics* and his account of the human soul in *De anima*, Aquinas offers an overall more complete account of the nature of human beings, and, in those areas in which he disagrees with some of Aristotle's conclusions—namely, concerning the immortality of the soul and the possibility of postmortem existence—Aquinas's view is more amenable to the thesis for which I will argue in chapter 7.[2] After laying out Aquinas's account, and adjudicating some pertinent interpretive disputes among contemporary Thomists, I will offer a reconstruction of Thomistic hylomorphism in more contemporary terminology that will facilitate its comparison, in subsequent chapters, with other accounts representing the dualist and materialist camps.

As will be the case for all the theories discussed in the first half of this volume, my presentation of the hylomorphic view will center on the two related questions outlined in chapter 1: "What *composes* a human being?"[3] and "What is the *criterion of identity* for the same human being to persist through time and change, both physical and psychological?"

I will discuss how Aquinas's apparently dualistic understanding of the relationship between soul and body yields the conclusion that a human being exists as a unified substance composed of a rational soul informing—that is, serving as the specific organizing principle of—a material human body. Thomistic hylomorphism can therefore be taxonomically classified as a variety of dualism—insofar as Aquinas considers a human being's soul to be essentially immaterial and capable of existence after its body's death—as well as a variety of materialism[4]—insofar as Aquinas considers human beings to be essentially *animals* and the soul's immaterial postmortem existence to be an "unnatural" state for it.[5] As will also be seen, Aquinas's dualistic tendencies shine through in terms of how he accounts for a human being's persistent *identity* through time and change, and his materialist leanings are evident from his criterion for the *individuation* of each human being from all other members of the human species.

Human Beings as Metaphysical Hybrids

According to Aquinas, a human being is essentially a *person*.[6] Aquinas adopts the definition of a "person" developed by Boethius: "an individual substance of a rational nature."[7] An example of an individual substance is former president Barack Obama.[8] As an individual substance, Barack Obama can be contrasted with humanity, which is not an individual substance but the nature in which many individual substances—including Barack Obama, Queen Elizabeth II, and myself—share.

Being of a rational nature—that is, having a mind capable of intellective, conceptual thought and autonomous volition—distinguishes human beings from other material substances: "The form and species of a natural thing are known through their proper operations. Now the proper operation of a human being, insofar as he is a human being, is to understand and use reason. Hence the principle of this operation, namely the intellect, must be that by which a human being is categorized by species."[9]

In general, a person is a being that exists on its own with a specific nature, shared with other beings of its kind, in virtue of which it is rational.[10] A human being is not simply a person, however. In addition to

being rational, a human being is a sentient, living, and corporeal substance.[11] Human beings have a *material nature*.[12] Aquinas further distinguishes human beings—from other types of persons—as rational *animals*: "'Animal' indeed is predicated of a 'human being' per se, and similarly 'rational' of 'animal.' Hence this expression, *rational animal*, is the definition of a human being."[13] Aquinas refers to human beings as essentially animal because, through their material bodies, human beings share certain essential qualities with other members of the animal genus. The primary exemplification of such similarity is the capacity for sense perception. A human body, though, is unique among other kinds of animal bodies in that it is organized to support not only the capacity for sense perception but also the capacity for self-conscious rational thought and autonomous volition. Thus, for Aquinas, the terms *human person*, *human animal*, and *human being* are extensionally equivalent.

I thus disagree with the claim that hylomorphists should consider a human being to be only *contingently* an "animal" and "alive" insofar as a human being can persist without her material body by virtue of her soul alone.[14] I argue in chapter 7 that a rational soul alone suffices to compose an animal because it possesses all the inherent capacities of life and sentience that essentially define animal nature. Hence, an animal—at least a *human* animal—may exist as an immaterial object. Furthermore, a rational soul may be considered to be alive in the extended metaphysical sense Aquinas intends when he predicates life to another immaterial being—God: "Something is said to live insofar as it operates by itself, and not as moved by another."[15] I would agree, however, that human beings are only contingently "organisms" insofar as this term refers to an essentially *biological* concept.[16] The upshot of these considerations is the admittedly counterintuitive claim that *a living human animal can exist without being a material organism*.

The disposition of a human body is determined by its having a rational soul as its *substantial form*.[17] As a substantial form, a rational soul is responsible for (1) the *esse* (being) of a human being, (2) the actualization of the matter composing a human being, and (3) the unity of existence and activity in a human being.[18] It is notoriously difficult to define precisely *what* a substantial form is;[19] it is much easier rather to describe what it *does* with respect to the body it informs. For example, it is clear that a substantial form is responsible for a body having the *essential*

properties it does as a member of a specific kind; but it would be a mischaracterization to reduce a substantial form to merely the set of its body's essential properties: "A substantial form, for Aquinas, is more than just something which includes properties, or which has properties as parts. It is more like that in virtue of which a body has the essential properties which it has: loosely, it is in some sense the source of a body's essential properties."[20]

An optimal way to characterize a substantial form would be the essential configuration of the matter composing a material substance such that the substance bears a set of properties that define its essential nature as individuated by the form inhering in a particular quantity of designated matter—this point will be elucidated below. As a result, a change of substantial form would entail a change in numerical identity—meaning that one thing ceases to exist and something new comes to exist composed of the same matter but having a distinct form—and perhaps also changing its species membership—as opposed to an accidental form, such as "being red," which defines a way that a thing may or may not be without altering its essential nature or changing its numerical identity. The concept of substantial form includes its serving as the ground for both the *universal* set of essential properties that are shared by all individual members of the same natural kind and the *individuated* set of properties that inhere in a particular material substance. As will be discussed below, once a particular substance is individuated, its substantial form also grounds its persistent diachronic identity.

A rational soul and the material body of which it is the substantial form are not two separately existing substances. A substantial form is the *actualization* of a material body: "Body and soul are not two actually existing substances, but from these two is made one actually existing substance. For a human being's body is not actually the same in the soul's presence and absence; but the soul makes it exist actually."[21]

Within hylomorphism, it is somewhat inaccurate to distinguish "body" from "soul," for a living organic human body could not exist without being informed by a rational soul. Rather, the proper metaphysical distinction is between soul and *matter*, or, more precisely, "prime matter," which Aquinas defines as merely the potentiality to receive form.[22] Prime matter, it should be emphasized, does not actually exist on its own; all extant material objects are *informed*.[23]

The intrinsic unity of matter and a rational soul is responsible for the unified existence of a human being; as Brian Leftow puts it, human beings are "souls dipped in dust."[24] Against the Platonic conception of one's soul as a substance that moves another substance—a human body—as an efficient causal agent, Aquinas contends, "If you say that Socrates is not one simply, but one due to the aggregate of mover and moved, many incoherencies follow."[25] The primary incoherency is that Socrates would not be one being unqualifiedly (*unum simpliciter*).[26] If Socrates is not *unum simpliciter*, then he cannot count as a substance.

Aquinas notes various ways in which something may be considered a *unity*. For example, a heap of stones is a unity in terms of the constituent stones being spatially continuous; a house is a unity in terms of its constituent parts being functionally organized in a certain fashion; and a mover and that which it moves are a unity in terms of their agent/patient relationship.[27] None of these types of unity, though, count as *substantial* unity—that is, they are not *unum simpliciter*. Examples of things that are *unum simpliciter* are elemental substances, certain mixtures of elemental substances, immaterial substances, and living organisms.[28] The notion that Socrates is an aggregate of a mover and that which it moves is analogous to the aggregate of a sailor and the ship he pilots. One would not say that a sailor and his ship compose one *substance*; analogously, one would not say that Socrates's soul—the mover—and his body—the moved—compose one substance.[29] One could say that a sailor and his ship, as well as Socrates's body and soul on the Platonic account, are unified in a certain respect or compose an aggregate sum, but such unity would not be *unum simpliciter*.

A human being is not merely an aggregate of matter and form. A rational soul and the matter it informs are metaphysically distinct, but neither of them alone is a substance. A human being does not naturally exist without being composed of matter informed by a rational soul.[30] She is an individual substance brought about through a rational soul's informing a material body. Typically, when matter is informed by a rational soul, a new ontological entity—a human being—comes into existence.[31]

An analogous example is the case of salt. The elements sodium and chloride, which are substances in themselves, come together to form a new substance: salt. When salt comes into existence, the sodium and the

chloride each cease to exist as distinct substances, though they persist virtually as *parts* of a substance.[32] Salt has a set of properties that is not merely the result of combining the sets of properties had by sodium and chloride, respectively. The composition of a human being by soul and matter is not exactly the same as the case of salt, for soul and matter do not exist as distinct substances prior to composing a human being. Soul and matter, however, like sodium and chloride, do not exist as distinct ontological kinds in a composite human being.[33] Neither is it the case that the set of properties had by a human being is merely the result of combining the sets of properties had by her soul and matter, respectively.

To summarize, neither a rational soul nor the matter it informs alone is a substance. Rather, the two together compose a substance. A human being, who is not identical to either her soul or the matter it informs, is *composed* of the two metaphysical parts standing in the proper relation of one informing the other:[34] "A human being is said to be from soul and body just as from two things a third is constituted that is neither of the two, for a human being is neither soul nor body."[35]

Aquinas holds that *composition is not identity*: something *A* may exist as composed of something else *B*, but *A* is not identical with *B*, where *B* is a set of parts standing in a particular relation to each other.[36] Aquinas's adoption of this thesis is found in a passage where he comments on different types of composition, including a type of composition that results in two things forming another thing that is *unum simpliciter*—that is, a substance: "Since something is composed from another in this way 'as a whole'—that is, the whole is one—and not in the way as a heap of stones is, but as a syllable, which is one unqualifiedly [*unum simpliciter*], in all such instances the composite itself must not be that from which it is composed, as a syllable is not its elements. Just as the syllable BA is not the same as the two letters B and A, neither is flesh the same as fire and earth."[37]

That Aquinas applies the notion of composition-without-identity to a human being's relationship to her soul and the matter it informs is evidenced by his discussion of the attribution of a human being's capacities and activities. Aquinas contends that a human being's capacities must be attributed to the human being herself and not to any of her parts.[38] A human being's soul is the source of her capacities, and the exercise of the soul's capacities—with some exceptions discussed below—

requires material support. A human being, however, is the substance that *has* the capacities.

For example, I have the capacity to see. My capacity to see requires that I have eyes, optic nerves, and a visual cortex. I have these organs because my soul informs my material body; hence both my soul and matter are necessary for me to see. My soul, however, does not see, and neither do my eyes, optic nerves, or visual cortex. Rather, *I* see by utilizing the visual capacity *I* have by virtue of being composed of a body with such biological apparatus. That the capacity to see is attributable to me, and not to my soul or the material components of my body, demonstrates that I am not identical to either my soul or any of my material parts, taken individually or as a set.

If capacities are properly attributed to the composite substance, then even more so are the activities that follow upon such capacities: "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."[39] Aquinas recognizes that certain capacities—self-conscious rational thought and autonomous volition—can be had by a soul itself. These are capacities the soul would have even if it were separated from its material body.[40] Nevertheless, even if certain capacities belong to a soul itself, it is still to a human being that their actual operation is attributable: "Hence, the operations of the parts are attributed to a whole by means of each part. For we say that a human being sees by means of the eye, and feels by means of the hand. . . . Therefore, it may be said that the soul understands, just as the eye sees; but it is more proper to say that a human being understands by means of the soul."[41] Aquinas considers this way of attributing intellective thought and volition to be important for the sake of a human being's being morally responsible for her actions.[42]

A human being, then, is a substance that exists, has a set of specific capacities, acts, and cannot be reduced to her parts—integral or metaphysical—taken individually or aggregately. While the existence and nature of a human being are dependent upon her having a rational soul actualizing a sufficiently complex organic material body, form and matter are not acting substances in their own right. It is a human being who exists and acts by means of her soul and the matter it informs, which together compose her. Furthermore, because the composition re-

lation is not equivalent to strict identity, it is not the case that a human being is identical even to her informed material body.[43]

Immaterial Aspects of Human Nature

Aquinas argues that a human being's rational soul has a mode of being that distinguishes it from all other substantial forms of material substances.[44] This distinction is due to the soul's intellective capacities, which are not dependent upon any material body for their functioning. Hence, such capacities surpass the limits of matter in their ability to understand the universal forms of things; such universal forms are the natures of things understood as abstracted from any particular material conditions. As noted above, whatever capacities and activities are seemingly attributable to one's soul or body are rather more properly attributable to the human being composed of her soul and material body. Therefore, if some capacities and activities are apparently attributable to the soul alone without need of a material body, this supports the conclusion that a human being to whom such capacities and activities are more properly attributable can exist as composed of her soul alone.

Aquinas presents two arguments in favor of the soul's immateriality:

> (1) It must be said that the principle of intellectual operation, which we say is a human being's soul, is a principle both incorporeal and subsistent. For it is evident that a human being, by means of the intellect, is able to know the natures of all bodies. Now, whatever is able to know certain things must not have any of them in its own nature; for that which is in it would naturally impede knowledge of anything else. . . . Now, every body has a certain determinate nature. It is thus impossible that the intellectual principle be a body.[45]

> (2) For it is evident that everything that is received into another is received in it according to the mode of the recipient. Now, something is known insofar as its form is in the knower; but the intellective soul knows something in its nature absolutely—for example, a stone insofar as it is stone absolutely. Therefore, the form of a stone absolutely, according to its proper formal idea, is in the intellective soul. Hence, the intellective soul is an absolute form, not something

> composed of matter and form. For if the intellective soul were composed of matter and form, the forms of things would be received in it as individuals, and thus it would know nothing except singulars, just as occurs in the sensitive powers, which receive the forms of things in a corporeal organ; for matter is the principle of individuation of forms.[46]

Since intellective capacities surpass the limits of matter, no purely material process can be responsible for the generation of substantial forms with such capacities. All other substantial forms of material substances can be generated through purely material processes. Aquinas thus concludes that a rational soul must receive its being (*esse*) directly from God.[47] This conclusion may seem implausible since, in line with what I will argue in chapter 5, "We can trace the origin and development of the properties of a human body from their earliest embryonic stages: and there seems to be no discernible jump from a state of being produced naturally to a state of being produced supernaturally."[48] This point does not belie direct divine creation of each rational soul by God; it simply moves the point of creation to the very beginning of a human body's existence at fertilization, as opposed to Aquinas's claim of the soul's later instantiation as the form of its body.

Another basis for claiming Aquinas's conclusion to be implausible is the lack of any evident difference in the reproductive formation of a human body as compared to those of other animals. While this observation is generally true, Aquinas's argument for God's direct creation of the rational soul—a metaphysical event that would have no discernible empirical evidence thereof—is premised upon the inherent capacity the rational soul exhibits for intellective thought. A stronger argument against Aquinas's thesis would be based on the premise that there is nothing inherently problematic about a material process generating something immaterial; after all, something immaterial—God—is able to generate something material—the created universe. In chapter 3, I will describe the *emergentist* view, which purports to explain how a conscious, thinking, immaterial soul could emerge from a material substrate, and I will examine Aquinas's counterargument.

The *esse* had by a rational soul because of its intellective capacities does create a problem for Aquinas. He holds that a rational soul is the

substantial form of a material human body, and yet it is separable in both *esse* and intellective operations. A tension thus exists between a soul's being both naturally united to a material body as its substantial form and separable from the body. I shall provide Aquinas's arguments first for the soul's separability and then for its being naturally united to a human body. Afterward, I will demonstrate how an important distinction in Aquinas's thought resolves this tension.

According to Aquinas, something can be corruptible in two ways: *per se*—through itself—and *per accidens*—through another. No substantial form is corruptible *per se*, because corruption *per se* involves the separation of a thing from its substantial form. A substantial form cannot separate from itself. Hence, since a rational soul is a substantial form, it is not corruptible *per se*. Substantial forms of material things, however, such as a rock, are corruptible *per accidens*, because they are completely dependent for their *esse* and operation upon the bodies they inform. When such bodies are corrupted, their substantial forms are corrupted as well. A rational soul is an exception.[49] Though it is the substantial form of a material body, a rational soul has its *esse* directly from God and also has operations—namely, intellective cognition and autonomous volition—that do not depend upon any bodily organ to function. Hence, a rational soul cannot be corrupted either *per se*, as is the case with any substantial form, or *per accidens*, because of its lack of complete dependence upon a material body for its *esse* and operation.[50] Aquinas also argues that a rational soul's ability to reflexively know itself requires that it be immaterial and separable from its body.[51]

Some of a rational soul's capacities—namely, its vegetative and sensitive capacities that nonhuman animals also have—do act through material organs. Hence, it is not the case that a soul's separable existence entails that all of its capacities can be actualized in such a state. A rational soul requires a material body to function completely—that is, for all of its capacities to be actualizable. Furthermore, Aquinas argues that a rational soul communicates its *esse* to a material body such that there is one *esse* of a composite substance: a human being. A rational soul is both what primarily exists (*quod est*) and that by which (*quo est*) something else exists—namely, a living body composing a human being.[52] Hence, a rational soul must be *immediately* joined to such a body.[53] Additionally, while a soul's intellective operations do not themselves require

a bodily organ, its intellect operates by abstracting universal forms from *phantasmata*.[54] An intellect has *phantasmata* through sense perception of particular material substances. Since the activity of sense perception requires proper material organs—eyes, ears, nose, and so on—an intellect does have need of a human body.[55]

Despite the separability of its intellective operations from any material constituent, a rational soul is naturally united to a particular material body as its substantial form.[56] That a rational soul is naturally united to its body is also supported by Aquinas's contention that it is neither an intellect itself which understands nor the soul that is the foundation for intellective capacities. Rather, a human being understands by means of the intellective capacities she has by virtue of her soul, just as she sees by means of the capacity for sight she has by virtue of her eyes and visual cortex.[57] Hence, insofar as a human being naturally exists as composed of both soul and matter, the soul's existence and operation are properly in union with a particular material body.

To summarize, a rational soul is separable from its body by virtue of its essential intellective and volitional capacities,[58] but it is naturally united to its body for the sake of its other capacities on account of its being the body's substantial form.[59] Because of this natural unity, a human body is disposed in terms of its organic structure with respect to a rational soul's capacities, including the intellect.[60] Aquinas goes so far as to note that human beings have larger brains than other animals to support cognitive functions—sensation, imagination, memory, and so on—that subserve intellective activity.[61] He even specifically notes that if one's brain is injured, one's soul will not be able to function in terms of either intellection or self-consciousness.[62]

Since a rational soul has its own *esse* and its own defining capacities, and is also the substantial form of a material body, Eleonore Stump refers to it as a "configured configurer."[63] As configured, a rational soul is a *subsistent* being. Furthermore, it has certain specific and individual qualities. By *specific qualities*, I intend those qualities that are definitive of the nature of any human being—for example, having human DNA, sensory organs, organs such as a heart and lungs, and a cerebrum.[64] By *individual qualities*, I intend those qualities that are unique to each individual soul as it is the substantial form of a particular human body—for example, having *these* organs, *this* cerebrum, *this* individual genetic structure.

Let me explain this last point. Aquinas asserts that no rational soul precedes in existence the material body of which it is the substantial form: "But because it is naturally the form of a body, the soul was not created separately but was necessarily created in the body."[65] By being created in a particular material body, each soul is distinct from all other rational souls that are created in other bodies simply by virtue of each being spatiotemporally unique. Each soul exists when and where the body it informs does. Since no two bodies can occupy the same place at the same time, no two souls can either, and thus each soul will be unique in that way. Furthermore, the material disposition of each particular body affects the soul's actualization of its capacities. If a body has defective eyes, the soul will not be able to actualize its capacity for sight. Because of such differences in the actualization of its capacities, each soul becomes further distinct from other rational souls informing other bodies. Also, as each soul engages in sensitive and intellective activities, it perceives different things and thus gains different knowledge from that of other souls. As a result of these differences, when it subsists apart from the body after a human being's death, each individual soul retains its own set of qualities. It retains both the unique set of knowledge it acquired prior to death and the "blueprint" for its particular body: "The human soul remains in its own *esse* when it is separated from the body, having an aptitude and natural inclination toward union with the body."[66]

As configured, a rational soul subsists with its own individual set of qualities. As a "configurer"—that is, as the substantial form of a material body—a rational soul does not subsist with a complete specific nature. A soul alone is not identical to a human being, nor does it have a complete human nature: "No part has its natural perfection separate from the whole. Hence the soul, since it is part of human nature, does not have its natural perfection unless it is in union with the body. . . . Hence the soul, though it can exist and understand separate from the body, does not have its natural perfection when it is separate from the body."[67] Since a rational soul does not have a complete human nature, it alone cannot be identical to a human being: "Not every particular substance is a *hypostasis* or person, but what has its complete specific nature. Hence a hand or foot cannot be called a *hypostasis* or person; and similarly neither can the soul, since it is part of the human species."[68]

Confusion may arise from Aquinas's reference in this passage to "particular substances." In his earlier works, Aquinas took the term *substance* to refer to anything that had *esse* on its own, not requiring another being in which to inhere, as is the case with accidental qualities—for example, the redness of an apple—or mind-dependent entities—what Aquinas terms "beings of reason." Rather, *substance* equaled *subsistence*.[69] In later works, Aquinas makes a distinction between *mere* subsistence and subsistence *as a substance* (*hypostasis* or *suppositum*):

> "This something" [*hoc aliquid*] can be taken in two ways: one way, for any subsistent thing; the other way, for what subsists in its complete specific nature. The first way excludes the inherence of an accident or material form. The second way excludes also the imperfection of a part. Hence a hand can be called "this something" in the first way but not in the second. Therefore, since a human soul is part of the human species, it can be called "this something" in the first way, as subsistent, but not in the second—for in this way the composite of soul and body is called "this something."[70]

In line with this distinction, at one point when Aquinas refers to a rational soul as a substance, he qualifies it as meaning "something subsistent" and nothing more.[71] With this understanding of a rational soul, one can see how it can subsist with its own *esse*, but not as a complete substance such that it would either be identical to a human being or fail to be naturally joined to a material body as its substantial form.

This completes my exposition of Aquinas's account of the compositional nature of human beings. Characterizing a human being as an individual substance, however, prompts two further questions: What is the *principle of individuation* for human substances that makes one human being distinct from another? What is the *criterion of identity* through time and change for human substances in virtue of which the person authoring this book is numerically the same as some person who existed ten years ago? In contemporary terminology, the first question refers to a human being's *synchronic* identity, while the second refers to *diachronic* identity. How Aquinas responds to these questions will provide background for the analytic formulation of his account in the final section of this chapter.

Material Individuation

Aquinas asserts that a material substance, such as a human being, exists as an individual with its own substantial form by virtue of its material body: "A particular substance is not a substance and an individual among material things, except from matter."[72] Aquinas terms the matter of a particular material body *designated* matter: "Matter in whatever mode is not accepted as the principle of individuation, but only designated matter [*materia signata*]; and I term designated matter what is considered under determinate dimensions. Now such matter is not placed in the definition of what a human being is insofar as he is human, but it would be placed in the definition of Socrates if Socrates had a definition."[73]

Here Aquinas refers to designated matter as matter under determinate dimensions (*dimensiones determinatis*).[74] Elsewhere, he distinguishes between matter under determinate dimensions and under interminate dimensions (*dimensiones interminatis*),[75] and he asserts the latter as the principle of individuation for material substances:

> Now dimensions can be considered in two ways. In one way according to their termination, and I say that they are terminate according to a determined measure and figure . . . and thus they cannot be the principle of individuation. For, since such a termination of dimensions frequently varies with respect to an individual, it would follow that an individual would not remain the same in number [that is, identical to itself]. In the other way, they may be considered without such determination—just in the nature of dimensions—though they can never be without some determination . . . and from these interminate dimensions matter is made *this* designated matter, and in this way it individuates form.[76]

Aquinas states that dimensions "can never be without some determination." He is concerned that, since the size and shape of an individual substance's material body may change over time, the identity of that substance must be maintained despite such changes. Aquinas's solution is that the principle of individuation is designated matter that has *some*

dimension—that is, some measure or shape—but is not limited to *one* determinate measure or shape.

In sum, matter must be designated to serve as an individuating principle. As designated, matter must have determinate quantitative dimensions. There is no particular determination of such quantitative dimensions, however, that is necessary for matter to individuate. It is in this sense that Aquinas asserts designated matter to be under interminate dimensions in order to serve as an individuating principle. The interminate nature of such dimensions is that they need not be of any *particular* quantitative measure. It is required only that they be determinate by having *some* quantitative measure.

For example, it is necessary that my body have some measure of height and some measure of weight, and be either sitting, standing, kneeling, or lying down; however, it is not necessary that my body be six foot two inches tall, or weigh 190 pounds, or be in a sitting position. All such determinate quantities are accidents of my body.[77] The principle of individuation for material substances is designated matter considered as having some determinate dimensions that are accidental features of the matter as it is a body:

> Whether these variations in size and shape are in zygote, embryo, fetus, child, adult, or aged person, they serve to designate the same individualizing portion of matter throughout all the dimensional changes. The matter is indeed determined by dimensions that are definite in actuality at any given instant, but which are considered as individuating dimensions insofar as they are not defined by the state in which they happen to be at any particular moment. The matter is determined by the dimensions, but the dimensions themselves may be undefined. It is in their undefined status that they serve as the individuating principle of a body.[78]

Quantitative dimensions, determined to some but not to any particular measure, are the key to matter's functioning as an individuating principle for material substances.[79]

In addition to designated matter being the primary principle of individuation, Aquinas considers other factors that may contribute to the explanation of how an individual material substance comes about. Aqui-

nas refers to an individual substance's accidental features as a principle of individuation: "An individual is made by a collection of accidents that cannot be repeated in another. . . . Nothing can make diversity according to number except diversity of accidents."[80] Another individuating factor is spatial location: "it is impossible for this matter to be distinct from that one except when it is distinct according to place."[81]

These additional individuating principles do not contradict designated matter being the *primary* principle. With respect to place, Aquinas clearly shows how it functions as an individuating principle. It is a defining feature of designated matter that it cannot share the same spatial location with another instance of designated matter. As such, the accident of place can be considered as the most important *sign* of individuation but is not itself the *cause* of individuation.[82] Furthermore, the requisite quantitative dimensions for individuation, considered as determinate, are accidental features of a substance. Hence, a distinction in accidents, with respect to one type of accident, does play a primary role in the individuation of substances.[83]

Designated matter is the primary principle of individuation for material substances, including human beings. Matter is designated, however, only insofar as it is *informed*. Hence, a material substance's substantial form plays an essential role in establishing its individuated existence.[84] While the hylomorphic principles of individuation and identity are distinct and not reducible to each other, the ontological instantiations of these principles in a material substance are inherently interdependent.[85]

I thus offer the following Thomistic account of individuation with respect to human beings.[86] The rational soul of each individual human being comes into being either through direct creation by God—Aquinas's explicit view—or through natural procreative activity. A rational soul is a subsistent being; it has its own *esse*. A rational soul, however, is not created except in relation to a material body of which it is the substantial form. A material body is an individual instance of designated matter, defined as having interminate quantitative dimensions. A rational soul informing a designated material body constitutes the *esse* of an individual human being. Each human being has a set of specific qualities shared with other human beings. Yet each human being exists most properly as an individual and acts accordingly.[87] Furthermore, upon a human being's death, her soul maintains its subsistence and its individuality because

of its unique relationship to a particular material body as its substantial form (chapter 7).

Formal Identity

A human being is a substance composed of matter and substantial form, both components contributing to her being an individual substance. Hence, it would seem that the diachronic identity of a human being is found only in the matter/form composite. It is thus arguable that all material substances, including human beings, persist through time and change by virtue of the same substantial form informing the same designated matter. On the other hand, it may be that substantial form alone is the principle of identity for material substances and that a human being retains her identity when she exists as a separated soul after her body's death. I will argue that the latter thesis more satisfactorily accounts for a key issue in Aquinas's account of human nature: the preservation of a human being's identity through death and bodily resurrection.

Sandra Edwards argues that designated matter, in which the same substantial form is continuously instantiated, is the proper Thomistic principle of identity for all material substances, including human beings. When a break in material continuity occurs, there results a new substantial form and a distinct substance:

> The identity of a man through time is the identity of his body, but it is the identity of a certain sort of body, that informed by a human soul which is at least capable of performing some of the operations characteristic of human beings. . . . In the case of "the same man" we are concerned not just with the identity through time of a parcel of matter but with the identity through time of a parcel of matter of a certain sort, a living body endowed with characteristics essential to human beings or at least the potential for these characteristics. As long as the body exhibits these characteristics or has the potential to do so it is ensouled, and if there is no break in the history of such a body, then there is presumably no break in the history of its soul either.[88]

There are several key points to note in this passage. First, Edwards asserts the primary principle of identity to be *matter*. Second, she states

that the principle of identity is not just any matter but an *informed material body*; substantial form thus plays a role in identity. Third, she claims that the presence of the same soul, informing the same material body—with the result that the same human being exists—is evidenced by the *continuous* history of the body.

Continuity of material existence plays a key evidentiary role in Edwards's account. She claims that there are no grounds for presuming the existence of the same substantial form informing two material bodies that exist at distinct, noncontinuous times. Aquinas makes this point in an example he gives of fire: "While it continuously burns, a fire is said to be one in number, because its species remains, though wood may be consumed and new wood applied."[89] He further states, "If all the matter loses the species of fire at once, and other matter is converted into fire, there will be a numerically distinct fire. But if, little by little, as one piece of wood burns another piece is substituted, and so on until all of the first piece is consumed, it will always remain the numerically same fire, since always what is added passes into what preexisted."[90]

Even though the matter of a particular fire may fluctuate in its constituents—wood is consumed and new wood added—as long as material continuity is maintained, the substantial form of that particular fire remains and the same fire persists. If, however, there is a break in material continuity—if a fire goes out and then is re-ignited—there is a change in substantial form, and the re-ignited fire is not identical with the fire that previously went out. Aquinas notes the same material flux in human bodies. Bodies undergo cellular decay, and food is taken in and transformed by digestion into raw material to generate new cells and other bodily components. As long as there is material continuity, then the same substantial form and the same body persist through such changes in micro-level constituents.[91]

Edwards argues that the identity of a material substance requires two things: persistence of the same substantial form and continuous existence of the same material body. The identity of a material substance is due to the continuous existence of *this* body, which is evidence of the persistence of *this* substantial form. Edwards admits that substantial form may be the primary principle of identity, but not without reference to a continuously persisting body: "Identity of body is not sufficient for the identity of the man at different times. There must also be the same

soul. Forms, however, including the human soul, are distinguished only by the matter they inform and so must be identified through time by means of this matter."[92]

If both the soul and body of a human being are required for one's persistence as the same substance, a break in the continuity of one's body would result in a change of substantial form and loss of identity, as in the case of fire. This creates a problem for Aquinas, since he holds that human beings will experience bodily resurrection and renewed existence as complete human beings (chapter 7). According to Edwards, a resurrected human body cannot compose the identically same human being that existed before death.[93]

Stump argues to the contrary that substantial form alone is the principle of identity for substances: "For any substances *x* and *y*, *x* is identical to *y* if and only if the substantial form of *x* is identical to the substantial form of *y*."[94] Stump does not ignore the importance of material continuity but recognizes it as a nonessential component of identity. Since matter individuates form in the case of material substances, the continuity of substantial form and continuity of designated matter go hand in hand, as in the case of fire; the continuous existence of the same designated matter individuates the same substantial form.[95] This does not entail, however, that material continuity is necessary for the persistent identity of all material substances and the continuity of all types of substantial form.

A form may be related to matter in various degrees for the sake of identity. Take Aquinas's example of a statue that is melted down and then reconstituted. The same material constituent—that is, the same bronze—is present in both statues; however, the form of each statue is distinct. Nonidentical statues result, not from material discontinuity, but from *formal* discontinuity insofar as the form of an artifact, such as a statue, has a fragile relationship to its matter. A significant change in the matter's quantitative dimensions, for example, the melting down of a statue, is sufficient to result in a formal change.[96]

The form of a natural substance, such as fire, does not have as fragile a relationship to its matter.[97] The matter of such a substance may significantly change its quantitative dimensions without provoking a change in form. A small flame burning in an ember may grow to become a

raging forest fire covering several thousand acres without ceasing to be the same fire.

The form of a human being has a different relationship to the matter it informs. Aquinas makes the point that the identity of a statue is not analogous to the identity of human beings: "But the human form, namely the soul, remains after the dissolution of the body; and thus it is not a similar case."[98] The same distinction holds between rational souls and the substantial forms of other natural substances insofar as the former can subsist without informing any material body. As a result, the persistence conditions of a human being's substantial form are distinct from those of other natural substances, such as a fire, and artifacts, such as a statue. For both artifacts and nonhuman natural substances, material continuity is required in order for the same substantial form—and hence the same statue or fire—to persist. For human beings, material continuity is not required for the same substantial form to persist.[99] Therefore, substantial form should be understood as the primary Thomistic principle of identity, particularly for human beings: "A material substance such as Socrates is this human being in virtue of having *this* substantial form. And what is necessary and sufficient for something to be identical to Socrates is that its substantial form be identical to the substantial form of Socrates."[100]

A properly Thomistic account of identity affirms the primary role played by a human being's substantial form.[101] A material body has a role in the coming-to-be and individuation of a rational soul. Matter, however, itself has no intrinsic qualities that are unique and definitive of an individual substance. A human being is both a member of the human species and a unique, individual member of the human species by virtue of her soul. Any role that matter plays in constituting the nature of a human being is ontologically dependent upon the soul as its substantial form. Furthermore, while matter is indeed requisite for a human being to actualize all her capacities as a rational animal, a soul alone is sufficient for a human being's individual existence as a rational animal, capable of engaging in intellectual and volitional activities. Yet one's soul remains a mere *part* of one's substantial makeup and is not a substance in its own right; Aquinas thus asserts, "My soul is not I."[102] I will examine various implications of this assertion in the ensuing comparative analysis, particularly in chapters 3 and 7.

Twenty-First-Century Hylomorphism

Throughout the first half of this chapter, for the most part, I have used Aquinas's own conceptual terminology to describe the nature of human beings. In this second half, I wish to translate Aquinas's account into more contemporary metaphysical terms. I will thus formulate my own hylomorphic account of human nature, following Aquinas, which will be suitable for comparison to contemporary dualist and materialist accounts in subsequent chapters. In so doing, both here and throughout the volume, I will treat several metaphysical problems and puzzling cases with which contemporary accounts have had to contend. While these problems and cases may seem to be of merely esoteric import to analytic metaphysicians, taking them seriously—both real-world cases (e.g., dicephalus and *craniopagus parasiticus*) and thought experiments (e.g., cerebral transplant and teletransporter duplication)—helps to refine one's account by taking note of all naturally and metaphysically possible implications thereof. Although a particular account's lack of a ready solution to such problems may not necessarily invalidate it, one that can resolve these problems is arguably all the stronger for it.

I claim that there are two fundamental components of a human being in our natural condition: (1) a mind capable of self-conscious rational thought and autonomous volition,[103] and (2) an organic body with a specific genetic structure. The first corresponds to what Aquinas refers to as the intellect and the "rational nature" part of the Boethian definition of a person. The second corresponds to the informed human body and the "individual substance" portion of Boethius's definition. Let us examine each of these in turn.

Aquinas claims that a human mind is not reducible to the functioning of a human brain.[104] A mind is not identical to a brain, nor is the cognitive functioning of a mind merely the firing of neurons in a cerebrum. Rather, there are cognitive capacities of a human mind that cannot be wholly explained in neurophysical terms alone, such as self-reflexive consciousness and intellectual understanding of abstract concepts.[105] A human mind has a special mode of knowing that transcends mere physicality.

Above, I presented Aquinas's two primary arguments for the intellect's immateriality. One argument is what John Haldane terms the

"argument from concepts as universals," which turns on what David Oderberg terms the "embodiment problem" or, more precisely, the "location or storage problem": "Concepts, propositions, and arguments [that is, the elements of intellective cognition] are abstract; potential material loci for these items are concrete. The former are unextended; the latter are extended. The former are universal; the latter are particular. Nothing that is abstract, unextended, and universal—and it is hard to see how anything abstract could be other than unextended and universal—could be embodied, located, or stored in anything concrete, extended, and particular. Therefore the proper objects of intellectual activity can have no material embodiment or locus."[106] As Alvin Plantinga aptly puts the point, attempting to conceptualize how "an assemblage of neurons" has mental *content* is "a little like trying to understand what it would be for the number seven, e.g., to weigh five pounds, or for an elephant . . . to be a proposition."[107]

Aquinas's other argument—termed by Haldane the "argument from conceptual omniscience"—is premised upon another problem Oderberg raises that I will term the "infinity problem": "The intellect is capable of grasping a potential infinity of concepts, but no corporeal organ can harbour a potential infinity of anything. In particular, the intellect is distinguished by this feature: that it can grasp a potentially infinite number of *categories* of concepts, and within each category a potentially infinite number of exemplars. In other words, there is no limit to the number of kinds of thing the intellect can recognize, and no limit to the number of examples of each kind which it can grasp."[108]

The upshot of these two arguments is that a material organ—such as the brain—is not the right type of being to receive universal forms and, further, that the inherent limitations of such an organ would not allow it to potentially know all things. Thus, as Gyula Klima concludes,

> We do not think with our brains. Our brains simply provide highly processed sensory information for our thinking performed by our intellect, but the intellectual activity itself is not the activity of our brains. Of course, this conception certainly raises the question of interaction on the "interface" between the soul-informed (since living) brain, and the allegedly immaterial intellect. However, this is not "the interaction problem" of post-Cartesian dualism, raising the unwieldy issues of how two substances of radically different

> natures, one physical and another "non-physical" can act on each other. The question of the working of the "interface" between the soul-informed brain and the immaterial intellect of the human soul is rather the question of what kind of mechanism is capable of channelling information between different modules of the same information processing unit.[109]

I will discuss in chapter 3 how the hylomorphic conception of the mind/brain relationship differs from substance dualism.

The intellect's fundamental immateriality does not entail, however, that there is no relationship between a human being's mind and her brain. In fact, Aquinas offers a very intimate relationship between the two, which is accomplished in three ways. First, certain cognitive functions of the mind are recognized by Aquinas to be localized in the brain. These are the cognitive functions human beings share with nonhuman animals, and they include what Aquinas terms the *estimative* capacity, by which animals are able to determine what is good versus what is harmful to them.[110]

The second way in which a human mind is related to a human brain is due to the mind's dependence upon sense perception for gaining knowledge. Unlike Plato, Aquinas contends that a mind is a tabula rasa at its creation; it has no innate knowledge.[111] The natural source of knowledge for a human mind is its sensory experience of the surrounding environment.[112] Sense perception is a mental capacity humans share with all other animals and is a function of a brain and the sensory organs connected to it. When damage occurs to the brain or sensory organs, the mind's higher cognitive functions are affected.[113]

The third way in which a human mind is related to a brain has to do with (2) above. For Aquinas, a human mind is not an independently existing entity. Rather, it is one set of capacities had by a rational soul, which is the substantial form of a material human body. One way to understand the notion of a rational soul as a substantial form in contemporary terms is to think of it as a *principle of organization* for material parts. A human body is an *organic* construct. It has a variety of parts that operate both independently and collectively to support the existence and activity of a living, sensing, moving, thinking, and willing being. Both

the independent operation of one of a body's organs and its functional unity with the body's other organs are governed by the *formal unity* of the organism itself.

Referring to a soul as a "principle of organization" does not sufficiently capture precisely what a soul is and does with respect to the body it informs. On one hand, the soul functions as the "blueprint" for its particular body, which, among other results, provides for a human being's *resurrected* body to be numerically *hers* (chapter 7). This analogy is imperfect, however, insofar as a blueprint does not *do* anything to effect the actual material organization of whatever is built in accord with its instructions. Another imperfect analogy for the soul would be an organism's DNA, which does actually *function* to materially construct a living body. From a hylomorphic standpoint, though, DNA cannot be identified with the soul, since DNA itself, like any material construct, is a composite of form and matter. Furthermore, despite its essential role, DNA alone cannot account for precisely how an individual organism will develop. As will be argued in chapter 5, the presence of an embryo with human DNA, and other intrinsic material properties necessary for it to develop into an actually thinking *rational animal*, suffices for a rationally ensouled human being to exist once the fertilization process is complete. Nevertheless, the exact way in which an embryo's DNA will guide its individual development will be affected by *epigenetic* factors that include how the embryo's internal microbiological constituents interact with each other, as well as external factors from the surrounding environment, such as the quantity of folic acid in the mother's diet.[114] In light of these considerations, perhaps the best way to describe the soul of a living organism, functioning as the organism's substantial form, is as an *active* set of instructions (like a blueprint) that is *internal* to the organism (like its DNA) and results in a *dynamic unfolding* of the organism's biological structure (epigenetically).[115]

All living organisms, and human beings in particular, are more than the sum of their parts. Hylomorphism fundamentally denies *mereological essentialism*: the thesis that any whole—including living organisms and a fortiori human beings—has all of its parts essentially, meaning that even the slightest micro-level change will result, strictly speaking, in a nonidentical being coming into existence.[116] Yet living organisms are wholly dependent upon their parts for their unity and activity. I am

not my liver; I am not my heart; I am not my heart and my liver; I am not the entire set of organic components of my body. Yet I need my liver; I need my heart; I need the entire set of organic components of my body. I am *composed* of the organic components that can be collectively termed "my body," but I am not identical with my body and thus not reducible to it.

I am a being composed of an organic body that is suitably organized to support my activities of living, sensing, moving, thinking, and willing. Most of my activities—such as moving, breathing, and seeing—are wholly realized within my body's organic structure. My conscious mental functions, however, are not wholly realized within my cerebrum, though my cerebrum's functioning supports them. Even those activities that are realized wholly within my body, though, should not be considered as activities of *my body*, as if my body were something separate from *me*. Rather, since I am composed of my body, *I* am the being who moves, breathes, and sees. I physically act *by virtue* of my body, but I am the *agent* of such activities. The same goes for my conscious mental activities. It is not my mind that knows, judges, hopes, chooses, et cetera. Rather, I perform these and other mental activities *by virtue* of my mind.[117]

Too Many Thinkers?

As I have noted, one's mind is not identical to one's soul; nevertheless, Aquinas affirms that a rational soul is the sine qua non without which the mental activities of intellective thought and autonomous volition cannot occur. The compositional relationship of a human person and her soul raises the specter of the "too many thinkers problem" insofar as there are apparently two spatially coincident thinking entities: the person and her soul.[118] This problem is ubiquitous among theories of human nature and personal identity in which a person—or at least her mind—and her body—with its functioning cerebrum considered to be capable of generating conscious thought—are construed as ontologically distinct. It thus affects William Hasker's emergent dualist view (chapter 3), Jeff McMahan's embodied-mind view (chapter 4), and Lynne Baker's constitutionalist view (chapter 4).[119] Even Eric Olson's animalist view (chapter 4) must contend with this problem, despite his employment of it against rival theories, because of cases of conjoined twins who appear

to be one animal but two persons.[120] Richard Swinburne's substance dualist view (chapter 3) is immune to this problem insofar as it denies that one's body/cerebrum can think; only one's soul can think, and a person is *identical* to her soul—hence, there is only one thinker. Thomistic hylomorphism, however, while sharing the substance dualist thesis that one's body/cerebrum cannot think but only one's soul can, does not identify a person with her soul; it thus must be explicated why there is only one thinker present.

One potential solution would be to ascribe the activities of self-conscious rational thought and autonomous volition to the soul alone. This would seem to lead to the unfortunate consequence that *I* do not think or will, only my soul does, and I am not identical to my soul according to Thomistic hylomorphism. Olson terms this the "thinking-soul problem."[121] Perhaps, then, we should ascribe these activities to the person and not her soul, which is Aquinas's position.[122] This raises the question, however, of why rational thought and volition should *not* be ascribed to the soul. On what basis ought these activities to be denied to the soul other than as an apparently ad hoc maneuver to save hylomorphism from the "too many thinkers" problem?

One reason to deny that a rational soul alone is capable of thought and volition is that, in a human being's natural embodied state, these activities are dependent upon the body insofar as sense perception must occur in order for a person to have an object about which she can think or will. So even though the soul contributes certain activities to the overall reasoning and willing process that the body does not, it is most accurate to ascribe the overall process to the *person* composed of both soul and body. This renders acts of thinking and willing akin to the act of seeing, which requires various parts—eyes, optic nerves, visual cortex, et cetera—and so it makes sense to ascribe the singular *act of seeing* to the person composed of these parts as opposed to the parts themselves.

While this line of reasoning may work in the case of a human being in her natural embodied condition, it is still the case that one's soul alone is capable of engaging in rational thought and volition during the interim state between one's body's death and resurrection. As I will argue in chapter 7, it is consistent with Thomistic hylomorphism—even if it was not Aquinas's own explicit view—to conceive of a person as persisting during the interim state as composed of, but not identical to, her soul alone. This case raises the "too many thinkers" problem more

perniciously than a person's embodied mode of existence before death.[123] Unlike the act of seeing, which is not possible in the disembodied state, acts of thinking and willing that are possible in such a state do not require more than a single part—the rational soul—that alone composes the person. On what basis, then, can it be reasonably asserted that the *soul* does not think or will?

David Hershenov suggests that Thomistic hylomorphism can avail itself of some of the metaphysical mechanics of *constitutionalism* in this regard: namely, Baker's distinction between properties had "derivatively" versus "nonderivatively" (chapter 4).[124] In this case, one's soul thinks and wills—at least in the ways it can without any sensory input—*nonderivatively*, which means that these activities are most properly ascribed to the soul itself. Olson's "thinking-soul" problem is avoided, however, insofar as it can still be said that the disembodied person shares in these activities *derivatively*. In short, a disembodied person thinks and wills insofar as she has a *proper part*—her soul—that thinks and wills. This is analogous to ascribing (derivatively) the property of being five foot five inches tall to a person insofar as she has a proper part—her body—that is five foot five inches tall (nonderivatively).

As helpful as Hershenov's proposed solution—as presented—is for the hylomorphist, it departs from Aquinas's view, and there may be good reason to affirm the latter. One might wonder, for instance, why it should be held that a person exists at all during the interim state. If one's soul alone can think and will, why assert that there is an additional entity—the person? Aquinas, in fact, seems to deny that a person exists at all during the interim state. In chapter 7, however, I will outline various reasons why I contend that is preferable for a Thomistic hylomorphist to hold that a person persists between death and resurrection composed of her soul alone. For now, I will note that part of responding adequately to this question involves delineating what properties are possessed by a rational soul alone versus the person it composes. I believe there are such properties even if all of a person's psychological properties were had nonderivatively by her soul; for example, a person has the property of being naturally, though not necessarily, composed of matter, whereas a soul is not composed of matter.[125] Given some reason to hold that a person persists during the interim state composed of her soul alone, it is the person, then, who is the *substance* that exists, with her rational soul subsisting

only as a *part*. Thus, while the soul provides what is necessary for the person to think or will, it is the person *herself* who engages in such acts.

On this view, the compositional nature of the relationship between a disembodied person and her soul is analogous to the constitutional relationship Baker describes between a person and her body insofar as both involve a one-to-one relationship (chapter 4). So it is legitimate to follow Hershenov's suggestion and import the notion of derivative/nonderivative properties. The proper mode of ascription, however, is for acts of thought and volition to be assigned nonderivatively to the *person* and derivatively to her soul. Although being composed of rational soul provides a person with the *capacities* for thought and volition, only the person can *actualize* those capacities. This is analogous to Baker's ascription of the property of having a "first-person perspective" to a person nonderivatively and to her body derivatively insofar as it constitutes a person, acknowledging that a person would not exist or have the capacity for a first-person perspective without being constituted by an appropriately organized body. For Thomistic hylomorphism, the properties of actively thinking and willing are ascribed to a person nonderivatively and to her soul derivatively insofar as it composes a person, acknowledging that a person would not exist or have the capacities for intellective thought or autonomous volition if she were not composed of a rational soul.

Aquinas utilizes an analogy involving fire and the heat it possesses as a formal actuality. It is fire that makes something else hot, but it would be able to do so only if it possessed the actuality of heat. Fire is not identical to its heat insofar as it possesses other actualities than just heat; but it can only make something else hot insofar as it possesses the actuality of heat. Nevertheless, it is not the formal actuality of heat that makes something else hot, but the fire that possesses heat: "For heat in no way causes heat, strictly speaking."[126] Analogously, it is a person who thinks and wills, but she can do so only insofar as she is composed of a rational soul as the formal actuality of her capacities for thought and volition. Aquinas utilizes another analogy concerning a person's act of moving in relation to his soul as the formal actuality of his capacity to move, affirming the dependency of the former upon the latter, but nevertheless assigning the property of *moving* to the person and not his soul: "When it is said that the soul does not move, but a human being *through* the

soul, it may be understood to mean that the movement exists *in* the soul as in a subject; to forestall this idea, [Aristotle] says that when it is said that a human being moves by means of his soul, it does not mean that the movement exists *in* the soul itself, but rather, as it were, *from* it."[127] Aquinas is referring specifically to an act that involves both metaphysical parts of the soul-body composite; but there is no principled reason why this same distinction in modes of predication between a person and her soul could not also be applied to the case where the body is absent.

Principles of Individuation and Identity

In providing a contemporary formulation of Thomistic hylomorphism, it is necessary to discuss the principles of individuation and identity across time and change—that is, synchronic and diachronic identity. I provide here two reasons why a human being exists as an individual substance that is not a part of another substance. First, a human being is composed of a material body that has a property of *unique* spatiotemporal existence: wherever or whenever a particular human body exists, no other material body exists at that same place at that same time that is not a component of that human body.

Second, the spatiotemporal uniqueness of a particular human body is due to its functional organization and formal unity. As a specific type of organized material body, a human body has certain material components, such as individual organs and tissues, as part of its existence. Furthermore, an organized human body does not allow certain other material things to be components of it—for example, the clothes worn upon it or the coffee cup held in its hand. Since such objects fail to be involved in a human body's formal unity or functional organization, they are not *parts* of it—put another way, they are not "caught up in [its] life."[128] A human being's existence as an individual substance is thus signified by the unique spatiotemporal existence of her body—corresponding to Aquinas's conception of designated matter—and her body's formal unity and functional organization—corresponding to the dependence of a designated material body upon its substantial form.[129]

The persistent identity of an embodied human being through time and change is due to the continuous dynamic formal/functional relationship of her parts. As Kit Fine argues, it is not the mereological sum

of parts that makes an object the same object at two distinct times, since such parts could persist in a scattered form but we do not typically consider an object to persist if its constituent parts are not spatially contiguous.[130] Rather, it is the existence of such parts in the proper *relationship* to each other: "Given objects *a*, *b*, *c*, . . . and given a relation *R* that may hold or fail to hold of those objects at any given time, we suppose that there is a new object—what one may call 'the objects *a*, *b*, *c*, . . . in the relation *R*.'"[131] Objects such as a carburetor, transmission, chassis, and wheels may combine to form a new object—a car—only if they stand in a certain relationship to each other such that the wheels are spaced in a rectangular formation touching the ground, the chassis is attached to the wheels, and the carburetor, transmission, and other engine parts are functionally organized appropriately.[132]

Fine offers his account as a contemporary equivalent to the notion of substantial form and terms the new object that results from the organized relationship among the previous objects as either a *rigid* or *variable embodiment*—the latter accounting for an object losing or gaining parts in an ordered fashion that maintains the integral relation *R* among them.[133] Fine's and Aquinas's respective accounts both allow for the possibility of changes in particular material components without a change in a material substance's identity as a whole. What constitutes rigid embodiment for a human being at a particular time is an organized body with a certain genetic structure, certain vital organs—or their functional equivalents—blood, et cetera. While individual parts may be lost or gained over time, the variable embodiment of a human being requires that she continue to have a liver, a heart, a brain, blood, the same basic genetic structure—allowing for small variations—and so on, all organized in a proper functional relationship to each other.[134] It is important to stress that a substance's form "is not static, but dynamic, something that includes the functioning of and causal interactions among the parts."[135]

Fine's principle of variable embodiment allows there to be temporary components of an embodied human being. Such components may cease to be proper parts of him without thereby his ceasing to exist—for example, the particular liver I now have, the blood coursing through my veins at this moment, my left foot. Not only do the micro-level constituents of these bodily parts naturally change through the complementary processes of decay and nourishment, but also such parts may be

exchanged through a liver transplant, blood transfusion, or replacement by a mechanical foot. Such changes can occur without a consequent change in my identity. As long as the conditions of rigid embodiment at a particular time and those of variable embodiment over time are satisfied, my persistent identity is preserved.

Fine's conditions for persistent identity are not exactly equivalent to Aquinas's, as Fine is concerned with identity conditions only for purely material substances. For Aquinas, human beings are not purely material: a human being can exist composed of her soul alone. This does not entail any contradiction between Fine's and Aquinas's respective accounts. Both recognize that it is not material parts alone but also their formal/functional relationship to each other that is responsible for a material substance's persistent identity. Aquinas goes beyond Fine's essentially materialist view, though, and affirms that a rational soul alone preserves a human being's identity and is the principle of a resurrected material body's formal/functional unity. A rational soul thus satisfies the formal/functional condition of Fine's concepts of rigid and variable embodiment—even when it lacks any material components to functionally organize—and, consequently, guarantees the resurrection of an identical human being (chapter 7).

Cerebral Transplant Thought Experiment

Metaphysicians have long debated various thought experiments that raise challenging puzzles for just about any theory of human nature and personal identity. One of the most widely discussed is the *cerebrum transplant* thought experiment: Person *A*'s cerebrum is removed from her cranium and successfully attached to the rest of the brain of person *B*, whose cerebrum has been removed and discarded. *B*'s body now appears to belong to *A* insofar as that body's cranium houses a brain that provides the material support for *A*'s self-consciousness—she believes herself to be *A* despite the change in body—and other psychological traits typically held to be relevant to personal identity, such as memories, beliefs, desires, and personality traits. The rest of *A*'s body, minus *A*'s cerebrum, survives the transplant procedure insofar as the noncerebral parts of *A*'s brain—particularly the brainstem—continue to control the vital functions of heartbeat and respiration.[136] Four interrelated questions present themselves for the Thomistic hylomorphist to answer: (1) Is *A*'s

body now what was *B*'s body? (2) If so, is the matter that formerly composed *B*'s body now informed by *A*'s rational soul? (3) Where was *A*'s soul during the middle of the transplant procedure? (4) What informs *A*'s still-living body after the transplant?

While typically a rational soul informs a material body that is suitable for actualizing all of the soul's definitive capacities for life, sentience, self-conscious rational thought, and autonomous volition, I contend that a human being could come to be composed of a material body—such as a cerebrum—that suffices only for the last two capacities to be realized insofar as these two mark the "specific difference" between human beings and all other sentient animals. I thus concur with Hershenov's insightful analysis: "The person's soul will configure less matter during the transplant procedure than it did before the cerebrum was removed, and then will configure more and different matter after the cerebrum has been 'replanted.' In the interim period—the time which the cerebrum has been removed from one skull but not yet put in another—the person becomes physically very small, just cerebrum-size. One could say that the person's arms, legs, trunk, lower brain, face, and skull have been amputated. Instead of configuring the body of an organism, the rational soul configures merely the matter of the cerebrum."[137]

Once her cerebrum is removed, *A* is no longer associated with her previous body and is now associated with what was *B*'s body, so my answer to (1) is a qualified affirmative. The qualification, and why I say "associated with," is that—*pace* Hershenov—my response to (2) is negative: I do not hold *A*'s soul to now inform *B*'s body. To see why, we need to first consider the answer to (4). We can skip over (3) as I affirm Hershenov's answer that *A*'s soul informs *A*'s cerebrum during the middle of the transplant procedure.

As will be argued at length in chapter 6, the irreversible cessation of cerebral functioning—resulting in a clinical condition known as *persistent vegetative state* (PVS)—does not entail a human being's death. A PVS patient's rational soul continues to inform her still-living body. It is merely the case that she can no longer actualize her capacities for self-conscious rational thought, autonomous volition, or sentience; her only actualized capacities are vegetative. This conclusion would seem to imply that Hershenov's claim that *A*'s soul informs her detached cerebrum is false and that it continues to inform her still-living body, which is in a functional state equivalent to that of a PVS patient.

Hershenov considers this discrepancy and invokes a proposal by Mark Spencer, in which he defines and applies two principles that characterize the soul/body relationship:

> First, (1) the soul is first and foremost the form of a body—in its natural condition it informs a body—and it will naturally tend to inform a body until material conditions deteriorate to the point where it simply no longer can do so. Second, (2) the human soul is a rational soul and so will implement these powers in relation to matter as long as possible. However, if the implementation of its rational capacities is not possible, the same soul will continue to implement its lower powers rather than separate entirely from matter and take on a separated existence in which it can only implement some powers unnaturally without matter. A human's persistence conditions on this interpretation of hylomorphism are based on the soul being able to implement its powers in the best and most natural possible situation given the above constraints, rather than on psychological continuity or on the apparent continuity of the same biological life.[138]

The upshot of Spencer's two principles is that a rational soul will inform a detached cerebrum as it continues to serve as a functional material substrate to support the soul's definitive capacities of self-conscious rational thought and autonomous volition. In the case of PVS, however, the patient's cerebrum is not detached but is no longer functional; thus the soul can at best actualize only its vegetative capacities. It will cease to inform a material body once *none* of its essential vegetative, sensitive, intellective, or volitional activities can be actualized any longer.

Given Spencer's proposal, it can be consistently held that *A* becomes composed of her detached cerebrum informed by her rational soul.[139] The rest of her body, however, remains a living organism in a functional state equivalent to that of a PVS patient. Thus we should consider *A*'s previous body to be informed by a vegetative soul insofar as it remains a living organism; but, despite the biological fact that this organism would still be genetically a member of the species *Homo sapiens*, it no longer counts as the body of a human being/animal/person.[140] The point is that *A*'s previous body is not in any way a *corpse*; it is a substance with

its own vegetative substantial form. If this is the right conclusion about *A*'s body once her cerebrum is detached, then the same would be the case for *B*'s body once his cerebrum is removed.[141] Hence, when *A*'s cerebrum is attached to the rest of *B*'s brain, *A* is conjoined to an already existing living organism. In essence, then, *B*'s body has become a biological life-support system for *A* but is not, properly speaking, *A*'s "new body." *A*'s body is, and always will be until it irreversibly ceases functioning, *A*'s cerebrum.[142]

Perhaps I am not being sufficiently imaginative here. After all, *A*'s cerebrum will be *functionally integrated* with *B*'s former body just as it was to *A*'s previous body. As a result, it seems that *B*'s body will become "caught up" in *A*'s life. Furthermore, while *B*'s body may seem a bit strange to *A* at first—especially if it involves a change of gender—one can see *A* eventually becoming accustomed to *B*'s body such that her (his?) *phenomenal* sense of embodiment will be the same as when *A* was conjoined to her previous body. On the other hand, unless *A* and *B* are genetically identical twins or immunosuppressant drugs are administered, *B*'s body will try to reject *A*'s cerebrum, the former treating the latter as a *biological invader*, not an integral component. While neither phenomenal awareness nor biological reaction alone dictates the strict ontological truth of the matter, these are both important data to take into account, and thus I remain agnostic on the question of whether *B*'s body could become informed by *A*'s rational soul. If such ontological conjoining does occur, then *A*'s soul would annihilate the vegetative soul that informed *B*'s body once his cerebrum was detached, just as, in the process of digestion, the substantial form of the food one eats is annihilated as the food becomes assimilated into one's own vital metabolic processes.

One reason I am not prepared to commit myself to this view is that it is indeterminate whether *B*'s former body should be considered as becoming caught up in *A*'s life or vice versa—particularly given the fact that *B*'s body is a functionally integrated organism prior to *A*'s cerebrum being grafted onto it. On this construal, it is not the case that *A* would gain what was *B*'s body as a proper part of herself, but rather that *A*'s cerebrum would become a proper part of *B*. This would entail the persistence of *B* with *A*'s psychology—including the erroneous belief that he is *A*—and the death of *A*. This has the unhappy consequence that *A*

survives explantation of her cerebrum from her former body but does not survive re-implantation in another living body. In the absence of a principled reason for holding that *A* takes on *B*'s body as a proper part and not the reverse, it is better to maintain *A*'s cerebrum and *B*'s body as distinct substances in the transplant scenario.

Patrick Toner disagrees with Hershenov's—and a fortiori my—construal of what occurs in the cerebral transplant scenario:

> When a human being suffers a brain injury that causes him to enter a PVS, or when he undergoes an operation that removes his cerebrum, there does not seem to be any substantial change. That is, the original substance seems to remain: its life is uninterrupted. This is very strong evidence for the human being's survival. But if it has survived—if it has not undergone a substantial change—then it must still be the same kind of thing it was prior to the surgery/accident. So it's still a human being . . . It has a rational, sensing nature, even though it cannot think or sense.
>
> If we consider the cerebrum that was taken from the animal, though, we see that it is not a living animal, and hence clearly not a human animal. . . . It's not a sensing thing: not an animal: not you. You don't go with it. You're the animal: you're still there, and still a person, for the animal is still there, the animal once was a person, and so is essentially a person. It can't possibly exist, and fail to be a person.[143]

Toner cites strong evidence in favor of a PVS patient's continued existence as the numerically same rational animal/person he was before suffering cerebral infarction, and this same biological continuity is present in the case of cerebral explantation. Biological evidence, however, while it may indicate, does not dictate metaphysical fact, and there is a strong intuition—based on the persistence of one's phenomenal sense of her own *self* continuing with her transplanted cerebrum—for holding that a cerebrum alone can compose a person; such phenomenal evidence is lacking in the PVS case, and so biological continuity could be taken as more strongly indicative of one's ontological persistence. Hence, invoking Spencer's two principles noted above, the two cases need not have parallel conclusions. The living body that remains in the PVS case composes the numerically same person, whereas the living

body that remains after cerebral explantation does not—a substantial change has occurred.

An explanted cerebrum, moreover, suffices to compose an *animal* because it is informed by a rational soul with all the attendant capacities even if such capacities are unactualized. Toner rightly notes the presence of such latent capacities persisting in the body of a PVS patient but does not consider the possibility that a cerebrum informed by a rational soul could have such latent capacities as well, actualizable once it is conjoined to a new living body—on the assumption that *A*'s soul becomes the substantial form of *B*'s body.[144] Like Hershenov, Toner premises his argument on a biologically restrictive definition of "animality," whereas I advocate a metaphysically expansive definition in which the essential property of being an animal is having a *natural potentiality*—as defined in chapter 5—for sentience. While the actualization of a natural potentiality for sentience requires a suitably organized material body, the presence of the potentiality itself does not, given Aquinas's arguments for the postmortem persistence of a rational soul, as well as the soul's *unicity* such that it possesses all of its essential capacities—vegetative, sensitive, intellective, and volitional—in whatever manner—embodied or disembodied—it may exist.[145]

Toner offers an alternative hylomorphic construal of the cerebrum transplant scenario: "Hylemorphists should hold that the detached cerebrum, which had previously been informed by your rational soul, receives upon detachment a form of *cerebrum* (whether this would be an accidental or a substantial form I prefer not to guess) in virtue of which it is able to perform, in a partial and badly damaged way, some cerebrum-ish functions. When that cerebrum is successfully transplanted, it becomes informed with the rational soul of the receiving animal, which can henceforth use it in its own cognitional acts."[146] One complaint against Toner's alternative picture is that he is multiplying entities by inventing a new kind of form—the form of *cerebrum*—thereby rendering his proposal ontologically inelegant *per* Ockham's Razor (chapter 1). This shows, not that Toner's depiction is wrong, but simply that it is not as preferable as one where the only entities at hand are already recorded in hylomorphism's ontological catalog. Another, more serious, complaint—which parallels what I will say about disembodied souls in chapter 7—is that it is counterintuitive to conceive of a transplanted cerebrum that has

all the psychological qualities of person *A* both ceasing to be *A* and becoming *B* by virtue of being attached to *B*'s body. The root disagreement between Toner's and my variant hylomorphic accounts of what happens in the cerebrum transplant thought experiment can be adjudicated by asking which is the more plausible scenario: either *A* becomes conjoined to *B*'s former body—probably mistakenly believing that *B*'s body is now a proper part of herself—or *B* comes to adopt *A*'s psychology—probably mistakenly believing himself to be *A* when the latter is actually a distinct cerebrum-less body.

The Dicephalus Case

Jeff McMahan goes beyond thought experiments to consider real-life cases that raise challenging questions concerning various theories of personhood and personal identity. The primary case to which he draws attention is that of Abigail and Brittany Hensel: conjoined twins who are *dicephalic*, meaning that they exist as two heads joined to the same torso. Because Abigail and Brittany "each has her own private mental life and her own character," they are clearly distinct persons; yet if they share a single *organism* as their body, then, McMahan concludes, neither can be *identical* to the organism they share.[147] This case putatively supports McMahan's view that human persons are essentially "embodied minds" (chapter 4): Abigail and Brittany are each essentially associated with the minimal amount of functional cerebral tissue necessary to generate their respective first-person psychological states.[148]

While McMahan is specifically targeting the animalist view of human nature, any alternative to his embodied-mind view must take account of the dicephalus case and give an explanation of what Abigail and Brittany are each identical to, constituted by, or composed of.[149] A typical response to the dicephalus case is to contend that Abigail and Brittany are indeed two organisms who happen to share a number of their organs; evidence of this being the case is that each twin has her own brainstem that controls various organs of the shared body and that their respective motor cortices control the movement of the limbs on her own half of the shared body: "One can identify which twin is controlling which organ or body part, thereby suggesting that there are two capacities for coordinating various life processes, and that therefore, there are

two organisms."[150] Furthermore, it is arguable that the two organisms were originally a single embryo that then divided—albeit incompletely—into two new embryos; the ontologically distinct, yet partially structurally conjoined, embryos each form one half—more or less—of the fully developed twins' shared body. Thus, while an extreme example, dicephalus is metaphysically no different than other forms of conjoined twins who share a lesser percentage of their bodies.[151] On the other hand, if the dicephalic twins result from two separate embryos that have fused, then it makes even more sense to count them as two conjoined organisms insofar as they began their existence as distinct organisms.[152]

This construal of the case of dicephalic twins coheres with hylomorphism insofar as each twin would have her own substantial form—rational soul—informing her own head and those parts of the structurally conjoined body that were directly controlled by her brainstem and motor cortex. The parts of the shared body under the other twin's control, even if their functioning served to sustain the first twin's existence, would ontologically be no different from an external life-support mechanism to which her head, if severed, might be conjoined.[153] In a more recently reported case of dicephalic twins born in Brazil—Jesus and Emanuel—the body to which the two heads are conjoined has only one set of organs below the neck.[154] Although physiological details of the twins' condition have not yet been released, it is probable that only one of the twins' brainstems is controlling the vital organs that support both his and his brother's—who is composed of only his head—respective lives. If, on the other hand, the second twin's brainstem plays a regulatory role with respect to some of their shared organs, or if his motor cortex is capable of controlling one half of their body—as is the case for the Hensel twins—then the situation would be more like that of Abigail and Brittany, in which the two organisms are divided with respect to which parts of the body are under Jesus's and Emanuel's respective neurological control.

In response to the above construal of the dicephalus case, Tim Campbell and Jeff McMahan describe a different version of dicephalus—*craniopagus parasiticus*—in which one complete human organism has a second head attached that has failed to develop its own body below the neck: "The second head draws life support from the organs below the primary head, yet it contributes nothing to their regulation, control, or

functioning."[155] While it is indeterminate whether in the few actual cases of *craniopagus parasiticus* the second head was capable of self-conscious rational thought and autonomous volition, it is nevertheless practically conceivable that it could have been; we would thus evidently have a case of two persons being sustained by one organism. Or would we? Note that in the recorded cases of this rare condition, the parasitic head had its own brainstem. Granted, the second brainstem played no functional role in regulating the vital metabolic functions of an organism; but it is conceivable that the second head could be separated and conjoined to a headless body and thereby its brainstem come to control its new body's vital metabolic functions. The conceivability of this scenario supports construing the second head, even when still attached to the first organism, as its own distinct organism. McMahan cites supportive experimentation that the second head could be separated and conjoined to its own body but denies the conclusion that the second head on its own could be an *organism*, since there is no set of functional organs for its brainstem to control.[156]

McMahan's claim turns on how the concept of an "organism" should be understood. Hershenov concurs with McMahan's strictly biological understanding of an organism and thus agrees that there is only one organism in the case of *craniopagus parasiticus*; but he resists the conclusion that there are two distinct persons. Rather, Hershenov construes the two cerebra attached to the one organism—assuming each sustains a distinct set of first-person psychological states—as a case of a single person "cut off from himself." Hershenov cites cases of divided consciousness within a single person—such as John Locke's hypothetical "Waking Socrates" and "Sleeping Socrates," as well as real-life cases of dissociative personality disorder and the influence of subconscious thought processes advocated by Freudianism—to support the plausibility of such an interpretation of the case at hand.[157]

While Hershenov's proposal merits careful consideration, it runs afoul of the strong intuition that two beings with distinct, simultaneous *first-person perspectives*—see the discussion of this concept in the context of Baker's constitutionalist view in chapter 4—could not be the numerically same person. Hershenov's cited examples involve either conscious perspectives that are *temporally distinct*—Waking/Sleeping Socrates and dissociative personality disorder—or, in the case of Freud-

ianism, only one conscious set of thought processes, the putative psychosexual influences being *sub*conscious.[158] Alternatively, hylomorphism allows for a metaphysically expansive concept of an organism, defined as any material body that is informed by a vegetative, sensitive, or rational soul.[159] As argued above, a separated cerebrum—and a fortiori a whole brain or head containing a functioning brain—would be informed by a rational soul and would thereby compose not only a human person but also a human *animal* insofar as the soul possessed the latent natural potentialities for sentience and vegetative functions that it could actualize once again if it came to inform a new material body with the proper organs.[160]

Finally, Campbell and McMahan raise the reverse case of dicephalus: *cephalopagus*, in which an entity is born with a single head housing one cerebrum but two cerebella and two brainstems, along with duplication of many, though not all, of the body's other organs.[161] They conclude from this case—contra animalism—that two overlapping organisms may support the conscious life of a single person; hence, a person cannot be identical to an organism. Campbell and McMahan consider the response that only one of the two organisms is a person, the other being a mere organism, although it would be indeterminate which one of them was the person. This proposal would be amenable to both animalism and hylomorphism: on the latter view, only one of the organisms would be informed by the same rational soul that also informed the cerebrum, the other organism being informed by its own vegetative soul. They reject this proposal as a strategy "of desperation with little credibility."[162] It would be a more credible response, however, if there were independent evidence that the person identified herself more with one of the organisms than the other; as noted above, one's phenomenal sense of one's embodiment does not dictate metaphysical conclusions, but it can and ought to be taken into account as relevant data. Unfortunately, in the real-life cases of cephalopagus, the individuals born did not live long enough to provide first-person accounts of how they perceived their "ownership" of their bodies. For example, did they possess proprioceptive awareness of all of their limbs or only of one set of limbs? Other relevant evidence would be whether they could exercise voluntary control over all of their limbs or just one set of them. While cases such as these challenge standard animalist and hylomorphic accounts of human nature,

coherent descriptions within the context of each theory may be postulated. Hylomorphism perhaps fares a bit better, though, insofar as the concept of a rational soul possessing the definitive natural potentialities of a human person/animal allows for a detached cerebrum or parasitic head to be construed as a living organism despite lacking the rest of the organically complex body to which cerebra and human heads are typically conjoined.

In this chapter, I have had two goals: to provide a coherent Thomistic hylomorphic account of the nature of human beings and to formulate this account in terms suitable for comparison to contemporary metaphysical accounts of human nature. In conclusion, I wish to recall what I claim are the key elements of the account I have described. A human being is composed of an organized material body capable of supporting capacities of life, sentience, self-conscious rational thought, and autonomous volition. A human being is a distinct ontological entity that comes into existence through the coming into existence of a particular, suitably organized, material body. A human being has qualities that are not had by either her body or its organizing principle and thus is not identical to those parts, taken individually or together. A human being is the agent responsible for the actualization of her capacities in intellectual, volitional, and behavioral activity. Such activity, though, can be accomplished by a human being only by virtue of her mind, her organized body, or the two of them working as one. Even though a human being's existence transcends her material body and she can persist without it, this does not entail that a human being ever ceases to bear some relationship to her body. A human being, while more than the sum of her formal and material parts, nonetheless does not *naturally* exist and act without being composed of those parts.

CHAPTER THREE

I Think, Therefore . . .

Varieties of Dualism

Thomas Aquinas clearly follows Aristotle's hylomorphic account of human nature, in which matter is informed by a rational soul to compose a human being (chapter 2). Nevertheless, he departs from Aristotle in arguing that an individual human being may survive her body's death insofar as a rational soul is able to exist and function without matter. This leads to the typical characterization of Aquinas as a *dualist*. Thomistic dualism, however, is quite distinct from the *Platonic* dualist account that preceded it, as well as the various accounts of *substance* dualism that have been offered by contemporary philosophers such as Richard Swinburne. For both Plato and Swinburne, a person is *identical* to an immaterial soul that is contingently related to a human body.[1] For Aquinas, a human person is *composed* of her soul and the matter it informs but is not identical to either metaphysical component. Aquinas's view is closer to another recently developed form of dualism proposed by William Hasker: *emergent* dualism, in which a soul emerges from the functioning of one's cerebrum. Yet key differences between emergentism and hylomorphism remain. I will explicate Thomistic dualism in comparison to Swinburne's and Hasker's respective accounts. I conclude that Aquinas offers a distinctive account that is able to address certain issues that arise for the other dualist views.

Souls with Bodies: Substance Dualism

According to Richard Swinburne, a human person is an individual being who has a material substance (body), to which her publicly accessible physical properties—such as height, weight, eye color, and capacity for locomotion—belong, and an immaterial substance (soul), to which her mental properties to which she alone has privileged access—such as beliefs, desires, intentions, sensations, thoughts, moral awareness, and free will—belong.[2] During a person's "normal earthly life," both components exist linked together. That a person "normally" exists as a soul and body linked together, however, does not entail that she *must* exist so: a body is a *contingent* component of a person.[3] A person is thus essentially a soul—a "pure mental substance"—that may be temporarily linked to a body in such a way that the body, for that period of time, is also a component of the person.[4]

Swinburne supports his conclusion that an individual human person is identical to an immaterial soul by arguing for the logical possibility that a person may persist in a disembodied state or linked to another body. The first premise of his argument is the logical possibility that a person may exist after her body has been destroyed. To show this, Swinburne imagines scenarios in which a person is able to experience and act either through someone else's body or without any body altogether.[5] A person who exists as disembodied would no longer be "human," for a person is human only insofar as she has a body with a specific genetic structure. It is one's existence as a "person"—a being who can experience, act, and have "rich" and "complex" mental states— that Swinburne argues to be logically possible in a disembodied state.[6]

The second premise is what Swinburne refers to as a "quasi-Aristotelian" principle: "The continuing existence of some of the stuff of which a substance is made is necessary for the continued existence of the substance."[7] This principle follows Aristotle's assertion that, in order for a substance to continue to exist as the same substance, at least some part of it must continue to exist. It is only "quasi-" Aristotelian, however, in that Aristotle recognizes only matter as the "stuff" of which substances are made. Swinburne proposes a wider account of substance that includes the possibility of substances being partly composed of "immaterial stuff." A substance with an immaterial component can continue to exist even if none of its matter continues to exist.

From these two premises and his definition of personhood, Swinburne concludes that a person must have an immaterial component in virtue of which she can exist as disembodied.[8] In support of this conclusion, Swinburne argues that a person's existence apart from her body is not only logically possible but also not rendered impossible by the laws of nature.[9] He further contends that there may be cases in which all the information about a human person's body is insufficient to account for that person's existence and persistent identity.

Swinburne considers a thought experiment in which a surgeon is able to separate the two cerebral hemispheres of a human person's brain.[10] The surgeon then takes each hemisphere and places it in the empty skull of one of two distinct human bodies. Once the appropriate neural connections are made between hemisphere and spinal cord, two human persons will become conscious and have the ability to experience and act in the world. Furthermore, since a human person's apparent memories and basic psychological characteristics may be preserved in each hemisphere alone, the two persons who awaken will both have the original person's apparent memories and basic psychological traits.[11] From all the evident physical and psychological qualities had by each of the two new persons, a medical doctor and a psychologist will not be able to distinguish which, if either of them, is the original person whose cerebrum was divided and transplanted. It is a fact of the matter, however, that either *one* of the two newly conscious human persons is identical with the original, or the *other* is, or *neither* of them is and the original person is now dead. Since neither physical nor psychological data can establish which of these three possible outcomes is the fact of the matter, Swinburne concludes that a person's continuing identity—or lack thereof if the person dies—through such a logically possible change must be grounded in something other than merely her physical and psychological properties: "So my soul is the essential part of me—its survival is necessary and sufficient for me to survive."[12]

Swinburne formalizes his modal argument as follows:

Abbreviations:
p = "I am a conscious person and I exist in 1984"
q = "My body is destroyed in the last instant of 1984"
r = "I have a soul in 1984"
s = "I exist in 1985"

x ranges over all consistent propositions compatible with $(p \,\&\, q)$ and describing 1984 states of affairs.[13]

Premisses:

1. p
2. $(x) \Diamond (p \,\&\, q \,\&\, x \,\&\, s)$
3. $\sim \Diamond (p \,\&\, q \,\&\, \sim r \,\&\, s)$

Premiss 2 says that it is possible that I survive into 1985, given that I am conscious in 1984, even if my body is totally destroyed and whatever else might be the case in 1984, compatible with these last two suppositions. Premiss 3 says that it is not possible that I who am conscious in 1984 survive into 1985 if my body is totally destroyed, unless there is a non-bodily part of me in 1984, namely a soul.[14] It follows from Premiss 2 and Premiss 3 that $\sim r$ is not within the range of x. But since $\sim r$ describes a 1984 state of affairs, it follows that it is not compatible with $(p \,\&\, q)$. Hence $(p \,\&\, q)$ entails r. But the addition to p of q, which describes what happens to my body at the end of 1984 can hardly affect whether or not p entails r. So I conclude that p by itself entails r. Hence, from Premiss 1, r.[15]

Swinburne does not claim that a physical body has nothing at all to do with what a person is. He argues only that a body has nothing *essentially* to do with a person's nature qua person. Swinburne preserves a role for a human body as possibly something physically necessary for the sake of a soul's experiencing and acting.[16] He claims, though, that even if a soul must be linked to *a* body, it need not be linked to *this* body. Hence, a soul is something other than the body to which it may be linked. Furthermore, it is logically possible, Swinburne contends, that a soul may exist, experience, and act without being linked to any body. Because of this logical possibility, Swinburne concludes that an immaterial soul is *the* essential component of a person's existence, even if it may be physically necessary that a soul be linked to a body for the sake of its experiencing of, and acting in, the world.

By holding that individual human persons are essentially immaterial souls, Swinburne must account for the individuality of persons in terms of the individuality of their souls. If I can exist as an immaterial soul, then I must be able to exist as an *individual* immaterial soul. Swinburne addresses this issue at two levels. First, he contends that one can account

for the individuality of a person's soul with respect to the individual body to which it is uniquely causally connected.[17] Individuation according to bodies is merely, Swinburne admits, a means of *distinguishing* one soul from another when a person is embodied. He thus needs to provide an explanation for how souls are individuated such that they can be connected to unique bodies and remain distinct when linked to no bodies whatsoever. His answer is that "the difference between souls is ultimate. They just differ *solo numero*."[18]

Swinburne argues that some individuals have a property of "thisness," which "makes them different from other individuals of the same kind otherwise indistinguishable from them."[19] He analyzes various ways in which distinct types of material substances may be individuated from other material substances of the same type by virtue of distinctions in the properties had by each substance. Swinburne rejects such proposed principles of individuation as applicable to beings that are "animate"—in the sense of being "at least intermittently conscious"[20]—as persons are. He supports his understanding and applicability of the notion of thisness with respect to persons by appealing to a thought experiment in which two persons exist, each connected to the other's body. While there would be no distinction in properties had by the body that is, in one case, connected to your soul and, in another case, connected to mine, there would be a significant difference in the world due to each body being connected to a different soul than it would have been otherwise. Swinburne concludes, "If there are these differences [that is, significant differences between a world in which someone else had this body that I actually have, and the actual world], humans are not the individuals they are in virtue of their properties alone—i.e., they have thisness. And since the differences can still exist even if the bodies remain the same, there must be something else which is the vehicle of the thisness—namely souls."[21] The thisness of individual souls results from there being "soul-stuff," analogous to matter, that, when informed by an *individual essence*, such as the essence of Socrates or that of Richard Swinburne, becomes an individual substance.[22]

Swinburne argues that personal identity through time and change is maintained because of the persistence of the same immaterial soul.[23] Since souls are imperceptible, though, evidence of personal identity is by means of the body to which an individual soul is connected. One can

infer the existence of a soul through observation of its effects in the physical world—much in the same way that the existence of a black hole is inferred from its gravitational effect on nearby observable bodies. One can infer the continuous existence of a soul through the continuity of observable experiences and actions of the body to which it is joined.

Swinburne also appeals to the continuity of "apparent memory and character" as a viable epistemic criterion of personal identity. He further recognizes that certain types of brain states cause apparent memory; thus the physical and functional continuity of a brain could also serve as evidence of personal identity.[24] Swinburne contends, however, that the nature of a person cannot be *reduced* to the physical foundation of her apparent memory and psychological character, or to these psychological states themselves. Rather, a person's existence and persistent identity consist in the existence and persistent identity of her soul.[25]

Critique of Swinburne's Account

The most common strategy for objecting to Swinburne's account has been to attack his formal argument. Criticisms primarily center on the truth of Premise (2): "It is possible that I survive into 1985, given that I am conscious in 1984, even if my body is totally destroyed and whatever else might be the case in 1984, compatible with these last two suppositions":

$$(x) \Diamond (p \,\&\, q \,\&\, x \,\&\, s)$$

Dean Zimmerman contends that Swinburne commits a fallacy by moving "directly from the fact that it is conceivable that I survive my death, to the conclusion that I am possibly such that I survive my death."[26] Zimmerman makes a similar move from the premise that it is conceivable that a human person is identical to her body, or some part of it, to the conclusion that it is logically possible that she is identical to her body and thus cannot survive her death:

> There are precisely parallel reasons for accepting both [Swinburne's] premise [that it is conceivable that I survive without a physical body] and the proposition that I am possibly wholly

> physical [and thus cannot survive without my body]. But then there are . . . parallel arguments leading to both [Swinburne's] conclusion and its negation. Swinburne has provided no more justification for believing the one than the other. . . . Although I may recognize the logical possibility of a psychological subject with a mental life like mine surviving its death, and though I may be able to conceive of myself as unextended [i.e., immaterial], I may still be an extended [i.e., material] thing *for all I know*. Conceivability provides only defeasible evidence for possibility. . . . I may for all I know be *necessarily* an extended [i.e., material] thing.[27]

Swinburne also argues that it is logically possible that the physical causal laws of nature could have allowed one person to exist in union with the body of another person. I need not have had the body I do have; I could have existed with someone else's body and he with mine. A critique similar to Zimmerman's can be raised to this point as well. As Swinburne contends, it is logically possible that the laws of nature may allow for my conscious psychological character—that part of me which is the locus of experience and source of action—to have developed in a body different from that in which it did develop. It is also logically possible, though, that particular bodies, which come into existence through physical processes dictated by causal laws, are also dictated by such laws to instantiate only the existence of particular persons—particular loci of experience and sources of action—respective to each body. In other words, it may be the case that if a person's parents had waited two more days to engage in sexual intercourse, or if a different sperm cell from her father had fertilized her mother's ovum, then that person would not have existed.[28] It is already well known that even identical genomes do not entail identical phenotypes or personalities among human persons. It seems even more unlikely that the laws of nature would allow distinct bodies to house an identical person. Contrary to Swinburne, but in like manner, one could argue from both logical possibility and the evidence at hand to the metaphysical claim that the nature of a human person is nothing other than her particular physical body.

Voicing a criticism similar to Zimmerman's, William Alston and Thomas Smythe argue that the conceivability—or logical possibility—of a human person surviving the destruction of her body, and thus having

an immaterial soul as an essential part, remains even if *in fact* human persons are wholly material and cannot survive the destruction of their bodies.[29] Just as there is no logical contradiction in supposing that unicorns exist when in fact they do not, there is no logical contradiction in supposing that I am partly an immaterial soul when in fact I am not.

It is, however, logically impossible that unicorns are wolves, since a thing is the kind of thing it is *necessarily*. Hence, if the kind of thing I am is purely material, then I am necessarily that kind of thing, and it is logically impossible that I am partly immaterial. Swinburne could thus respond to Alston and Smythe that, since it is logically possible that I am partly immaterial, it cannot be the case that I am purely material. But, as Zimmerman contends, it is logically possible that I am purely material. Hence, I am necessarily purely material and it is logically impossible that I am partly immaterial.

The difference between the issue of whether I am or can be partly immaterial and the issue of whether unicorns are or can be wolves is that we know the definition of unicorns and know that it precludes their being wolves. We do not know, however, the definition of human persons, which is what is at stake, and so we do not know whether being a human person precludes being partly immaterial or precludes being purely material. Eric Olson aptly summarizes this complaint against substance dualism: "If there *were* material thinkers, they would have the same grounds for supposing that they could survive in a disembodied state as we have for supposing that we could; yet they would be mistaken. How can we be sure that we're not mistaken in this way? Only by ruling out the possibility of our being material ourselves. But that is what we were trying to establish in the first place."[30]

Swinburne takes on Olson's challenge to rule out the very *possibility* of our being purely material. He bases his argument upon the *privileged access* a person has to her mental states such that she is "immune from error through misidentification" when she perceives herself to be in a particular mental state[31]—this type of access not being available for the physical states of a person's body: "Hence there is no possibility that what I am picking out by 'I' has an underlying essence which requires me to be embodied. . . . Hence, since my existing does not *entail* my body existing, it follows that my existing does not *involve* my body existing; I am therefore a pure mental substance, essentially a soul."[32]

It does not follow, however, that just because I have privileged infallible knowledge of my own mental states, which I do not have about the physical states of my body, I could not be essentially embodied. There is nothing inherent to physical existence that precludes epistemic infallibility about one's own state of mind, even if the mind is identical to the brain. While the qualitative phenomenal experience of, say, being in pain would remain a privileged experience of the person herself—third-person observation revealing only the firing of C-fibers in her cerebrum—this fact alone at best demonstrates *property* dualism—that is, the nonidentity of a person's mental properties with her brain's physical properties—not substance dualism. For property dualism is consistent with the possibility that a person is essentially embodied or even identical to her body but that her body is capable of generating nonphysical mental properties.[33] It is indeed the case that when a person properly speaks or thinks the pronoun *I*, she cannot be mistaken that this term refers to herself as essentially a "subject of experience."[34] Swinburne presses the argument too far, though, in claiming that the person also cannot be mistaken about her *nature* as a subject of experience—specifically, that she cannot be identical to her body or part of it, or have a body as an essential component—without begging the question as to what the conceivability of disembodied existence—his original argument that is under dispute—entails.

Swinburne contends that the substitutions Zimmerman and Alston/Smythe propose for *x* in Premise (2) are not valid substitutions unless the question is begged against his conclusion, since he proposed Premises (2) and (3) as "purported necessary truths."[35] The strength of Swinburne's response depends upon how effectively he can demonstrate that Premises (2) and (3) of his argument are indeed *necessary* truths. I do not think that Swinburne can provide such a demonstration and have already critiqued one attempt to do so. Premise (2) states that, for *any x*, it is possible that I am a conscious person and I exist in 1984, my body is destroyed in the last instant of 1984, I exist in 1985, and *x*. At this point, without assuming *r*, the conclusion, any substitution of *x* is permissible so long as it is compatible with (p & q) and describes (only) 1984 states of affairs.[36]

To take just Alston and Smythe's proposed substitution for *x*, "I am purely material in 1984," it is compatible with (p & q) and describes only

a 1984 state of affairs. Hence, it is a valid substitution for *x* unless one assumes the truth of *r*. Therefore, Premise (2) is not a necessary truth, as Swinburne intends it to be. There is at least one possible substitution for *x*—two, including Zimmerman's proposed substitution—such that (*p* & *q* & *x* & *s*) is not possible; for the proposed substitution for *x* contradicts (*q* & *s*). Swinburne fails to demonstrate that Premise (2) is a necessary truth without assuming the truth of *r*, which would then invalidate the proposed substitution for *x*. Therefore, Swinburne has not successfully defended the soundness of his argument against all possible valid substitutions for *x* in Premise (2).

Eleonore Stump and Norman Kretzmann also propose a substitution for *x* in Premise (2) that would render Swinburne's argument unsound: "*x*1 = 'God destroys my soul at the last instant of 1984.'"[37] *x*1 meets Swinburne's criteria of describing only a 1984 state of affairs and being compatible with (*p* & *q*). Since it is not possible that *p* ("I am a conscious person and I exist in 1984") and *q* ("My body is destroyed in the last instant of 1984") and *s* ("I exist in 1985") and *x*1 are all true, Premise (2) is false and Swinburne's argument unsound. Stump and Kretzmann propose that the only way to invalidate the substitution of *x*1 for *x* is to add a restriction that substitutions for *x* must be compatible with *s*. Adding such a restriction, however, would render Swinburne's entire argument invalid, because ~*r* ("It is not the case that I have a soul in 1984") will no longer be incompatible with merely (*p* & *q*) but with (*p* & *q* & *s*). Hence, the conclusion that (*p* & *q*) entails *r* ("I have a soul in 1984") will not follow.[38]

William Hasker continues the strategy of attacking Premise (2) by introducing a substitution for *x* that would render the argument either unsound or invalid: ~*r*.[39] The substitution of ~*r* for *x* contradicts Swinburne's Premise (3): ~◊ (*p* & *q* & ~*r* & *s*). If one accepts Hasker's Premise (2), ◊ (*p* & *q* & ~*r* & *s*), then Premise (3) must be false. To deny the acceptability of Hasker's Premise (2), the validity of ~*r* as a substitution for *x* must be called into question. But ~*r* is a valid substitution instance for *x* in Premise (2): it describes only a 1984 state of affairs and is compatible with (*p* & *q*). To deny ~*r* as a valid substitution for *x* would require the added restriction that substitutions for *x* must be compatible with (*p* & *q* & *s*). As Stump and Kretzmann point out, such an added restriction would render Swinburne's argument invalid. Hasker adds

that another strategy for denying the validity of ~*r* as a substitution for *x* would be to assume the truth of Premise (3). That one would have to accept the truth of Premise (3) before evaluating the truth of Hasker's Premise (2) involves "epistemic circularity." Thus the proposed substitutions by Stump/Kretzmann and Hasker result in Swinburne's argument being unsound, invalid, or epistemically circular.

Swinburne responds to Hasker by pointing out that he provides independent arguments for both Premise (2) and Premise (3), so the acceptability of each premise depends upon their own distinct arguments and not upon each other.[40] To evaluate the strength of Swinburne's response, one would have to revisit his original thought experiment, which involves the possibility that a person may exist, experience, and act with a different body or without any body altogether. The value of this thought experiment in supporting Premise (2), independently of accepting Premise (3), requires accepting both the logical possibility of such an event occurring and the logical move from its mere conceivability—imagining what might be the case—to its being logically possible—the imagined event being both internally coherent and cohesive with any necessarily true facts. This move, however, as Zimmerman's critique shows, is suspect and weakens the support Swinburne's thought experiment is able to provide to Premise (2).

Swinburne's formal argument for substance dualism thus suffers from several objections that Swinburne has not effectively defused. Zimmerman and Alston/Smythe propose substitutions for *x* in Premise (2) that are logical possibilities which would lead to the denial of Swinburne's conclusion that a person must have an immaterial part. Swinburne's attempted rebuttal of these criticisms fails by rendering his argument circular. Stump and Kretzmann offer another possible substitution for *x* in Premise (2) that would render the premise false and Swinburne's argument unsound; and Hasker devises an additional substitution for *x* that results in Swinburne's argument being unsound, invalid, or epistemically circular. Swinburne's response to Hasker's charge of epistemic circularity depends upon the logical move from the mere conceivability of a person's disembodied survival to the logical possibility of such an event occurring. This move is questionable, as shown by Zimmerman. Therefore, Swinburne's formal argument is ineffective as a demonstration in favor of substance dualism.[41]

In addition to problems with Swinburne's formal argument, his overall approach faces the intractable problem of accounting for how an immaterial substance and a material substance may be conjoined and interact. Swinburne must provide such an account for two reasons. First, *embodied* existence is an intrinsic aspect of human experience.[42] Second, Swinburne admits that a material body plays some role in what a human person is, though not an essential role.

Recall that Swinburne defines a person as having the capacities of conscious experience and action. Normal human experience and empirical data report that a person's experience comes through sense organs and that her actions are exemplified in bodily behavior. Alexander Pruss notes several "paradoxical consequences" to holding that I am identical to an immaterial soul and not to the body—he refers to it as "Bob"—with which my soul causally interacts: "My wife has never kissed me—she has only kissed Bob, my body. You cannot touch me—you can only touch Bob. Rape seems more like a property crime. Making philosophical sense of the meaning of sexuality is a lost cause: two persons' having sexual intercourse is nothing but intercourse between the animals associated with each of the persons. Stealing one of my kidneys is a mere *property crime*—it is not stealing a part of me. These consequences are ethically unacceptable."[43]

Nicholas Everitt objects to Swinburne's claim that it is possible for a disembodied soul to have perceptions, arguing that Swinburne does not provide a sufficiently detailed account of how disembodied perception may be possible. He notes several examples where the nature of a body's sense organs plays a crucial role in a person's ability to have certain kinds of perceptions. One example is depth perception, which requires having two spatially separated eyes; another is spatial orientation: "Because I have eyes at the front of my body but not at the back, I can see what is in front of me, but have to turn around if I am to see what is behind me. But if I have no body, there is nothing to determine in which direction I am looking."[44] The sensation of touch, which detects the shape, temperature, and texture of an object, is also difficult to account for given disembodied existence. Everitt thus concludes that the possibility of disembodied perception is metaphysically problematic. Furthermore, because of the disjunction between a disembodied perceiver and her environment, there would be no epistemic ground for the per-

ceiver to distinguish whether she was actually perceiving her environment or was hallucinating.

Concerning the second reason, Swinburne admits that a physical body may be *physically* necessary for a soul to operate, though he argues that it is not *logically* necessary. But even a physically necessary relationship between a soul and a body for the sake of the soul's operation yields the following questions: How does an immaterial soul move a material body? How do sensory data processed by eyes and ears become an immaterial soul's experiences? This is a commonly recognized problem, with which various versions of metaphysical dualism have wrestled since Plato. This objection does not entail the conclusion that there cannot be an immaterial soul that is in some fashion related to a material body. If Swinburne's formal argument were sound, one would be forced to accept substance dualism and the mystery of explaining material-immaterial interaction. Since, however, the validity of Swinburne's argument remains a debated matter, this metaphysical mystery need not be accepted and can count against the plausibility of substance dualism. As Hasker indicates, though, "There are no compelling philosophical principles from which it follows that the interaction of minds and bodies . . . is impossible."[45] Nevertheless, this issue motivates the search for an account that does not require such a difficult, and perhaps impossible, metaphysical explanation.

Dueling Dualisms

Aquinas's account is not representative of substance dualism, as it is sometimes mischaracterized.[46] The fundamental difference between Aquinas's hylomorphic account and substance dualism concerns the questions of whether a soul alone is a *substance* and whether a person is *identical* with her soul. According to substance dualism, a person is her soul, which is a complete substance on its own, and a person's body is merely something to which she is conjoined between birth and death. This is not Aquinas's position. A rational soul, though capable of subsistence apart from a body, does not subsist as a complete substance: "Now a soul does not have the perfection of its nature apart from the body, because it is not through itself the complete species of a nature, but it is part of human nature; otherwise it would have to be the case that one thing was made from soul and body only by accident."[47]

By virtue of its intellective and volitional capacities, which do not intrinsically depend upon any physical organ to operate, a rational soul can subsist without need of a physical body. But the soul's other capacities—vegetative and sensitive—depend upon bodily organs for their operation.[48] Furthermore, a human intellect is designed to operate by abstracting intelligible forms from *phantasmata* generated in the mind from sense experience of particular concrete objects.[49] Hence, as Etienne Gilson asserts, "Human intelligence simply must be a soul and must profit from the advantages which union with a body can bring it."[50]

Swinburne claims that Aquinas's account is a distorted mix of Aristotelianism and dualism.[51] He bases this claim on Aquinas's contention that a rational soul is capable of subsisting apart from any body and Aquinas's description of the soul as an "intellectual substance" in his earlier works. Swinburne fails to appreciate, though, the distinction Aquinas makes in his later works between "mere subsistence" and "subsistence as a substance" (chapter 2). A rational soul is capable of the former and not the latter—that is, a soul can subsist without need of a physical body because of its intellective capacities, but it cannot subsist with its own specific nature as a complete substance.

Aquinas could be labeled a "dualist" of sorts because of his arguments for the immaterial nature and subsistent existence of a rational soul separate from its physical body. Such a characterization, though, does not equate Aquinas's account with *substance* dualism. Furthermore, Thomistic hylomorphism, as will be shown below, has the resources to account for the interactive unity of soul and body, a perennial problem for substance dualism noted above.

Aquinas's view coheres with a human person's phenomenal experience of embodiment. One does not directly perceive his body as a detachable part separate from himself. It takes abstract thought experiments, such as those Swinburne utilizes, to make a case for dualism. While Aquinas conceives of the body as separable from the soul at death, he 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 (chapter 7). No small reason for this is that a disembodied rational soul can engage only in intellective and volitional operations—for example, understanding and loving God—that do not require bodily organs. Hence, Everitt's critique of Swin-

burne's description of a disembodied soul's activities is not applicable to the hylomorphic account insofar as Aquinas agrees that sensation requires bodily organs; thus, while a disembodied soul has the active potentiality to inform a resurrected body to have the proper sense organs, it cannot itself actively engage in sensory activity.[52] Swinburne 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."[53]

Aquinas and Swinburne agree on one essential feature of human existence: a person's persistent identity consists in the continuous existence of her soul. For both Swinburne and Aquinas, a person's soul allows her to maintain her identity beyond death, through an interim period of disembodied existence, into a postresurrection afterlife. By making a person's persistence depend upon only the persistence of her soul, both Aquinas and Swinburne provide a *determinate* criterion of persistent identity for persons: a person persists if and only if the soul that either composes her (Aquinas) or to which she is identical (Swinburne) persists.

Although Aquinas and Swinburne differ in regard to whether a person is to be identified with her soul alone, Aquinas would agree with Swinburne that the conjunction of a person's body being destroyed at the end of 1984 and her existing in 1985 requires that she have a soul. Furthermore, Aquinas would agree that a person exists so long as her soul exists. But whereas Swinburne *identifies* a person with her soul and asserts that a soul exists as a complete substance, Aquinas holds that a person is *composed* of her soul as a metaphysical part (chapter 2) 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 to it to be without the body, and without the body existing it does not have its natural perfection."[54] 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, even though it may *subsist* on its own.

Aquinas demonstrates that "it is natural for a soul to be united to a body" by appeal to the need of a suitable body for a rational soul to actualize its vegetative and sensitive capacities and to have the *phantasmata* required for the intellect to function in its natural mode. Further

argumentation is provided in Aquinas's treatment of *Platonic* dualism, which shares the same fundamental tenets as Swinburne's substance dualism. Aquinas's basic complaint against Platonism, which can also be addressed to Swinburne's account, is his contention that a human person cannot be identified with her soul alone because such an identification would deny her ownership of those activities of her soul that depend upon bodily organs for their functioning:

> But it may also be understood in another way, that this soul is this human being. And this could be held if it were supposed that the operation of the sensitive soul belonged to it without a body, because all operations that are attributed to a human being would belong to the soul alone. Now each thing is that which performs the operations of that thing. Hence, a human being is that which performs the operations of a human being. But it was shown that sensation is not an operation of the soul alone. Therefore, since sensation is an operation of a human being . . . it is clear that a human being is not a soul alone but something composed of soul and body.[55]

If a person lives, senses, and acts through physical behavior, since such activities are identified with a soul's capacities that depend upon bodily organs for their operation, a person cannot be identified with her soul alone. Rather, a person is composed of both soul and body:

> There cannot be one operation of things that are different in being. . . . Now, although there is some operation belonging to the soul in which the body does not share, such as understanding, nevertheless, there are some operations common to it and the body, such as to fear and anger and sensation and the like; for these occur according to some transmutation in a determinate part of the body, from which it is clear that they are operations of the soul and body together. Therefore, it must be that from soul and body is made one thing, and that they are not diverse according to being.[56]

If a human person acts through both her soul and body, as Aquinas and Swinburne would admit, one of two conclusions follows. First, soul

and body are incomplete *metaphysical* parts of a unified substance—a human person—to whom capacities and operations are properly ascribed. Second, soul and body interact as *integral* parts of an aggregate entity,[57] in which case the capacities and operations proper to each part are ascribed to the aggregate in some extended sense. Aquinas holds the former; Swinburne holds the latter. Aquinas's dissatisfaction with the latter option is aptly expressed by Anton Pegis: "If Plato and his disciples . . . had succeeded in insuring the substantiality of the soul, they had succeeded also in destroying the unity of man."[58]

Souls from Bodies: Emergent Dualism

Agreeing with the various objections that have been historically raised against substance dualism, and having criticized Swinburne's argument above, William Hasker attempts to carve out a middle position between substance dualism and reductive materialism. He argues that a conscious mind, endowed with causal powers and libertarian free will, *emerges* from the complex, organized functioning of a human brain. He understands his account to take seriously the "well-confirmed results of natural science, including research on neurophysiology," as well as a realist position "about the phenomena of the mind itself."[59]

The primary mental phenomenon that leads Hasker to advocate a form of dualism is the *unity of conscious experience*. He notes that, in any given moment of wakefulness, a person is aware of myriad data—the sight of the computer screen in front of her, the smell of hot coffee, the aftertaste of coffee on her tongue, the feeling of the air conditioner blowing on her skin, the sound of music streaming from her iPod, and so on. But the picture is even more complex than just the five discrete senses all operating at once. Consider one's visual perception of one's computer screen at a given moment: there's the glowing whiteness of the screen, the flat whiteness of the monitor case around the screen, the black letters appearing on the screen, the blinking cursor, et cetera. All of these individual data points are experienced phenomenally in a *single unified* fashion; otherwise, the mind would be overloaded by all the unfiltered sensory "noise." Given this "incontrovertible fact" of human sense perception, Hasker asks, "What is it that is aware, all at once, of

the contents of a complex experience? . . . That which has this awareness can't be a neuron, or a group of neurons, such as the brain—nor, it seems, can it be any material object whatsoever. It begins to look as though we need to suppose that there is something *non-physical*—call it a 'mind' or a 'soul'—which has these experiences."[60] Combining this with other complaints Hasker lodges against reductive materialism that are not rehearsed here, a compelling case is made for some form of dualistic understanding of a human person, or at least her mind or soul, as distinct from her physical body.[61]

Hasker labels his view "*emergent* dualism" to distinguish it from *substance* dualism, *Thomistic* dualism, and the theory of emergent *properties*.[62] The concept of "emergence" is not limited to the topic of ontological personhood but is an allegedly ubiquitous relationship among certain macro-level objects and their micro-level constituents: "The general idea of emergence is that when one brings together elements of a certain sort, and arranges them in the proper way, something genuinely new appears, something that did not exist in the elements prior to their combination. The new thing isn't just a rearrangement of what was there before, but neither is it something dropped in to the situation from outside. It 'emerges,' comes into being, through the operation of the constituent elements, yet the new thing is something different and often surprising; we wouldn't have expected it before it appeared."[63]

To illustrate the concept of an emergent individual, Hasker compares the mind/brain relationship with the relationship between an iron magnet and the magnetic field it produces: "As a magnet generates its magnetic field, so the brain generates its field of consciousness. The mind, like the magnetic field, comes into existence when the constituents of its 'material base' are arranged in a suitable way—in this case, in the extremely complex arrangement found in the nervous system of humans and other animals. And like the magnetic field, it exerts a causality of its own."[64] Hasker contends that an emergent conscious field "is able to function teleologically and to exercise libertarian free will, and *the field of consciousness in turn modifies and directs the functioning of the physical brain*."[65]

Explaining the *mechanism* by which the brain generates such a unified conscious field is a daunting task facing emergent dualism but not a principled reason to reject emergentism a priori. Zimmerman, for in-

stance, offers several proposals that emergentists, in conversation with neuroscientists, may explore concerning purported relations between singular or perhaps overlapping sets of neural events and the soul's ongoing phenomenal experiences.[66] Whatever the operative causal mechanism, Hasker contends that what is produced is not merely a set of mental properties but an *individual substance*—a *person*.[67]

To understand how *personal identity* is accounted for by this theory, we have to consider how emergent dualism allows for the possibility of postmortem existence. The most apt way of characterizing the nature of postmortem life, Hasker concludes, is that God provides a new material "base" for a person's field of consciousness "in the form of a resurrection body."[68] He conjectures, though, that God could conceivably sustain a mind's existence and functioning without any material base whatsoever, as God could also do in the case of a magnetic field.[69] Hasker admits that such a scenario, while conceivable, would constitute "an ontologically abnormal situation."[70]

Whatever might secure the possibility of postmortem survival, what secures a person's persistent identity between their pre- and postmortem lives? Hasker does not offer a specific criterion,[71] but he does mention the importance of continuity of *memory* being maintained to preserve the postmortem person from being psychologically "crippled at best."[72] There is, of course, a great deal of debate concerning the coherence of a memory-based criterion of personal identity; but just as there are classic objections, such as the charge of *circularity*—the identity of the person having a memory and the person who originally had the remembered experience must be presumed—there are also responses of more or fewer degrees of ingenuity—such as Derek Parfit's concept of "*quasi*-memory"—of which Hasker could avail himself.[73] Again, Hasker is not actually proposing a memory-based criterion of personal identity; but, in the absence of any other specified criterion, it is at least one candidate he might endorse.

Finally, Hasker's view allows for a relatively unique thesis among dualist theories: namely, the *divisibility* of the self. Considering the cerebral bisection thought experiment to which Swinburne alludes above, Hasker initially asserts: "If one organism divides into two, each with its own conscious field, there seems little point in denying that the conscious field of the original organism has divided."[74] Both Swinburne

and Aquinas deny that one's soul could be divisible—I will explore the metaphysical implications, within hylomorphism, of the division of a human organism in chapter 5 when discussing the case of an embryo splitting into genetically identical twins. Later, Hasker reconsiders this point, and while his ontology of mind/brain dependence requires him to accept that a person's *conscious field* could be divided by cerebral commissurotomy, he denies that the result would be a divided person. Rather, two newly created "successors" of the original person will come into existence, each with "veridical memories" of the original person's past life.[75] Holding this conclusion would prevent Hasker from adopting a memory-based criterion of personal identity, although he could still appeal to continuity of memory as fallible inductive *evidence* of identity and a crucial factor to a person's *phenomenal* sense of her own selfhood—one could *feel* as if she is the same person when in fact, in terms of strict identity, she is not.

Critique of Hasker's Account

One way of critiquing Hasker's account is to call into question the concept of ontological emergence as he understands and applies it.[76] Another way, which I shall adopt, is to accept the general metaphysics of emergence and criticize Hasker's use of it to define the nature of human persons and implications concerning how persons persist through time and survive bodily death.

Hasker, like the hylomorphist, is attempting to provide an account of human personhood that preserves the virtues of dualism and materialism, in broad strokes, while avoiding a wholesale ontological commitment to either view in its most extreme form. The inherent tension in this approach is between making a person—or certain immaterial aspects of her, such as her mind—too ontologically independent of her physical body, and naturalizing a person—or her mind—to such an extent that her—or her mind's—existence as something irreducible to matter alone becomes open to empirical disproof. The latter becomes an issue for Hasker when he offers a conjecture as to the nature of mind/brain causal interaction, conceiving of it "as involving *exchange of energy* between mind and brain."[77] This hypothesis has the benefit of making mental causation just another form of *physical* causation, thereby avoid-

ing a problem that plagues substance dualism: the problem of explaining how an immaterial mind can casually affect a material brain. A number of objections, however, may be raised against this proposal:

> To make mind an energy system means that there should be experimental evidence for the existence of mental energy that cannot be accounted for by the physical energy of the brain and nervous system, and there is no such evidence. Moreover, if qualia and the contents of mind are incompatible with physical energy, how does introducing a more refined kind of energy prove helpful? Thirdly, the privacy of mental states vanishes. If mind is an energy system, its contents will presumably be available to inspection by external observers. Assigning energy to the mind seems to give away the very advantages that make dualism so attractive.[78]

It is arguably preferable either to keep the mind wholly immaterial or to ontologically reduce it to the brain.

Another concern regards Hasker's treatment of the cerebral commissurotomy thought experiment: "Brain splitting produces two selves, both continuous with the pre-split self. . . . But can two numerically different people be the same person? And what happens should the fission be reversed? Do the two separate selves, each of which has its own history since duplication, and each of which is a separate center of consciousness, now become one again? And what happens to the differences in the fields that have resulted during the time they have existed separately?"[79]

Granted, this series of questions merely poses challenges to Hasker's all-too-brief discussion of this thought experiment, as opposed to raising principled objections. Nevertheless, the fact that these questions arise points to a significant lacuna in Hasker's account: namely, the lack of a specified criterion of personal identity. There are, of course, various options for Hasker to consider adopting that are compatible with his overall view:

(1) The numerically same conscious field persists by virtue of . . .
    a. . . . being generated by the numerically same brain.
    b. . . . preserving psychological continuity.

c. . . . being sustained as such by God.
d. . . . having a primitive property of "thisness."

(2) There is no criterion of identity over time for persons or any other objects.

(1a) seems an initially likely candidate, especially given Hasker's assessment of what occurs in cases of temporary coma: "The [conscious] field has a 'virtual existence' in the physical system which has supported it in the past and may do so again."[80] Ultimately, though, (1a) cannot function as the criterion of personal identity for Hasker insofar as he holds that a person may survive her body's death as a conscious field without a generating brain. (1b) is implied by Hasker's mentioning of God preserving the memories of one's premortem life when one is existing as a disembodied conscious field after death. But this also fails as a viable criterion of identity for Hasker, given what he says about the cerebral commissurotomy thought experiment: namely, that the two psychologically continuous persons who result would be "successors" to the original person. (1c) is explicitly stated by Hasker, but only in the context of preserving the *disembodied* conscious field postmortem; he does not contend that God must preserve the field's persistent identity throughout its natural embodied existence. Perhaps, then, Hasker could adopt (1a) as the normal-embodied criterion of personal identity and (1c) as the abnormal-disembodied criterion. The problem with this proposal is that this would account only for *how* the numerically same conscious field is preserved; it says nothing about what quality of the conscious field, however preserved, makes it the *same* conscious field, given the diversity of preserving causes. This leads to (1d), a view also espoused by Swinburne above, and which I would contend is the best candidate for Hasker to adopt consistent with his overall metaphysic.

Option (2) is still on the table and has both capable defenders and critics.[81] It would also help preserve one of Hasker's primary desiderata: the possibility of postmortem existence. If there is no criterion of personal identity that is necessary and sufficient for a person to persist from ten years or ten minutes ago to the present, then there is no criterion that is necessary and sufficient for her to persist from the last moment of her terrestrial life to the first moment of her resurrected life and beyond, even if several millennia separate these two moments.[82] I will not

discuss this option further, though, since I have no evidence that Hasker would support it.

On the flip side of the complaint that Hasker is naturalizing the soul too much, Hasker's account may be too unwarrantedly dualistic insofar as he holds an emergent conscious field to be capable of postmortem persistence in the absence of its originally generative brain; this leads to an inconsistency with Hasker's more naturalistic depiction of the mind/brain relationship premortem.[83] By allowing God to take over the sustaining role of a person's conscious field after her body's death, Hasker is promoting a picture of consciousness akin to a ping-pong ball being held aloft by a continuously blowing fan: if the original fan (i.e., the body) is destroyed, it can be quickly replaced by another fan (i.e., God) and the ball can remain aloft. But Hasker's earlier depiction of the mind/brain relationship is akin to that of a projector and the image it projects, in which there is an essential relationship between a particular image and the particular projector that projects it. If the projector breaks down and is immediately replaced by another projector projecting a qualitatively identical image, the latter image will not be *numerically* identical to the previously projected image. Thus, in order to preserve a person's numerical identity through death into postmortem life, a more robustly and consistently dualistic view is called for in which a person's soul persists because of its *own* inherent nature and is not dependent upon a distinct sustaining cause—God—to maintain it in the absence of its body; either substance dualism or Thomistic hylomorphism would fit this bill.[84]

Aquinas, Emergentist?

Hasker's view is strikingly similar to Aquinas's, at least in comparison to Plato's or Swinburne's substance dualist view, insofar as both emergentism and hylomorphism posit a natural unity between a person and her body while allowing for the former to persist in the absence of the latter. Nevertheless, there are some key differences between the two theories. I will compare Hasker's and Aquinas's respective accounts on four points: (1) whether souls are *spatially* located; (2) the nature of "animal souls"; (3) whether souls are emergent or created directly by God; and (4) the possibility and nature of postmortem existence.

Jaegwon Kim raises what he terms the "causal-pairing problem" for substance dualism. Stated briefly, the problem is that dualism cannot explain how an immaterial soul can be causally paired with a material body, since the only means of which we have experience for causally pairing two substances is *spatiotemporally*. Since an immaterial soul does not exist spatially, there is no criterion by which we can pair soul *A* with body *A* and soul *B* and body *B*, as opposed to causally pairing soul *A* with body *B* and soul *B* with body *A*.[85] This problem clearly arises for Swinburne's account insofar as he explicitly asserts that his theory "needs either God or chance to allocate bodies to persons."[86] As a consequence, "Natural laws do not provide a criterion to decide which body a given soul is connected to."[87]

Hasker contends that this problem does not arise for his view insofar as "it is natural to conclude that the emergent consciousness is itself a spatial entity" because of its asymmetrical dependency relation on a brain, which grounds the "monogamous interaction" between a particular mind and brain.[88] To invoke the magnetic field analogy once again, such a field "normally occupies—and is detectable in—a region of space," a region that is "considerably larger than that occupied by the magnet."[89] Thus a conscious mind can be understood to exist—although it may not be "detectable in"—a certain region of space: "The volume of space within which the emergent mind exists must be *at least* sufficient to encompass those parts of the brain with which the mind interacts."[90] Like the analogous magnetic field, however, a mind may occupy a larger space than its brain occupies because of the conceivability of it exerting causality "on other minds (telepathy) or on other aspects of the material world (telekinesis)."[91]

Does Aquinas also understand the mind to be spatially located? On one hand, it seems that the answer would be "no," since Aquinas clearly states that a rational soul's intellective capacity—Aquinas's equivalent to "the mind"—is not itself a material entity, nor does it function through the medium of a material organ, such as the brain.[92] On the other hand, the intellect is but a *capacity* of a rational soul, which Aquinas clearly holds to be united to its body as the body's substantial form and further argues to exist in each part of the body it informs.[93] Aquinas thus spatially locates a rational soul in the body it informs, while holding at the same time that its intellective capacity is not located in any *part* of

the body.[94] Therefore, Aquinas and Hasker share a similar response to Kim's causal-pairing problem. For Aquinas, the reason soul *A* is causally paired with body *A*, and not body *B*, is that soul *A* is the substantial form that makes body *A* to exist and compose an individual human person who lives, senses, thinks, and wills.[95]

Concerning the existence and nature of the souls of nonhuman animals, Hasker contends, "Animals have souls, just as we do: their souls are less complex and sophisticated than ours, because generated by less complex nervous systems."[96] He further criticizes Aquinas's account as being incoherent by not allowing for animals to have souls when there "seems to be strong evidence that perception works in very much the same way in humans and in animals."[97] Thus, Hasker concludes, there is no reason to conceive of human perception requiring an immaterial soul, as he understands Aquinas to hold, when animal perception requires only a sufficiently complex brain and nervous system.

Hasker misses the mark here, though, because Aquinas recognizes that human and animal *perception*, via sensation and lower-level cognitive activity, operates in the same fashion—namely, by the soul's sensitive capacities operating through proper bodily organs—which is part of the reason why Aquinas argues that a rational soul must inform a suitably organized *animal* body capable of sensation.[98] It is only when the mind moves beyond mere perception to an intellectual *understanding* of the objects perceived that the immaterial power of the intellect comes into play. Aquinas thus holds, as does Aristotle, that nonhuman animals are ensouled by a "sensitive soul" that has the powers of life, sensation, appetite, and, in most cases, locomotion.[99] Only the capacities of self-conscious rational thought and autonomous volition are lacking to the souls of animals. This renders Aquinas's view not very different from Hasker's insofar as nonhuman animals are ensouled, but with a lesser type of soul, since their bodies are not suitably organized to support intellective cognition, only lower forms of perception.

Aquinas does not hold, as do many contemporary philosophers of the mind—including Hasker—that *consciousness* is fundamentally immaterial and irreducible to neural functioning. Rather, he acknowledges that nonhuman animals are *sentient* and thus have conscious phenomenal experiences by virtue of their sophisticated brains; nevertheless, they do not possess a mind capable of essentially immaterial intellective cognition, thereby rendering their souls perishable with their bodies.[100]

Aquinas is no "speciesist," though, to utilize Peter Singer's pejorative term for one who unwarrantedly privileges—ontologically and/or morally—members of the biological species *Homo sapiens* over other sentient animal species.[101] Although Aquinas does not see any apparent evidence that nonhuman animals are capable of intellective cognition, if presented with a demonstration that members of another animal species—such as dolphins, chimpanzees, or other "Great Ape" species—were capable of this type of cognitive activity, the Thomistic hylomorphist would acknowledge them to be "rational animals" and thereby *persons*.[102] The ontological dividing line is not the allegedly arbitrary human versus nonhuman biological categories. Rather, Aquinas holds there to be "a genuine, non-arbitrary distinction between mental states with and mental states without [universal] concepts."[103]

Thomistic hylomorphism is thus consistent with the received *evolutionary* account of the development of the biological species *Homo sapiens*—another desideratum that Hasker seeks to satisfy by rejecting substance dualism, as well as reductive materialism, in favor of emergentism.[104] One can accept that there is a continuous line of *biological* development from a variety of merely living organic species, to a variety of sentient nonhuman animal species, to the human species—and beyond—while also holding that there are sharp *ontological* divides between being merely a living organism, to being a sentient animal, to being a rational animal.[105] Lynne Baker's critique thus misses the mark when she claims that the Thomistic view "tears apart the animal kingdom."[106] While human beings occupy a distinct ontological kind from other members of the animal kingdom—at least as far as is known at this time—we also lie on the same biological continuum as our evolutionarily precedent species.

It may be objected that if a mere difference of degree separates human beings from nonhuman animals, then the radical moral distinction between persons and nonpersons does not seem warranted.[107] To be clear, I am asserting a mere difference of degree only at the *biological* level. It is evident, as it was to Aristotle, that morally salient *ontological* divisions may be carved at different points along the biological continuum when certain causally significant functional capacities emerge within a species: from merely being alive to also being *sentient*, and from merely being sentient to also being *self-conscious*, *rational*, and *autonomous*.

It is important to stress at this point that it is by virtue of its intellective and volitional capacities that a human being's soul is immaterial. It is not due to the fact that a rational soul is the "life-principle" of a human body, as Norman Ford misleadingly characterizes it.[108] While an immaterial soul does function as the principle of a human body's vegetative capacities, the actualization of such capacities requires an appropriately formed organic body. This explains why, in response to Baker's critique of Ford, the "life-principle" of a human being is immaterial—namely, because it also has intellective and volitional capacities—whereas the "life-principle" of a chimpanzee or any other living organism is not immaterial, because such other types of soul evidently lack such capacities.[109]

This relates to the third difference between Aquinas's and Hasker's respective views. Hasker sees as a significant advantage of his account that God does not need to act in every instance of human reproduction in order to directly create a soul. Rather, "The human mind is produced by the human brain and is not a separate element 'added to' the brain from outside."[110] Aquinas, on the other hand, explicitly asserts that each person's soul must be directly created by God, since no material process suffices to generate an immaterial entity. This leads to an arguably problematic "occasionalism"[111]—albeit restricted to just one type of event in the natural world—in which God must act in concert with each act of successful human reproduction to create a rational soul as the newly formed embryo's substantial form.[112] The question at hand is whether the immaterial nature of a human person's intellective and volitional capacities necessitates a rational soul's direct creation by God, as opposed to its having emerged from the material functioning of one's body, since effects must be proportionate to their causes.[113] Hasker purports to provide an account of how something immaterial may be generated by purely material processes. But is the idea of something of an ontologically distinct nature emerging from an appropriate substratum coherent? An affirmative response would stress that, yes, the causal substratum must be *proportionate* to the emergent effect—only certain types of substrata will suffice—but this does not entail that the two must be of *equivalent* natures.

Aquinas's defense of his counterpoint thesis, however, is not premised simply upon the fact that a body is material and a rational soul is

immaterial. Rather, his fundamental premise is that a rational soul's immaterial intellective and volitional capacities entail its ability to *subsist* on its own after its body's death. Hence, each soul must have its own *act of existence* (*actus essendi*) that, while shared with its body throughout life, belongs properly to soul alone. Because a rational soul has its own proper existence, Aquinas contends, it can be generated only through an act of *creation*—that is, an act in which existence is bestowed upon the soul directly, rather than through the soul having *derived* its existence through the coming-into-being of its body, as is the case with all other substantial forms that do not have their own proper *actus essendi*.[114] So, even if Hasker's emergentism is internally coherent, it does not undercut Aquinas's rationale for the necessity of God's creative involvement in each human person's coming-into-being.

Concerning the possibility of postmortem existence, Aquinas's account is strikingly similar to Hasker's. Although Aquinas argues that a rational soul is capable of surviving the death of its body because its intellect can function without need of any material organ, which differs from Hasker's view, Aquinas nonetheless refers to this as an "unnatural and deficient" mode of existence insofar as the intellect functions optimally when abstracting intelligible forms from phantasms of perceived sensible objects (chapters 2 and 7). He thus considers bodily resurrection, effected by God, to be necessary so that a separated soul can be reunited to its body and can once again engage in the full panoply of activities of which it is naturally capable. Like Hasker, though, Aquinas not only conjectures but actually asserts that a rational soul can exist and function intellectively and volitionally without its body. This is partly due to the soul's natural capacity to reflect upon itself and the knowledge it acquired while embodied, and partly due to God infusing new intelligible forms directly into the soul.[115]

Regarding a person's identity between her pre- and postmortem lives, Aquinas holds that personal identity is preserved by virtue of the soul alone insofar as it is the substantial form of the body that, together with the soul, composes an individual human person (chapter 2). He also recognizes, as does Hasker, that memory may play a key role in establishing personal identity—or at least a person's phenomenal experience of her self-identity—and provides for continuity of memory in two ways. First, an individual's soul would maintain *in potentia* all the sen-

sible forms of individual objects it had perceived throughout its embodied existence. While a separated soul would not be able to access those memories insofar as doing so requires a functioning brain, access would be granted upon the soul's reunion with its resurrected body. Additionally, Aquinas recognizes the soul to have a power of *intellective* memory—that is, a soul contains all the intelligible forms it previously abstracted from phantasms during its embodied life—and even a separated soul would be able to access those memories, the set of which would be unique to each individual soul.[116]

One advantage of the hylomorphic account of postmortem existence over emergent dualism is that Aquinas provides something that Hasker admittedly needs for his account. Considering the problem of a resurrected body generating its *own* conscious field, since it would be suitably organized to do so, before it was conjoined by God to the surviving person's conscious field, Hasker responds: "We must imagine the new body created from the very beginning *as the body of this very soul*; the renewed self must be 'in charge' of the resurrection body right from the start."[117] This "imagined" criterion for resurrection is seemingly ad hoc for emergentism; but it is not so for hylomorphism, in which an individual human person's soul is the substantial form of its particular body—and, as such, contains the "blueprint" for that particular body. It would thus not be possible for an individual's resurrected body to exist and function without being informed by *her* soul. In Hasker's resurrection scenario, it is metaphysically possible for the body that God forms as the substratum for an individual's consciousness to generate a distinct conscious field unless God guarantees that it will not or unless God conjoins it to the individual's consciousness immediately upon its creation, as God could certainly do. Aquinas's view, however, does not require such special guarantees on God's part, since it is metaphysically *impossible* for the material body that God resurrects to be informed by any soul other than the soul that informed it premortem.

It is incumbent upon 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. According to Swinburne, a person's soul and his body are "linked" by virtue of the body transmitting sense data

to the soul and the soul moving the body to perform actions.[118] To emphasize the difference between Swinburne and Aquinas, note that Swinburne says at various points that "the person *is* the soul" and that "a person *has* a body." Aquinas, on the other hand, asserts that "my soul is not I"[119] 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-matter composite*, and the ascription of activities is to the person himself, not to either of his parts.[120]

It is further incumbent upon substance dualists to explain how a material body and an immaterial soul can interact considering objections such as Kim's causal-pairing problem. This particular issue does not arise for Aquinas's account, though, insofar as soul and body are not two substances that *inter*act. Rather, a human person is what acts by virtue of her compositional parts. Soul and body are causally paired, since a soul's essential nature includes being "paired" with a particular body as its substantial form.

The strength and appeal of substance dualism stem from the metaphysical intuitions at work in the thought experiments Swinburne raises. Despite objections to the modal argument Swinburne derives from them, the initial plausibility of such thought experiments and that of the conclusions Swinburne ultimately draws results from a certain metaphysical desideratum that I believe a proper account of human nature ought to satisfy. This desideratum is based upon the intuition held by many who believe that they can survive bodily death. Such survival can take different forms—such as reincarnation, resurrection, or pure spiritual existence.[121] I propose that any satisfactory account of human nature should satisfy the desideratum that it is *possible*—not necessarily *demonstrable*—for human persons to survive bodily death. I will explore how well the various theories discussed in this volume satisfy this desideratum in chapter 7.

Aquinas's view is much closer to Hasker's emergent dualist account, but key differences persist. One such difference, again based on a soul's essential nature as the substantial form of a particular body, provides an advantage to Aquinas's account in guaranteeing that a postmortem resurrected body will be the body of the numerically same person, with the same conscious mind, who was composed of that body premortem

(chapter 7). Nevertheless, Hasker's unity-of-consciousness argument, along with additional objections he and others have raised against a material reductionist view of the mind/brain relationship, points to another desideratum that I contend any satisfactory account of human personhood ought to fulfill: namely, acknowledgment that conscious thought processes—of at least a certain type—are explanatorily irreducible to neural functioning.

CHAPTER FOUR

Thou Art Dust

Varieties of Materialism

Thomistic hylomorphism understands a material body to be a natural component of a human being, while at the same time holding that a human being is not identical to her body (chapter 2). On the other hand, Aquinas does not argue that a human being is identical to an immaterial soul, though he considers an immaterial soul to be an essential component of human nature (chapter 3). The hylomorphic view could thus be construed as a type of dualism, as well as a type of nonreductive materialism.[1] It will be illuminative to compare Aquinas's account of human nature with a representative *reductive* physicalist account: Eric Olson's *animalist* approach.[2] According to Olson, human beings are fundamentally what biology tells us we are: living organisms with a certain genetic structure. Olson does not allow for any immaterial component to human nature. A human being is identical to a human animal, and a human animal is a thoroughly material object.

I will present and critique Olson's animalist account and compare it to Thomistic hylomorphism, highlighting key similarities and differences. Aquinas, for example, holds a human being's animal nature to be an essential feature of her existence—Olson himself labels hylomorphism "a version of animalism."[3] Aquinas, however, does not agree with the reduction of a human being to her physical body alone as a thoroughly material object. I will conclude by indicating an advantage of hylomorphism in identifying the proper *substance concept* for human beings.

In the next section, I will compare hylomorphism to a representative contemporary *nonreductive* materialist account: Lynne Baker's *constitution* approach.[4] Baker claims that a human person has an essential "first-person perspective" that, though explanatorily irreducible to any purely physical explanation, nevertheless depends upon one's being constituted by a physical body. Baker's account takes seriously human persons' physical nature but does not allow for the identification of a person with her body. In the same vein as both hylomorphism and emergent dualism (chapter 3), the constitution approach is an attempt to navigate a via media between denying the inherently physical aspect of human nature and reducing human nature to merely its physicality. Aquinas argues that neither a human person's immaterial soul nor her physical body alone captures all the qualities that are proper to human nature, which agrees with Baker's contention that a person has properties that are not reducible to the properties of her body. Nevertheless, despite this macro-level similarity in the two approaches, there are several key differences between their respective accounts that merit careful analysis.

I will next compare Thomistic hylomorphism to Hud Hudson's *four-dimensionalist* view of human nature, in which a person is conceived of as a "spacetime worm" composed of overlapping *temporal stages*.[5] On this view, a person does not wholly exist at any given time; rather, her existence comprises a series of moments within a temporal boundary—that is, a beginning and an end—just as one's body does not wholly exist at any given spatial point but comprises a congruent set of points within a three-dimensional boundary. This account offers a relatively novel solution to many problems that afflict three-dimensionalist theories that attempt to account for both the material composition of human persons wholly existing at a given moment in time and the persistence of human persons through time and change. Certain issues arise, however, when four-dimensionalist ontology is applied to human nature that do not affect its validity as an account of the composition and persistence of other kinds of material objects or nonsubstantial temporal entities, such as events.

Finally, I will consider Jeff McMahan's "embodied mind" view, in which a human person is identified with a mind that is essentially instantiated in one or more parts of a human brain—specifically, the cerebrum.[6] McMahan contends that his view is able to account for real-life

cases, such as dicephalic twins and *craniopagus parasiticus* (chapter 2), which are problematic for views such as animalism. McMahan construes personhood and personal identity as relying upon the physical and functional continuity of one's cerebrum—or parts thereof—insofar as it subserves one's capacity for having certain types of mental states. What matters for a person, according to McMahan, is the persistence of one's embodied capacities for self-conscious thought such that one may generate self-regarding interests. This view will lead into a discussion of neo-Lockean theories of personhood and personal identity premised upon *psychological continuity*, as well as a challenge to such theories raised by Derek Parfit.

Persons as Animals

Eric Olson contends that when a human being asks the question, "What am I most fundamentally?" the answer is that she is most fundamentally not a *person* or even a *human person* but an *animal* of the species *Homo sapiens*.[7] A human being exists, both ontologically and temporally, as an animal first and then as a person. Olson argues for his position in two ways. First, he distinguishes the concept of a "person" from that of a "human animal" and shows how the latter concept is fundamental to the nature of human beings. Second, he argues against any form of a "psychological criterion" of personal identity, where the persistent identity of a human being depends upon the persistence of certain key psychological states and capacities.[8]

Olson introduces a thought experiment intended to show the distinction between the concepts of "person" and "human animal": the Vegetable Case, which involves someone in a *persistent vegetative state* (PVS).[9] If accurately diagnosed, someone in this state would be irreversibly unconscious. She would have no psychological states and no capacity to have psychological states again at a future time. Her body lives, however, even without need of life-support technology—aside from artificially administered nutrition and hydration. Olson argues that, since it is evident that the numerically same animal, with its uninterrupted life-sustaining functions, survives the irrevocable loss of psychological features, then, if a human being is an animal, the numerically same human being persists without psychological continuity.[10]

As noted in chapter 1 and discussed further below, since John Locke in the seventeenth century, philosophers have generally understood the concept of personhood wholly in terms of psychological features. Olson accepts that personhood involves having complex psychological capacities.[11] 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 Vegetable Case, one ceases to exist as a person but continues to exist as a human animal.

The question arises which of the two is the *fundamental* definition of a human being. Olson argues that a human being is fundamentally an animal and exists as a person for only a certain period of time.[12] He notes that most philosophers accept that "person" is a *substance concept*, which refers to a particular "kind" to which an object belongs that informs us of (a) *what* it is—which Aquinas and other Scholastics term its *quidditas*—and (b) its persistence conditions as shared by all other members of its kind.[13] Substance concepts are contrasted with *phase sortals*, which are kinds to which an object may belong for only part of its existence; for example, my being a father, a professor, or a "Trekker."[14] 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*."[15]

Olson argues this point by comparing the concept of "person" to that of "locomotor": both concepts refer to how something *functions*, rather than to what something *is*. Many different types of things may be locomotors, such as crabs, amoebas, and battleships. Because of the inherent diversity among such types of beings, it would be a mistake to define them all substantially as "locomotors" on account of their shared capacity to move under their own power. By the same token, many different types of beings could be persons, such as human beings, androids, Vulcans, angels, and the Trinity. Because of the extremely diverse natures of, say, the Holy Spirit and myself, it would be a mistake to claim that we are fundamentally the same because we are both persons. Olson finds it more plausible to define the fundamental nature of a human being in terms that apply to all and only human beings: an animal that is a member of the species *Homo sapiens*.[16]

One of Olson's arguments for the conclusion that a human being is fundamentally an animal is an appeal to what he calls "the fetus problem" had by any account that takes personhood as a substance concept and thus fails to reduce human nature to its animality: "Both biological science and folk wisdom seem to tell us that each human person was once a fetus. . . . [But] you could not be related to a five-month-old human fetus in any psychological way. Your mental contents and capacities could not be continuous with those of a being with no mental contents or capacities at all."[17] Olson claims a *reductio* that, on a Lockean, psychologically based understanding of personhood, "Nothing could be a fetus at one time and a person later on. No person was ever a fetus, and no fetus ever becomes a person."[18]

If a human being's fundamental existence is as a person, since an early-term fetus does not have any psychological capacities, a person comes into existence some time after a fetus does. What happens to the fetus after the person comes into existence? Olson offers two possibilities: "One is that the fetus ceases to exist and is replaced by a person. The other is that the fetus continues to exist, but never comes to be a person; instead it simply comes to share its matter with a person numerically different from it."[19] The first option leads to the "absurd" claim that something—a fetus—goes out of existence merely by gaining a capacity. The second option leads to the acceptance that a person is *spatially coincident* with a human animal. But accepting the spatial coincidence thesis implies one of two conclusions: either a human person is not an animal organism at all or there are two animals—a human person and that which was a fetus—spatially coexisting. Olson rejects the first option because of evidence that human persons are biological organisms. He rejects the second option by noting that no philosopher would accept that two beings of the same kind—such as two animals, a fetus and a human person—could spatially coexist.[20]

By identifying a human being substantially as an animal, and hence the numerically same animal as the fetus out of which she develops, Olson can give a clear biologically based answer to the question, "Where does a human person come from?" A human person is a human animal that has reached a point in its biological development where it can sustain certain key psychological capacities. When a fetus becomes a person, it is not a case of one substance going out of existence and another

coming into existence. Rather, a substance—the fetus—gains a phase sortal property: personhood.

Olson defines the persistence conditions for a human animal in terms of its having *causally continuous vital functions*. Such functions are dependent upon a "control center" that is responsible for maintaining and regulating the "organized complexity" which is a living animal body.[21] Biological data report that this control center in a mature human organism is the brainstem, which preserves the causal continuity of its vital functions across time.[22] In contrast to the psychological continuity theorist's claim that one's identity goes wherever her cerebrum—or at least one hemisphere of it—goes, Olson adopts the claim that one goes wherever her brainstem goes. The criterion of a human being's identity is the numerically same brainstem continuously maintaining and regulating the organic functions of her body.

Critique of Olson's Account

A key complaint against Olson's animalist view is that he explicitly denies the Transplant Intuition: the widely held presumption that, in the standard cerebral transplant thought experiment described in chapter 2, one goes wherever one's cerebrum goes. Insofar as Olson identifies a human being with her living body and rejects any form of a psychological continuity criterion of personal identity, the animal who wakes up with my cerebrum after the transplant procedure would mistakenly believe that he is me, but he wouldn't be me, despite having all of my memories, beliefs, desires, and what Baker terms my unique "first-person perspective." Rather, I remain the cerebrum-less animal lying in the other bed. Additional thought experiments, involving artificial replacement of all the parts of my body, existing as a brain-in-a-vat, or mutation of my body into a nonhuman form—such as a silicon-based life-form based on exposure to an alien virus—but with uninterrupted psychological continuity, collectively call the plausibility of animalism into question.[23] Of course, arguing against the Transplant Intuition is the central thrust of Olson's project, and so merely invoking it does not suffice as a *counterargument* to animalism. Nevertheless, I contend that coherence with the Transplant Intuition is a valuable desideratum, the satisfaction of which counts in favor of any proposed theory of human nature.

Another objection to the biological approach is based upon the distinction between substance concepts and phase sortals: it may be possible to define the concept "human animal" in a merely functional manner, thus rendering it unsuitable to be a substance concept.[24] Just as Olson reduces the concept of "person" to the more basic concept of "human animal," one could conceivably reduce the concept of "human animal" to that of "complex cluster of cells"—referring to a physical body composed of cells.[25] Perhaps an animal is merely a cluster of cells that functions in a certain way and has certain capacities that less complex clusters of cells—such as those that compose plants and other simpler life-forms—do not. Such functions and capacities would be those associated with a human animal's existence as a biological organism with a disposition toward awareness of, and ability to causally affect, its surroundings. The concept of "human animal" would be a phase sortal that refers to a cluster of cells interacting in a complex structure such that cells, tissues, and organs are formed and function collectively to produce environmental awareness and causal capacities.

Just as Olson argues that a human animal may exist as a person or not as a person at different periods of time, a complex cluster of cells may exist as a human animal at times and not at other times. For example, Olson holds that a human animal does not come into existence until approximately fourteen days after an ovum is fertilized by a sperm cell.[26] At this time, an embryo implants in the mother's uterus and begins to form the first embryonic tissue—known as the "primitive streak." It is also at this point that an embryo's complete division into genetically identical twins can no longer occur. Olson claims that an *individual* human animal cannot exist so long as it lacks organic unity and, consequently, can potentially divide into two or more human animals.[27]

One question that can be raised concerns what exists between fertilization and uterine implantation. At the earliest stage, there exists a one-celled zygote. As the zygote undergoes cellular mitosis during the fourteen-day period prior to implantation, a cluster of tightly packed cells exists. Until implantation, there is no human animal according to Olson, but there is a cluster of cells that is sufficiently complex to exist eventually as a human animal. One could conclude that, prior to implantation, I existed as a complex cluster of cells with human DNA and that this is the most fundamental form of my biological existence. Existing

as a complex cluster of cells would then be my substance concept. At some point in my development, I took on the phase sortal of "human animal," and later the phase sortal of "person."[28]

At the other end of the spectrum of human existence, Olson holds that I cease to exist when my coordinated biological functioning ceases: my brainstem ceases to function and the collapse of vital circulatory and respiratory activity soon follows.[29] However, individual cells, tissues, and organs of my body may continue to function for a brief period of time; at minimum, random electrical signals may fire in the peripheral nervous system. In fact, with extensive mechanical and pharmacological support, a human organism that has suffered irreversible cessation of brainstem functioning may be kept alive for a number of years and may continue to exercise biological functions such as digestion, waste excretion, infection resistance, wound healing, chemical and cardiovascular homeostasis, growth, development associated with the beginning of puberty, and even fetal gestation.[30] Such organic activity implies the presence of a complex cluster of cells composing the functioning body. One may conclude thus that, while I have ceased my phase sortal existence as both a person and a human animal, I continue to exist as a complex cluster of cells composing individually active tissues and organs. My ultimate demise would occur when the cluster of cells ceases to be sufficiently complex to support any further biological activity.

While the picture I have sketched is certainly counterintuitive and is not directly supported by empirical evidence, it is neither a priori impossible, internally incoherent, nor directly contradicted by empirical evidence. Olson could argue that "human animal" is a more plausible substance concept than "complex cluster of cells" because of the counterintuitive nature of the latter. By the same token, however, one could argue that "person" is a more plausible substance concept than "human animal" because of the counterintuitive nature, of which many critics have complained, of Olson's brainstem criterion of persistent identity and his rejection of the Transplant Intuition.[31] In fact, "*human* person" would be a superior substance concept for human beings over "person," because such a concept would satisfy Olson's concern that two inherently distinct types of persons—for example, the Holy Spirit and myself—should not be considered to be under the same substance concept. I could exist under the substance concept "human person," and the Holy Spirit could exist under the substance concept "divine person."

One may not wish to adopt the strategy of appealing to "complex cluster of cells" as an alternative substance concept to "human animal" because of the inherent *vagueness* of the former concept. Nevertheless, another avenue is open to criticizing Olson's claim that the latter is our substance concept: just as Olson reduces personhood to a *functional* concept, animality could be similarly reduced insofar as animals may be described as entropy resisters, metabolizers, or reproducers.[32] Seen in this light, the elemental constituents—cells, or perhaps even molecules or atoms—that, when suitably organized, make such functions possible appear to be better candidates for what we essentially are once we have started down the path of ontological reduction Olson lays out for us.

Despite these and other issues, the biological approach does have merits that I contend ought to be included in any proper account of human nature.[33] First, Olson acknowledges that a human being is an animal and that such is not a merely accidental property that fails to figure into a human being's substantial makeup. Second, Olson does not define the physical aspect of human nature in terms of the existence and persistence of material constituents alone but includes the proper organization and functioning of those constituents in a unified organism.[34] Third, Olson provides a strict criterion of identity for human beings that can be philosophically determined and empirically verified. Beyond resolving troublesome thought experiments involving cerebral transplants and various types of metamorphoses, the ability to empirically verify the satisfaction of the identity criterion has enormous practical importance (chapters 5 and 6), as well as helping to secure the possibility of postmortem existence (chapter 7). Finally, Olson does not postulate the existence of ontological entities, such as an immaterial substance/mind/soul, beyond what he takes to be necessary to account for the facts of human nature; while I disagree with him on this point, I appreciate the effort to minimize ontological commitments.

Thomistic Animalism

Since Aquinas is not a substance dualist (chapter 3) and contends that a rational soul is the substantial form of an organic body, he appears to offer an account much like Olson's: a human being is fundamentally a biological organism—in Aquinas's terms, an informed organic body. In fact, Aquinas explicitly asserts that a human being is an animal:

> Therefore, if there is one form by which something is called animal and another by which it is called human, it would follow either that one of these could not be predicated of the other except accidentally, if these two forms are not ordered to each other, or that predication would be in the second mode of essential predication, if one soul is presupposed to the other. But both of these are manifestly false, as *animal* is predicated of a human being essentially, not accidentally, and *human* is not placed in the definition of an animal, but conversely. Therefore it must be the same form by which something is animal and by which it is human. Otherwise, a human being would not truly be that which is animal, such that *animal* would be essentially predicated of a human being. . . . So neither is Socrates human by one soul and animal by another, but by one and the same.[35]

Aquinas, however, does not agree with the *reduction* of a human being to her animality. While a well-functioning cerebrum is required for the operation of a human intellect, because of the intellect's dependence upon *phantasmata* generated by sense activity, it is not essential for the intellect to cognize universal forms abstracted from *phantasmata*:[36] "Understanding is an operation in which it is impossible for some bodily organ to share. Now this operation is attributed to the soul, or even to a human being. For it is said that *the soul understands*, or *a human being by means of the soul*. Therefore, there must be some principle in a human being, not dependent on a body, that is the principle of that operation."[37]

There is basic agreement between Aquinas and Olson in terms of a human being *naturally* existing as a human animal. An important difference between them, however, regards the status of a human animal as being essentially a *person*. Olson claims that a human animal is a person accidentally: one can be a human animal without being a person—Olson considers PVS patients and fetuses to be relevant examples—but a human being cannot enjoy existence without her body. Thomistic hylomorphism opposes both claims. First, the existence of a human animal always implies the existence of a person, even in the case of fetuses and PVS patients (chapters 5 and 6). Second, while Aquinas asserts that a human being has a deficient existence without being composed of her material body, a human being can exist and maintain her identity as both

a person *and an animal* through the subsistence of her soul alone (chapter 7).[38] A human being remains an animal even when disembodied, because all the capacities proper to her animal existence—namely, vegetative and sensitive capacities—are preserved in her separated soul. It is merely the case that she cannot actualize such capacities without her soul informing a material body. Since a human being, whether composed of her material body or not, always exists as a *rational animal*, which satisfies the definition of a *person* as "an individual substance of a rational nature," a human being is essentially a person on Aquinas's account.[39]

Aquinas and Olson differ significantly with respect to a human being's fundamental nature. For Aquinas, a human being is fundamentally both a person and an animal and is able to exist by virtue of what is primarily responsible for her existence as such: namely, her soul, which is the seat of her intellective, sensitive, and vegetative capacities and is the "blueprint" for her material body. For Olson, a mature human being is fundamentally an animal and exists by virtue of what is primarily responsible for her biological existence: namely, her functioning brainstem, which maintains and regulates her body's vital activities.[40]

This difference results in distinct positions regarding whether a human being can survive the death of her body. For Aquinas, since a rational soul can subsist without informing a body, a human being can exist—though deficiently—as composed of her soul alone; furthermore, the soul's subsistence allows for a future reunion with one's resurrected body such that a human being is able to actualize all her proper capacities once again (chapter 7). For Olson, since a human being does not have a subsistent soul, a human being cannot survive the death of her body. A human being's fundamental existence, according to Olson, is as an embodied animal, and her identity is grounded in the persistent, continuous functioning of her brainstem regulating her body's vital activities. On Olson's account, even if a human body were able to die—its brainstem cease functioning—and later be resurrected—its brainstem restored to a functional state of regulating a restored human body—the resurrected human being would not be identical to the one who had previously died. The two would not be identical because brainstem functioning was not continuous and there is no other fundamental part of a human being, such as a soul, that subsists intact between death and resurrection to preserve her identity.[41] Those who wish to maintain the pos-

sibility of a human being's postmortem existence or adhere to an account that avoids pitfalls associated with strictly materialist strategies (chapter 7) would thus be motivated to discount Olson's account in favor of Aquinas's.

To further demonstrate the advantages of Thomistic hylomorphism over animalism, recall that Olson does not provide an effective argument for the preference of "human animal" as the substance concept for human beings over "human person." I have argued that one can make a similar case for the preference of "complex cluster of cells" over "human animal" as the substance concept for human beings. In other words, Olson's reduction of human nature to its fundamental animality can be carried further to its fundamental cellular—and perhaps even atomic—structure. Aquinas's account has two advantages over Olson's with respect to this issue. First, taking account of one of Baker's central criticisms of Olson's view, Aquinas's identification of the fundamental feature of human nature as *personhood* "directly connects what is most important to us and about us with what we most fundamentally are."[42] Second, since Aquinas does not reduce a human being's fundamental nature to her animality, the problematic further reduction to her cellular structure—or beyond—does not follow.

Additionally, Aquinas's account does not fall victim to one of the issues Olson raises to support his fundamental definition of human nature in terms of animality. Olson claims that personhood is not a proper substance concept for human beings, since there may exist other, vastly different, types of beings who are also persons—such as dolphins, androids, Klingons, or angels. An alternative substance concept for human beings, though, other than "person," could be "human person." An account of human nature that identifies "human person" as the substance concept for human beings would be immune to the issue Olson raises here. "Human person" is a substance concept that refers to all and only human beings. Dolphins, androids, Klingons, and angels could exist as persons but not as *human* persons; they would exist as *dolphin* persons, *android* persons, *Klingon* persons, and *angelic* persons.

Although he does not explicitly use the term *persona humana*, it is evident that Aquinas holds "human person" to be the proper substance concept for human beings by his distinction between the natures of human beings, angels, and the members of the Trinity—all of whom are

persons.[43] Hence, "person" cannot be the substance concept for human beings. Rather, "human person" identifies the fundamental nature of human beings, whereas "angelic person" or "divine person" identifies the fundamental nature of the other types of persons Aquinas recognizes.[44] Aquinas thus provides a substance concept for human beings that both avoids the problematic reduction that follows from Olson's proposed substance concept and is immune to a key issue Olson raises against those who identify "person" as the substance concept for human beings.

"Human person" may not be a fully satisfactory substance concept, though. For the classical biological species concepts, first formulated by Aristotle and upon which Aquinas relies, no longer cohere with our modern evolutionary understanding. Such concepts also run into complications when we consider the creation of *animal-human chimeras*, which blur the classical distinction between the biologically "human" and "nonhuman."[45] Perhaps a superior substance concept for us would be "rational animal," which does not necessarily correspond exclusively with the biological category *Homo sapiens.* Consider a thought experiment in which a human being's cerebrum is transplanted into the decerebrated body of a chimpanzee, resulting in a rational animal with the memories and other psychological traits of the original human being. It seems evident that we no longer have a chimp, if chimps are essentially nonrational animals; but neither do we have a *human* animal, since the animal is clearly not a member of the biological species *Homo sapiens*. Hence, assuming that a numerically identical being did survive the cerebral transfer, this being would be best defined as a rational animal/person but not as essentially a human animal.[46] Referring back to our earlier examples, adopting "rational animal" as a substance concept would cover human beings, Klingons, and dolphins—all of whom are material beings informed by a rational soul. It would not, however, include androids, angels, or the members of the Trinity, none of whom are "animals."[47]

Aquinas's hylomorphic account of human nature shares many elements of Olson's animalist account. Olson's reduction of a human being to her animality, however, raises certain difficulties that Aquinas has the metaphysical resources to effectively address. Although such resources include the concept of a rational soul that Aquinas claims to be able to subsist and operate—intellectively and volitionally—without informing

a material body, the Thomistic understanding of the soul as essentially the substantial form of its body, even when it is separated from the body, precludes equating Aquinas's view with a substance dualist construal of human nature—a view with arguably more intractable problems than Olson's reductive account.

Persons Constituted by Animals

Lynne Baker claims that "a human person is constituted by a human body. But a human person is not identical to the body that constitutes her."[48] Rather, she holds that a person is identical to a being with the *capacity for a first-person perspective*, which cannot be explanatorily reduced to the functioning of a physical body.[49] A human being is a person but is not simply a person. As *human*, a human being is a person who is constituted by a living body of the human species. The sentence, "I am a human being," Baker asserts, "is true because I, who am most fundamentally a person, am constituted by a human organism that has reached a certain level of development."[50]

Baker defines a "person" as having the capacity for a first-person perspective: to conceive of and refer to oneself. It is not merely the capacity to conceive of oneself as distinct from other things, as an individual dog is aware that it is distinct from other individual dogs—a sign of "weak first-person phenomena."[51] Rather, it is the capacity to conceive of oneself *as oneself* in a richer way than mere awareness of being a distinct individual—a sign of "strong first-person phenomena":

> A conscious being who exhibits strong first-person phenomena not only is able to recognize herself from a first-person point of view . . . but also is able to think of herself as herself. For strong first-person phenomena, it is not enough to *distinguish* between first person and third person; one must also be able to *conceptualize* the distinction, to conceive of oneself as oneself. To be able to conceive of oneself as oneself is to be able to conceive of oneself independently of a name, or description, or third-person demonstrative. . . . It is not enough to have thoughts expressible by means of "I," but also to conceive of oneself as the bearer of those thoughts. . . .

> The ability to attribute to oneself first-person reference in indirect discourse ("I wish that I were tall") is a signal of strong first-person phenomena.[52]

An illuminating, albeit fictional, example is that of Oedipus. Baker claims that Oedipus blinded himself when he discovered that he had killed his own father not out of a moral duty to punish himself as a murderer. It is not as if he dispassionately constructed the following moral syllogism: (1) Those who murder their fathers should be blinded; (2) I killed my father; (3) Therefore, I ought to blind myself. Rather, he was motivated by the sheer horror that he, *himself*, had killed *his own* father.[53] The strong self-conception that would allow Oedipus to feel the horror of his own action and motivate him to mutilate himself is what Baker understands to be the essential first-person perspective that defines a person.

Baker claims that the capacity for a first-person perspective, as had by a human person, is dependent upon *being in relation* to other beings in the universe.[54] She argues for this claim on the basis of the premise that a first-person perspective requires a person to be able to conceive of herself as herself. She then contends that such self-conception is impossible without the ability to contrast oneself with other things that are not oneself.[55] Baker also holds that having a first-person perspective—at least for *human* persons—requires having some type of physical body that is sufficiently complex to support this capacity.[56] The complex organic structures of a human body that support the capacity for a first-person perspective are found in the cerebrum.[57] There is thus no possible disembodied mode of existence for human persons.

Baker maintains that a person and her body have distinct *persistence conditions*. One would cease to be a person if she lost the capacity for a first-person perspective, but her body could continue to exist. Alternatively, it is possible that a person's body might cease to exist and yet she continue to exist as the numerically same person in some other body.[58] Baker even asserts that one may cease to exist as a *human* person. What is required for a person to exist is a body capable of supporting the capacity for a first-person perspective; it is not necessary that such a body be a member of the species *Homo sapiens*.[59]

Baker contends that having the capacity for a first-person perspective—being a person—is so unique to human existence that it is

the most essential, defining feature of human nature: "Our moral agency, our rational agency, the cognitive and practical abilities that require a first-person perspective, and the ability to have an inner life are all unique to persons. And these things, I submit, are among the most significant things about us. It is a signal virtue of the Constitution View that it directly connects what is most important to us and about us with what we most fundamentally are."[60]

Baker further argues that a person is identical to the capacity for a first-person perspective and not to her physical body because of distinctions in essential properties between a person and the body that constitutes her. An object's "essential properties" are those such that, if the object lacks any of them, it could not exist.[61] One essential property had by an object is its "primary kind property," which defines what an object fundamentally is—akin to the Aristotelian notion of a substance's "essential nature" or "species."[62] Applying this concept to human persons and the bodies that constitute them, Baker claims the following result: the primary kind property of a person is the capacity for a first-person perspective; the primary kind property of a human body is its genetic structure and biological capacities.

Since a human person and the body that constitutes her have different primary kind properties, various other properties are properly said to belong to the person, and other properties are properly said to belong to her body. For example, a person has the properties of referring to herself in the first person, having desires for herself, and possessing self-conscious awareness. Her body does not possess such properties. A human body's properties, which a person does not have, include being spatially located, possessing mass, and having a certain eye color.

Constitutionalism seemingly creates a *dualistic* separation of a person and her body by assigning distinct sets of properties to each. Baker, however, asserts the *unitary* existence of a person that is constituted by a human body: "For when *x* constitutes *y*, there is a unitary thing—*y*, as constituted by *x*. . . . As long as *x* constitutes *y*, *x* has no independent existence. . . . During the period that *x* constitutes *y*, the identity of 'the thing'—*y*, as constituted by *x*—is determined by the identity of *y*."[63] In order to achieve this desired unity, despite the recognized difference in properties, Baker employs the notions of "derivative" and "nonderivative" properties.[64]

Something has a nonderivative property in virtue of its own essential nature. For example, a nation's flag is worthy of salute by that nation's citizens merely because it is that nation's flag. A person nonderivatively has the property of self-consciousness because the primary kind property of a person is the capacity for a first-person perspective; self-consciousness directly follows from having and exercising this capacity. A human body nonderivatively has the property of possessing mass, for mass follows directly from its being essentially a physical thing.

Something has a derivative property because of its constituting, or being constituted by, another type of thing that has that property nonderivatively. A piece of cloth derivatively has the property of being worthy of salute because it constitutes a national flag. A person derivatively has the property of having mass because she is constituted by a physical body. A human body derivatively has the property of being self-conscious because it constitutes a person. Baker can argue for the unitary existence of one thing—*y*, as constituted by *x*; a person, as constituted by a human body—because each property of *x* and each property of *y* is had in two ways: derivatively and nonderivatively. Nevertheless, there is one set of properties—each member of which is had both derivatively and nonderivatively—and hence one thing that exists: a human person or an American flag. Baker thus concludes that a human organism, constituting a person, is an organism nonderivatively and has a first-person perspective derivatively, whereas a person has a first-person perspective nonderivatively and is an organism derivatively.[65]

With respect to a human person's persistent identity through time and change, Baker takes seriously the necessity of a functioning cerebrum to support the capacity for a first-person perspective but does not believe that there is an *impersonal* criterion of personal identity based upon either facts of psychological continuity or facts of physical continuity in terms of sameness of one's cerebral hemispheres. Rather, Baker argues that a person is identified by her own *unique* first-person perspective, which cannot be expressed in third-person, impersonal terms.[66]

Baker's criterion of identity for human persons consists in sameness of first-person perspective persisting through time and change, perhaps even through a change in physical bodies.[67] No third-person evidence of the same first-person perspective—such as sameness of body, sameness of brain, or psychological continuity—suffices to guarantee the persistence of the same first-person perspective. This assertion does not

entail that there is no way to verify the persistent identity of a first-person perspective; personal identity is not indeterminate. Rather, it entails that verification can be performed only in the first person. I verify my own determinate persistent identity.[68] The constitution approach thus provides a determinate criterion of personal identity, albeit one not accessible from a third-person perspective.

Critique of Baker's Account

Criticisms of constitutionalism take two forms: objections to the metaphysical claim that constitution is not identity for things in general, and objections to Baker's use of this principle to describe the relation of a person to her body.[69] With respect to the first type of criticism, the most common concerns putatively absurd consequences that result from holding that two entities, which share the same properties, can be spatially coincident. Consider a "snowdiscball," the persistence condition of which is "merely that [a] lump of snow remains either in a ball shape or a disc shape."[70] A snowdiscball is spatially coincident with any lump of snow shaped like a ball or a disc, thereby implying the existence of two entities where normal experience would tell us that there is only one, either a snowball or a snowdisc, which is arguably absurd and opens the door to multiple variations on the concept.

This criticism points to the most pernicious problem for constitutionalism, which can be termed the "blooming ontology problem."[71] In describing the constitution relationship, Baker asserts that it is possible for one thing to be constituted by another without the two being ontologically identical, as long as there is a fundamental difference in essential properties and persistence conditions. Bodies can constitute persons, and a piece of marble can constitute a statue. Can an anvil constitute a doorstop? Baker says, "No," though she cannot provide a principle by which one can say that a piece of marble constitutes Michelangelo's *David* but an anvil cannot constitute a doorstop. If I take an anvil and utilize it as a doorstop, I could cease to call it "Anvil" and start to call it "Doorstop." Doorstop has an essential property, stopping a door from closing, that Anvil does not have. Anvil can exist even if it is not stopping a door; Doorstop cannot. Hence, Doorstop is constituted by Anvil but is not identical to it.

Merely by using Anvil in some fashion, I am able to redescribe it as having acquired new essential properties, new persistence conditions, and hence having become a new ontological entity. If I can do this so easily for Anvil, what is to stop me from doing it to, say, a chair? If I cease to sit in a chair and instead use it to stand on, "Chair" becomes "Stepping-stool." The blooming ontology problem is that constitutionalism allows one to generate an almost infinite number of ontological entities merely by redescribing something in certain appropriate ways, just as one can describe the concept of a "snowdiscball" and thereby add an additional entity to every snowball or snowdisc that exists.

Baker recognizes that she must give an account of the conditions under which something comes to constitute a new object instead of merely gaining a property. She responds by referring to the new classes of causal properties an object gains when it constitutes a new entity: "If *x* constitutes *y*, then *y* has whole classes of causal properties that *x* would not have had if *x* had not constituted anything."[72] This principle, Baker claims, allows one to hold that a piece of marble constitutes *David*, while Anvil merely gains a new property when it is utilized as a doorstop.

The concept of "whole classes of causal properties" is vague. How many new classes of causal properties must be gained in order for a new entity to exist? How many members must each new class have? Baker also appeals to such new causal properties being significant enough to make an ontological difference to the universe—that is, the universe would have been significantly qualitatively different if entities with such properties did not exist. She describes the capacity for a first-person perspective as making such a difference, and I agree with her on that score.[73] It is less clear, though, when other properties that an object or a human being may gain make a significant ontological difference. For example, in the normal course of development, a human being gains the capacity to reproduce; but not every human being develops this capacity, even after surpassing the developmental stage of adolescence. Thus there are human beings who have the capacity to reproduce and others who do not, because they have not yet reached the age of adolescence or for some other reason.

Baker claims that a primary kind property—a property that, when gained by a particular object, results in its constituting a new object—is a property whose existence makes a significant ontological difference to

the universe by introducing whole new classes of causal properties. One can argue that the capacity to reproduce, like the capacity for a first-person perspective, makes a significant ontological difference to the universe and is thus a primary kind property. Just as Baker contends that the universe would be significantly different if there were no beings with a first-person perspective, I contend that the universe would be significantly different if human beings did not reproduce. If human beings did not reproduce, then not only would the human species quickly go extinct, but all the enriching experiences that come with bearing and raising a child would be lost. Furthermore, there would be no loving relationship between parents and children as part of human experience; such experiences are key to shaping how a human being relates to other persons and the world around her. Moreover, whole sets of causal properties follow from the capacity to reproduce. All of the properties that a reproduced child would offer to the universe would be lost. Indeed, with the absence of the capacity to reproduce and the subsequent extinction of the human race, the universe would lose the entire set of causal properties that human beings contribute.

Therefore, it can be argued that a human being's gaining the capacity to reproduce makes a sufficiently significant difference, by introducing whole new classes of causal properties, that a new entity comes into existence once a human being gains this property.[74] When a human being reaches adolescence and becomes able to reproduce, she ceases to exist on her own and comes to constitute a new entity: a human being capable of reproduction—or, in other words, a "reproducer" constituted by a human being. In order to deny this consequence, one must either reject constitutionalism or formulate a version of it that provides a metaphysical principle by which one can determine whether a mere property-gaining change or an entity-producing change occurs in the appropriate cases. I claim that one ought not to reject constitutionalism *tout court* but that Baker's version of it is problematic since it does not provide the required metaphysical principle, a point she explicitly concedes.[75]

Baker claims that a highly developed animal of a certain species can come to have the capacity for a first-person perspective and thus to constitute a new object—a person—for whom this capacity is a primary kind property. How does one determine that having the capacity for a first-person perspective is a primary kind property? The same issue

applies to the example of Michelangelo's *David* being constituted by a hunk of marble (Piece), where the primary kind property of *David* is its being a work of art. With regard to both persons and *David*, Baker argues for the legitimacy of their respective primary kind properties by appealing to the significant effect their possession of those properties has upon the world.

How one defines the primary kind property of a particular object, however, "brings out one of the more implausible features of [Baker's] ontology: what there is seems to depend on human interests."[76] Only beings with the capacity for aesthetic appreciation could claim that *David* is a work of *art* and thereby adds something significant to the world by its existence. Without such beings—that is, human persons—the ontological significance of *David* would be lost. As a result, one could argue that while objects such as Piece exist in nature, *David* exists only as a construct of several human minds adopting particular aesthetic conventions.

Olson echoes this complaint in arguing against Baker's claim that the essential qualitative differences between two spatially coincident, nonidentical objects may be dependent upon certain *relational* properties had by one but not the other.[77] For example, *David* is essentially different from Piece because *David* can affect those with a sense of aesthetic appreciation in a way that Piece cannot. One would not put a hunk of marble in a museum unless it constituted a work of art that was appreciated by art lovers. Baker could appeal to a distinction in essential relational properties to account for an object and that which constitutes it having distinct primary kind properties and persistence conditions. But the distinction in primary kind properties may depend merely upon human interests and social, political, or aesthetic conventions. Such conventions are not products of the natural world but something that human minds impose upon their perception of the world. Does the ontological inventory of the natural world really change through such changes in human perception? Olson points out that a hunk of marble, untouched by human hands, could be found aesthetically pleasing and put in a museum for admiration by the artistic community; alternatively, a hunk of marble might be fashioned through natural volcanic processes to form the exact shape of the statue *David* but never be discovered and hence never artistically appreciated. The question arises whether the

ontological inventory of the universe is so dependent upon predication according to human convention. This question points again to the blooming ontology problem and sheds light on the fact that Baker has no principled means of explaining why a hunk of marble can constitute a statue but an anvil cannot constitute a doorstop.

A further issue is Baker's claim that features such as the moral and intentional capacities of persons cannot be reduced to the domain of biology. Although Baker does not reject an evolutionary account of how human animals developed as a species or developed the capacity for a first-person perspective, she does reject a purely biological account of the capacity for a first-person perspective and claims that, with the advent of this capacity, a new ontological category entered the world.[78] One may ask, though, "Why should identifying persons with animals preclude saying that these particular animals [i.e., human animals] have radically distinctive features that are of little interest to biologists?"[79] One could accept the claim that human animals, as persons, have nonbiological features that make them distinct as a species from nonhuman animals, but this claim does not entail that being a person is not the same thing as being a human animal. A person could be identical to a human animal with the capacity for a first-person perspective. The capacity for a first-person perspective could be simply a feature of being a human animal.

Baker could respond that there are human animals without the capacity for a first-person perspective—for example, a PVS patient or an early-term fetus—and could appeal to the distinction in persistence conditions—a human animal could exist without a person existing—to rule out the possibility of identifying persons with human animals. Baker may be mistaken, though, in claiming that persons and human animals have distinct persistence conditions. A person, according to Baker, exists insofar as she has the capacity for a first-person perspective. By referring to the "capacity," Baker is allowing that a human being who is in a state of dreamless sleep or in a temporary coma remains a person even though she is not actually perceiving from a first-person perspective. But Baker does not provide a clear presentation of her understanding of the term *capacity* other than to refer to it as being "in hand," which differs from a more remote developmental potentiality—a distinction she borrows from Robert Pasnau.[80] On an alternative understanding of

capacity for which I will argue in chapters 5 and 6, all the capacities proper to persons—including the capacity for a first-person perspective—are present at all times a living human animal exists. According to Aquinas, if a human animal exists, then a person exists by virtue of the human animal possessing all the capacities proper to persons.[81] It is arguable that the capacities definitive of persons—such as the capacity for a first-person perspective—can be present in a human animal without necessarily being actually exercised throughout the entirety of the animal's existence. Hence, an early-term fetus or a PVS patient could have the capacity for a first-person perspective even if she is not able to actualize that capacity. On this account, a person and her body would be temporally coextensive and thus not differ in persistence conditions.

An additional issue concerns Baker's contention that a human person is *necessarily* embodied—that is, as "human," I cannot have the capacity for a first-person perspective without being embodied, though my capacity for a first-person perspective is not explanatorily reducible to my body's physical states. Baker does not provide an argument for the dependence of the capacity for a first-person perspective upon a physical body or a functioning cerebrum. She could, in fact, hold that it is possible for immaterial beings to exist that have the capacity for a first-person perspective. Such beings would be persons but not *human* persons.

Instead of providing an argument for the necessary embodiment of human persons, Baker appeals to the wealth of biological, evolutionary, and neurobiological data that is utilized by some scientists and philosophers to argue that a human person not only is a biological organism and a product of evolution but also is nothing other than a biological organism and a product of evolution. Baker wishes to take these data seriously but deny the implied conclusion that a human person is nothing other than her body. In so doing, Baker is utilizing a strongly supported presupposition upon which to base her contention that a human person is a type of person that is necessarily embodied. I argue in chapter 7, however, that the importance of embodiment for the *complete* existence of a human person does not entail that embodiment is *necessary*, as Baker claims, and that a human person can enjoy disembodied existence.

In the end, Baker's constitution approach to the nature of human persons faces at least four difficulties for which a ready response is not available.[82] First, and most perniciously, is the blooming ontology problem. Related to this is the second problem concerning Baker's adherence to objects having relational properties essentially, which allows for mere human convention to add to the ontological inventory of the natural world. The third difficulty is the question of whether a human animal can exist without the capacity for a first-person perspective. With reference to PVS patients, it may be the case that a human person exists without actually thinking from a first-person perspective but still possesses the *capacity* to do so; and the same may be true for early-term fetuses. Hence, the possibility exists that human animals and persons are temporally coextensive and do not differ in persistence conditions. Finally, Baker provides no argument for the necessary embodiment of human persons. It remains conceivable—beyond mere logical possibility—that human persons may exist and have the capacity for a first-person perspective without being embodied.

This critical analysis of constitutionalism, however, also yields certain desiderata that I contend ought to be satisfied by a proper account of human nature. First, Baker acknowledges that self-conscious thought processes cannot be explanatorily reduced to neural functioning.[83] Second, Baker takes seriously that a fundamental feature of human existence, given to us by experience and self-reflection, is that human persons are *embodied* and that empirical science can tell us much about our nature. Third, Baker recognizes the ontological significance of being a *person* in terms of the impact that the existence of persons as self-conscious, rational, and autonomous beings has upon the universe. Finally, though Baker introduces an ontological distinction between the nature of persons and that of human animals, she nevertheless utilizes the concept of constitution-without-identity to preserve the *unity* of a human being as both a person and an animal.

Constitution versus Composition

There is an obvious similarity between Thomistic hylomorphism and constitutionalism in that both accept a *nonreductive* form of materialism in which a material whole cannot be strictly identified with its material

components, nor can the macro-level features of a whole always be explanatorily reduced to its micro-level features.[84] On Aquinas's view, when micro-level material elements are configured by a substantial form to generate a macro-level composite substance, the generated substance has properties that are not had by the mere aggregate of its constituent elements. Hence, a substance cannot be reduced to its constituent elements. Baker holds a similar conclusion, but without utilizing the notion of "substantial form."

Aquinas and Baker further agree in rejecting *mereological essentialism*: the thesis that any whole—including living organisms and a fortiori human beings—has all of its parts *essentially*, meaning that even the slightest micro-level change will result, strictly speaking, in a nonidentical being coming into existence.[85] Baker objects to this thesis by holding the constitution-without-identity relation between an object and that which composes it, meaning that the constituting object may change its micro-level parts without its doing so affecting the identity of the constituted object. Aquinas appeals to a similar, but distinct, relation of *composition-without-identity*, which involves the same nonidentification of a composed object with the various parts that compose it at any given time, allowing for different sets of parts to compose the numerically same object at different times. The primary difference between the constitution and composition relations is that the former is always conceptualized as a *one-one* relation—for example, a statue and a lump of clay—whereas the latter is typically a *one-many* relation between a whole and its various macro- and micro-level parts.[86]

Another similarity between Aquinas's and Baker's respective accounts concerns the notion of "derivative properties." Baker contends that an object and that which constitutes it exist in a unified relationship as *one* thing because of the respective properties of each being had in two ways: derivatively and nonderivatively. A constituted object has some of its properties nonderivatively—that is, properties it would have no matter what constituted it—and it has other properties derivatively—that is, properties it has only by virtue of their being had nonderivatively by what constitutes it. Conversely, what constitutes another object has some of its properties nonderivatively, in that it would have such properties even if it never constituted something else, and other properties derivatively by virtue of its constituting something else that has those

properties nonderivatively. Thus an object and that which constitutes it differ by having distinct properties nonderivatively, yet they share a unified existence by having each other's respective properties derivatively.

Aquinas employs a similar notion to explain the unity of the metaphysical parts—soul and body—that compose a human person. Because soul and body together compose the same thing—a person—each has some properties nonderivatively and some properties derivatively. For example, Aquinas describes a case where a human body has a property that its soul has only by virtue of informing that body: "Although a quality of the body in no way belongs to the soul, yet to be of the composite is common to soul and body, and similarly operation. Hence, the body's passion accidentally overflows into the soul. . . . A passion does not occur in the conjunction of soul and body except by reason of the body. Hence, it does not occur in the soul except accidentally."[87] A body has a "passion" nonderivatively, and its soul thereby has that passion derivatively; furthermore, properties had by a rational soul nonderivatively may be had derivatively by the body it informs.[88] Therefore, just as Baker argues for the unified existence of a thing and that which constitutes it by appeal to the notion of derivative properties, Aquinas accounts for the unified existence of soul and body composing a human person by appeal to a similar notion.

Despite these similarities in the underlying metaphysical notions Aquinas and Baker both employ, there are important differences between their respective accounts. I will highlight three such differences and then show the ways in which hylomorphism may address certain objections raised to constitutionalism above. The first fundamental difference between the two accounts concerns Baker labeling Aquinas's account as "immaterialist" because he holds that there is an immaterial component to a human person: her soul.[89] Baker explicitly denies that there is any immaterial component in the constitution of a human person.[90] This distinction results from Aquinas holding that a rational soul's intellective capacity functions without need of a material organ and Baker's adoption of neurophysical and evolutionary data that imply a dependence relationship between a person's mental activities and her brain's neural activities. For Aquinas, while a person's embodied existence is "natural," it is not necessary, whereas for Baker a person exists only insofar as she is constituted by a body with a sufficiently complex brain.

A second difference concerns Baker's assertion that "human bodies are defined biologically and can be identified without consideration of any relations that they may bear to persons,"[91] just as a piece of marble can be identified and defined in terms of its microphysical properties without any consideration of its relation to Michelangelo's statue *David*. For Aquinas, without a rational soul informing it, what can be called a "human body" only equivocally is either an aggregate of micro-level elements (a *corpse*) or a substance informed by a substantial form other than a soul (a merely vegetative organism or a nonrational sentient animal). Either way, a body that is not informed by a rational soul cannot be a human body. Hence, for Aquinas, a human body can be defined biologically and identified *as a human body* only insofar as it is informed by a rational soul and thereby composes a human person. While Baker and Aquinas agree that human persons have distinct persistence conditions from human bodies—that is, a person can exist without her body existing[92]—they disagree on the dependence relationship between a human body and the person it constitutes. For Baker, a human body can exist without constituting a person—for example, a PVS patient is a human body that no longer constitutes a person because it no longer supports the capacity for a first-person perspective. For Aquinas, a human body cannot exist without composing a human person, because a human body exists only insofar as it is informed by a rational soul, and a soul informing a human body is sufficient to compose a person.[93]

A third disagreement involves Baker's assertion that standing in relation to other things is essential to having a first-person perspective, and hence to being a person: "One cannot think of oneself as oneself* without concepts of other things by means of which to distinguish things as being different from oneself; and one cannot have concepts of other things without the presence of other things. It is only over and against other things in the world that one stands as subject with a first-person perspective."[94]

Aquinas recognizes that the *esse* ("being") of a person, as is the case with any substance, is essentially *communicable*.[95] Hence, being in relation to other things seems to be a Thomistic requirement for personhood. The essentially relational character of personhood, however, is necessary only for the *perfection* of a person according to her *esse*—that is, for her fully actualized, complete existence. It is not necessary for the *bare exis-*

tence of a person.[96] Rather, the bare existence of a person as a substance is metaphysically prior to the active existence of that person on the road to perfection. Being in relation to other things is necessary for perfection but not for bare existence.[97] Baker does not allow for this distinction. For her, to be a person is to be in relation to other things. For Aquinas, to be a person requires being in relation to other things only for the sake of perfection, not for existence itself.[98] I will now consider how Aquinas's account can address some of the difficulties that Baker's account faces.

The most pernicious problem for constitutionalism is the "blooming ontology" problem. Baker provides no metaphysical principle by which to assert that an organic body of a certain type constitutes a new ontological entity—a person—but that an anvil cannot constitute a doorstop. Aquinas may address this problem by his distinction between "substantial" and "accidental" forms. A substantial form is that by which a substance exists with a specific nature. Since a substantial form is primarily responsible for a substance's unified existence and activity, changes in substantial form result in significant ontological changes whereby existing substances are corrupted and new substances are generated. An accidental form, on the other hand, is not part of the definition of a substance. An accidental form is not that by which a substance exists but only that by which a substance exists *in a certain way*—that is, *qualifiedly*. Hence, changes in accidental form do not result in significant ontological changes as is the case for changes in substantial form; substances are not generated and corrupted through mere changes in accidental form: "Forms and accidents, and even parts, are not said to become except relatively, since they do not have subsistent being in themselves but subsist in another; hence, when something becomes white, it is not said to become simply, but relatively."[99]

For example, Aquinas would assert that using an anvil as a doorstop is merely an accidental change, not a substantial change. A doorstop is not a new substance generated by placing an anvil in front of an open door. The anvil is an *artifact* fashioned out of a natural substance: iron.[100] When a lump of iron was shaped into the anvil, it underwent an accidental change. It remained the same lump of iron but merely changed shape and took on the accidental form of an anvil. When the anvil was placed in front of an open door, the lump of iron underwent another accidental change. It remained the same lump of iron with the same

accidental form of an anvil but merely changed spatial location with respect to the door. Since the lump of iron remains unchanged *as a lump of iron* through being shaped into an anvil and then placed in front of an open door, no substantial change occurs in either case.

Appealing to the mere distinction between substantial and accidental form, though, may not be sufficient for Aquinas's account to avoid the blooming ontology problem. In distinguishing the two, Aquinas merely *describes* the different concepts:

> Now one should know that there is a difference between accidental and substantial form, that an accidental form does not make a being actual simply, but a being actual in this or that way—for example, large or white or something else of this sort—whereas a substantial form makes it to be actual simply. Hence, an accidental form comes into a subject already existing in act, whereas a substantial form does not come into a subject already preexisting in act but existing in potency only—namely, prime matter. From this, it is clear that it is impossible for there to be many substantial forms in one thing; for the first makes a being actual simply, and all the others come into a subject already existing in act. Hence, they come into [a subject] accidentally; for they do not make a being actual simply, but according to something else.[101]

With only this description, it is doubtful that Aquinas can offer a noncircular definition of *substance* that allows for a *principled* distinction between changes that result in a substantial form, and thereby a new substance, coming into existence and changes that result in an accidental form coming into existence, in which case an already existing substance merely gains a property.[102] Without a principled distinction between changes that result in the generation of a new substance and changes that result in a substance merely gaining an accidental property, Aquinas's account fails to provide an effective means of avoiding the blooming ontology problem. Thus it appears that both Aquinas and Baker face the same problem, though Aquinas's distinction between accidental and substantial forms may provide an avenue for further investigation, which is outside the scope of this chapter.[103]

An additional problem for Baker's account concerns its allowing for mere human convention to add to the universe's ontological inventory. This allowance is problematic because it leads directly into the blooming ontology problem by generating new ontological entities via linguistic convention: a piece of marble comes to constitute a statue only because a group of people refer to it as "art." No criterion is offered by which to distinguish when linguistic convention results in something that may be taken as a new entity—say, a metal coin constituting money—and when it results in something that obviously is not a new entity—say, a desk constituting *my* desk.

Aquinas's account avoids this problem by not allowing for mere human convention to add to the universe's ontological inventory. Discussing the difference between natural substances and artifacts, Aquinas claims that artifacts result only from accidental changes brought about through human craft. He argues that artifacts are not substances because they do not have their own internal principle of movement. Furthermore, they cannot generate another of their kind from their own material, and they are generated out of already existing substances.[104] Hence, while the result of human artifice may add new *esse* to the universe by introducing new accidental forms, new substances cannot be added through such activity.[105] The *substantial* ontological inventory of the universe remains stable in that new substances come into existence only through established natural processes of reproductive generation. Thus, for example, while money may be understood as a new *artifact* in the universe when it is invented, no new *substances* are added beyond the metallic coins to which monetary value is assigned by convention.

Persons as Spacetime Worms

Hud Hudson advocates a *four-dimensionalist* view of human persons in which we are each identified with a "spacetime worm" comprising various "person-stages" united by a certain relation of psychological continuity and connectedness, and of whom the latter person-stages are appropriately causally dependent upon their earlier person-stages.[106] Hudson adopts this ontological view of human persons because of the classical *problem of the many* that arises for any material object that is

divisible into parts that compose it. He presents this problem by introducing us a human being named "Legion": "Legion is a material object. He does not have nor has he ever had any immaterial parts. He is composed at each moment of his existence by material simples (i.e., by material objects that do not have any proper parts). Additionally, at each moment of his existence there exists a set that has as its members all and only those material simples that compose him at that moment. Furthermore, Legion is currently a human person. In fact, he is the only person who is presently sitting in that very chair before you today."[107]

The problem of the many arises with respect to counting Legion as the one and only person sitting in the chair once Hudson adopts the *principle of unrestricted mereological composition*: "Necessarily, for any collection of objects, *the xs*, and any time, *t*, if *the xs* are present at *t*, then there exists an object, *y*, such that *the xs* compose *y* at *t*."[108]

Hudson defines the "Primary Set" as the collection of simples that compose Legion at a particular moment in time, "T." Hudson then describes "Righty"—"some outermost simple on Legion's right hand at T which is a member of the Primary Set"—and "Lefty"—"some simple in the neighborhood of Legion's left hand at T which is not a member of the Primary Set." There is thus a new set of simples—the "Secondary Set"—which "contains all the material simples found in the Primary Set except Righty, and it contains no other items except Lefty."[109] Hudson names the person composed of the Primary Set "Tweedledee" and the person composed of the Second Set "Tweedledum." The problem of the many now comes to the fore because Tweedledee is not identical to Tweedledum: each has a part—Lefty or Righty, respectively—that the other lacks. Yet both Tweedledee and Tweedledum clearly qualify as *persons*, so it looks as if there are at least two—and really there are innumerable definable sets of simples at hand—persons sitting in Legion's chair.

Hudson contends that a "partist view" offers the best solution to the problem of the many, for both material objects in general and human persons in particular. In the case at hand, Tweedledee, Tweedledum, and Legion all turn out to be *identical*, the first two being parts of the last in different regions of space—the regions comprised by the Primary Set and the Secondary Set, respectively—at the same time.[110] Hudson initially formulates this conclusion in terms of a "3DPartist" view, since the problem at hand is identifying Legion *synchronically*—that

is, at a particular moment in time. To resolve the identity of Legion *diachronically*—that is, across time—Hudson favors a "4DPartist" view over its three-dimensionalist cousin.

Four-dimensionalism is the thesis that an object persists through time not by *enduring*—that is, by wholly existing at each moment of time from its beginning to its end—but rather by *perduring*—that is, by having "temporal parts" or "stages" that exist at each moment of time.[111] The question then arises as to what the perduring object is identical. According to the "stage view," an object is identified with each temporal stage that satisfies whatever persistence conditions are defined for that type of object—psychological continuity typically in the case of persons. Alternatively, an object may be identified with the sum total of its temporal parts; Hudson's 4DPartist view identifies the object with the sum total of its spatiotemporal parts that satisfy the relevant persistence conditions.[112]

Hudson lays out his four-dimensionalist ontology of personhood by delineating three different phases of a human organism's existence: "Vital," "Feeler," and "Thinker." Vital is a living human organism, Feeler a sentient animal, and Thinker "the one and only person in our story."[113] Vital is the temporally longest existent, from the beginning of the organism's life to its death;[114] Feeler shares a significant portion of Vital's existence but comes into existence later, during fetal development; Thinker also shares part of both Feeler's and Vital's existence but comes into existence later than Feeler. Thinker is the only person because Hudson argues that persons are "maximal C-possessors," where *C* refers to the set of cognitive capacities, such as self-consciousness and first-person intentional states, which are typically held to suffice for being a person, and *maximal* refers to *all* of one's temporal stages possessing C.[115] Hudson accounts for Thinker being a *human* person insofar as Thinker shares all of its temporal stages with Vital—a living human organism.

Hudson characterizes his view as a *materialist* theory of human personhood and accounts for this characterization by defining Thinker as a temporal part of Vital. This does not entail that Thinker *is* Vital in any way other than by there being an overlap of their respective temporal stages: all of Thinker's stages are also stages of Vital, but not the converse. But the question can now be raised of why Thinker is a better candidate for being "the one and only person in our story" than Vital.

Hudson adopts what he terms the "elimination principle": "If *x* and *y* are both human person candidates and at most one of *x* and *y* is a human person, but *y* has superfluous [spatial or temporal] parts whereas *x* doesn't, then *x* is the better candidate for the office."[116]

Examining Vital through the lens of the elimination principle, it is clear that it has superfluous temporal parts that do not contribute to the instantiation of the definitive properties of personhood, which, according to Hudson, essentially includes the capacity for first-person awareness and intentional states. Furthermore, Vital has spatial parts that do not contribute to the instantiation of personhood: a human organism's left hand, the hair on its head, or its gall bladder does not directly contribute to the instantiation of first-person intentional states. Ruling out Vital as a human person candidate thus leaves the question of *what material object Thinker is*. It looks, to Hudson, as if the best answer is a functional brain—or, more precisely, a cerebrum.[117]

Critique of Hudson's Account

Criticisms of Hudson's 4DPartist view of human persons focus upon one or more of the following objections: (1) three-dimensionalism is a better account of how an object persists through time than four-dimensionalism; (2) there are better solutions than the partist view to the problem of the many; (3) specific problems arise when four-dimensionalism or the partist view or both are utilized to explain the composition and persistence of human persons. I will not discuss the first objection, as the literature on this debate is too vast to do it justice in this chapter.[118]

With respect to the second form of criticism, consider the *shape* Legion would have by virtue of being identical not only to Tweedledee and Tweedledum but to the uncountable sets of simples in the neighborhood of Legion that sufficiently overlap with the spatial region that is filled by the Primary Set:[119]

> Because of Legion's identity with Tweedledee and Tweedledum, however, it is also the case that he simultaneously has Righty relative to a spatial region R1 and Lefty relative to a *different* spatial region R2. It follows, then, that Legion simultaneously has one

> shape in relation to R1 and a barely discernible though nevertheless genuinely different shape in relation to R2. If, instead of one Righty and one Lefty, there were several billion of each arranged in the right ways, Legion would end up simultaneously having an oval shape relative to R1 and an oblong shape relative to R2. Is that credible?[120]

A hylomorphic, or relevantly similar, account may offer a better solution to the problem of the many by avoiding this and other issues that arise from expanding the spatial region occupied by Legion beyond that occupied only by the set of simples that are unified in a specific fashion—structurally and functionally—to compose, in this case, a living organism: "If one were to allow for the existence of a soul, form, or some other unifying principle for organisms, then The Problem of the Many simply would not be a problem. Legion's body would be identical with Tweedledee and not Tweedledum because Righty, and not Lefty, would be under the influence of the relevant unifying principle."[121]

Hylomorphic metaphysics, with its concept of *substantial form* providing a "unifying principle" for all extant substances, runs up against Hudson's adoption of the principle of unrestricted mereological composition. Space does not permit me to adjudicate this debate concerning general mereological principles for all material objects.[122] It could be the case that a general hylomorphic ontology of part/whole relations does not succeed for every type of material substance but that living organisms—including human persons—arguably occupy a distinct ontological category because the unifying organic activity of the system results in some simples being "caught up in the life" of an organism and thereby composing it as its proper parts, and other simples, even if in very close spatial proximity—for example, a dust mote floating near, or even in contact with, the surface of my skin—not being so caught up.[123] To justify a more expansive ontology, hylomorphism is consistent with an *emergentist* view, such that one could draw nonarbitrary lines that restrict composition whenever a set of simples results in an object that has novel causal powers that are irreducible to the powers of its constituents.[124]

As an example of the third type of objection, applying Hudson's four-dimensionalist ontology to human persons leads to the following *reductio* with respect to self-reference using the first-person pronoun *I*:

(1) Assume four-dimensionalism is true
(2) There exists an *x* such that *x* is a four-dimensional spacetime worm [from (1)]
(3) Let *p* stand for the proposition: I = *x*
(4) I have a temporal part, S, that thinks *p*
(5) I think *p* because S does [from (1)]
(6) It is false that S = *x*, since S is an instantaneous temporal part
(7) I think *p* truly
(8) I think *p* = S thinks *p* [from (5)]
(9) S cannot think *p* truly [from (6)]
(10) Therefore, what I think is true and what S thinks is false, but what I think = what S thinks; hence, what I think is both true and false[125]

Thus, even if four-dimensionalism is true for events (which, as will be shown below, Aquinas holds) or material substances (which hylomorphism denies) it is arguably problematic to consider human persons as other than three-dimensional enduring entities.

Another difficulty arises for Hudson's application of his "elimination principle" to conclude that Thinker—a human person—is identical to a functional cerebrum. First, there is an echo of Alexander Pruss's complaint against identifying a human person with his soul: "Only in the course of brain surgery can my wife kiss me if I am a brain. Rape, still, is a kind of property crime. My kidneys are not parts of me, but mere property, and hence can be expropriated by the government if necessary."[126] Second, given the intelligibility of cerebral commissurotomy thought experiments—discussed in chapter 3—a cerebral *hemisphere* would be an even better person candidate than the cerebrum as a whole, each hemisphere being a superfluous part with respect to the other. But this would entail that there are *two* persons inside each human organism's cranium—even without being separated. Granted, the two hemispheres are in such close communication when the corpus callosum is intact that the two persons experience their self-conscious thoughts in an apparently unified fashion, but while such phenomenal experience may reinforce a particular metaphysical conclusion—as I have appealed to the phenomenal experience of embodiment against substance dualism in chapter 3—it nevertheless does not *dictate* any particular conclusion.

More to the converse, everyday phenomenal experience points to the extreme counterintuitiveness of any theory that results in two persons inhabiting the same neurologically normal brain.

Aquinas, Endurantist or Perdurantist?

Aquinas never explicitly addresses a thirteenth-century analogue to the contemporary four-dimensionalist/three-dimensionalist debate, although there was such a debate at the time.[127] Nevertheless, there are a few passages where Aquinas appears to affirm an *endurantist* view of an object's persistence through time: "For a thing that exists in time grows old with time because it has a changeable existence, and from the changeableness of a thing measured there follows *before* and *after* in the measure."[128] Here Aquinas renders the endurance of the numerically same object through change as the very basis upon which time exists.[129]

Aquinas also distinguishes the endurance of a *substance* from the perdurance of an *event*:

> For something is found to be in potency in two ways: In one way such that the whole can be reduced into act, as it is possible for this bronze to be a statue, because at some time it will be a statue. . . . In another way something is said to be in potency insofar as later it will come to be actual, not indeed all at the same time, but *successively*. For something is said to be in many ways: either because the whole exists at the same time, such as a human being or a house; or because *one part of it always comes to be after another*, in the way a day or a competition is said to exist.[130]

Finally, Aquinas explicitly asserts that, unlike motion and time, a substance cannot be divided up into temporally successive parts: "For it cannot be said that this part of a substance is prior and another posterior, since a substance is complete all at once and not through succession."[131] Aquinas thus accepts a four-dimensionalist ontology for events, but not for substances that wholly exist at a given time;[132] such "dimensional dualism" is not incoherent in principle.[133] Aquinas does not offer, though, any direct argument against a four-dimensionalist ontology applied to substances, including human beings.[134]

Persons as Embodied Minds

Jeff McMahan rejects any sort of dualist account—including hylomorphism—of the nature of human persons and thereby seeks an adequate materialist account.[135] He finds animalism to be unsatisfactory, however, because of the problems raised by the dicephalus and *craniopagus parasiticus* cases discussed in chapter 2. The solution to such cases, he contends, is to identify each of the twins, not as a distinct *organism*, but rather as a distinct *mind*.[136] Eschewing dualism, though, McMahan considers each mind to depend on a sufficiently organized brain. He thus ultimately defines human persons as "embodied minds": "If a single mind has hitherto been realized in certain regions of a single brain, the undivided survival and continued, self-sufficient, functional integrity of those specific regions is both a necessary and sufficient condition of the continued existence of the same mind."[137] Though he denies any sort of dualist construal of the nature of human *persons*, McMahan is "agnostic" concerning how the mind is ontologically related to the brain—for instance, whether the mind is "causally generated by" or "identical with" the brain—so long as the relation is one of *dependence* such that "the mind cannot be tracked or traced independently of the brain."[138]

McMahan further defines a *criterion of personal identity* in terms of "the continued existence and functioning, in nonbranching form, of enough of the same brain to be capable of generating consciousness or mental activity."[139] He emphasizes that continuity of the *content* of one's mind is not necessary for one's persistent identity; rather, it is the *physical and functional continuity* of one's brain, which embodies one's psychological *capacities*.[140] By grounding personal identity in physical and functional continuity, McMahan allows for numerically distinct matter to compose a brain—if replacement of the original matter is sufficiently *gradual*—instantiating qualitatively identical functional patterns to preserve one's numerical identity.

McMahan's materialistic foundation for personal identity also grounds his *principle of the individuation* of minds, and thereby persons: one is individuated from other persons by virtue of one's mind being identified with the functioning of one or more specific regions of one's brain. Hence, in the dicephalus and *craniopagus parasiticus* cases, so long as there are two numerically distinct cerebra involved, there are two distinct minds and thus two distinct persons. McMahan considers whether

the same region(s) of the brain could generate two distinct minds either simultaneously or serially.[141] With respect to the first, McMahan notes that whether there is one mind or two depends on whether one or two brains—or brain regions—may be counted, each responsible for a distinct set of mental events, as well as the degree of integration among such events. He further notes that a single mind may tolerate a certain degree of fragmentation but that a sufficient degree of fragmentation—resulting in distinct, cohesive mental lives—would result in two distinct minds being generated by the same brain.

Regarding the second, McMahan contends that replacing the mind-generating tissues of one's brain with structurally similar, but functionally distinct, tissues from another brain would result in a numerically distinct mind being generated since both physical and functional continuity would be lacking. Similarly, if a specific region of one's brain were responsible for generating one's mind, and that region were destroyed but another region neurally reconfigured to generate qualitatively similar mental states, the newly generated mind would be numerically distinct because of the lack of physical continuity. McMahan thus concludes that a human person is essentially a cerebrum—or one or more specific regions thereof—instantiating specific functional patterns that support a set of cohesive mental capacities.

Critique of McMahan's Account

Most critiques of McMahan's account have focused on the ethical implications of his view regarding *time-relative interests*, specifically concerning beginning- and end-of-life issues.[142] A few objections, though, have been raised concerning his embodied-mind account simply as an account of human nature. One line of critique focuses on McMahan's *intuitional* basis for affirming that mere psychological continuity or functional continuity of one's cerebrum suffices for one's numerical identity to be preserved in cases of pattern replication or division—as in the teletransportation case discussed below. McMahan contends that one would have more "egoistic concern" for one's descendants in a case of cerebral commissurotomy—followed by transplantation of each cerebral hemisphere into a new cranium—than in a case where the functional pattern of one's psychology was duplicated precisely by a teletransportation device.[143] Don Marquis, for one, does not share this intuition,

though he does not provide an argument to favor one intuition over the other.[144] Frances Kamm goes further in arguing that McMahan's criterion for persistent personal identity is too strict by describing a couple of challenging thought experiments:

> For example, suppose it turned out to have always been true of our brains that the seat of consciousness moves, as cells in a previous area die en masse, with a seamless flow of consciousness throughout. Would we really think that no one had ever survived as long as we had previously thought? Or suppose (counterfactually) that one way that our brains could prevent dementia would be to grow replacements for 75 percent of one's brain cells that had been destroyed by a virus. Would a particular person who could survive as a mildly demented person with 25 percent of his "original" brain cells be extinguished if such an internal dementia cure took place? Would a particular person be extinguished if we cured dementia by replacing most of the brain cells supporting consciousness using his own stem cells? If so, this would make current research for such a type of cure self-defeating, at least if personal survival is what one is after.[145]

Given McMahan's appeals to intuitions about survivability and identity in terms of egoistic concern, his embodied-mind view "implies, contrary to what we take to be educated common sense, that we are not animals. Rather, we are parts of human animals and can, in principle, part ways with them."[146] Furthermore, McMahan's view does not provide a sufficient metaphysical account of what exactly a human person *is* because of his agnosticism regarding the ontological relationship of one's mind to one's brain. He explicitly rules out any sort of dualistic conception of the mind, except for *property* dualism,[147] which yields the unpalatable conclusion—except to avowed Humeans—that one is identical with a *set* of conscious properties with no *substrate*, whether material or immaterial.[148] Of course, McMahan could contend that one's mind is *reducible* to or *identical* with one's brain; but corpses have brains, so would one be identical to the brain in one's corpse until it decomposes? McMahan, though, requires not merely physical continuity of one's brain but also *functional* continuity. Might this not imply, however, that

there are two spatially coincident substances in one's cranium: one's brain, which persists—at least for a time—in one's corpse, and one's functional brain, which ceases to exist if one, say, falls into a persistent vegetative state? Given these unresolved questions, "McMahan has no plausible conception of the kind of thing we essentially are."[149]

Continuity: Psychological, Physical, or Soul-ar?

All of the contemporary views we have examined involve some sort of psychologically based account of personal identity through time and change. Swinburne's substance dualism construes personal identity as equated with sameness of one's soul, which Swinburne identifies as the subject of one's mental states. Hasker's emergent dualism conceives of one's self as an emergent mental subject from the physical substrate of one's brain, whose existence and identity as the same mental subject may be sustained even in the absence of the physical substrate from which one initially emerged. Although Olson's animalism identifies one with one's animal body, the criterion of identity for which is thereby physical—continuity of one's vital functions—he nevertheless considers the persistence of one's personhood—as a *phase* of one's existence—to involve psychological continuity. A defining thesis of Baker's constitutionalism is the existence and persistence of a person in terms of the capacity for the same first-person perspective. Hudson's four-dimensionalism distinguishes the continuous set of temporal stages composing Thinker from the larger overlapping sets composing the merely sentient Feeler and the merely living Vital. Finally, in McMahan's embodied-mind view, although continuity of the physical structure and functional patterns realized in one's brain plays an essential role, such structure and patterns matter for one's survival as the numerically same person only insofar as they ground the continuity of one's mental capacities. All of these views, despite their respective nuances, may thus be termed "neo-Lockean."[150]

John Locke famously defines a "person" as "a thinking intelligent Being, that has reason and reflection, and can consider it self as it self, the same thinking thing in different times and places; which it does only by that consciousness, which is inseparable from thinking, and as it seems to me essential to it."[151] He then defines personal identity as the

continuity of consciousness from past to present: "And as far as this consciousness can be extended backwards to any past Action or Thought, so far reaches the Identity of that *Person*; it is the same *self* now it was then; and 'tis by the same *self* with this present one that now reflects on it, that that Action was done."[152]

It is evident, though, that the continuity of consciousness is not like a solid, uninterrupted line running throughout the course of one's life but rather has many breaks of various durations where one no longer remembers some experience or action: "But that which seems to make the difficulty is this, that this consciousness, being interrupted always by forgetfulness, there being no moment of our Lives wherein we have the whole train of our past Actions before our Eyes in one view: But even the best Memories losing the sight of one part whilst they are viewing another."[153] And, of course, there are regular periods of each day of our lives when we are not conscious at all—states of dreamless sleep. Does Locke believe that people regularly go in and out of existence as they sleep through the night or lose a part of themselves when they forget some past action or experience? Yes and no.

Locke distinguishes between the persistence of the "individual substance" that constitutes a person and that of the person herself. Clearly, there is a persisting material substance—a living human body—that remains numerically the same, despite a continual flux of micro-level constituents, throughout the course of one's life. Or, if one holds that a person is essentially constituted by an immaterial soul, then that immaterial substance may persist throughout one's life and perhaps even beyond death. Neither body nor soul is the person herself, however. The person is the consciousness associated with a given body or soul. In short, *substantial* identity is not the same as *personal* identity for Locke. Rather, it is your conscious relationship to past actions that makes those actions properly *yours*, regardless of whether such actions were performed by the same body that now constitutes you. Were it possible for your consciousness to be transferred to a new body, so that it retained the same memories of your past actions, the inhabitant of this new body would still be *you*. By the same token, if a different consciousness were to take up residence in your present body, the actions of that body could no longer be considered *yours*. Thus one's personal identity may fluctuate while one's substantial identity remains intact. Conversely, one's sub-

stantial identity may change but one's personal *self* may still persist so long as there is continuity of consciousness.

Neo-Lockean views that construe psychological continuity as constitutive of one's *numerical identity* through time and change are collectively subject to a devastating critique proffered by Derek Parfit.[154] He conceives of a number of sci-fi-like scenarios that result in duplication, transference, or transformation of one's psychology such that one's *strict identity* is disrupted. One potent scenario Parfit utilizes involves a *Star Trek*–style teletransporter in which one's body and mind are scanned to the minutest detail and are precisely qualitatively replicated in a receiving teletransporter—Parfit presumes that a sufficiently detailed scan and replication of one's brain would yield the qualitatively same psychological states being instantiated—the original being destroyed in the scanning/transmission process. Parfit follows the neo-Lockean thesis that, despite the lack of physical continuity—the body in the receiving teletransporter, while qualitatively identical to the original, shares no numerically identical parts with it—psychological continuity suffices to claim that the same person steps out of the receiving teletransporter as had stepped into the transmitting one.

This claim does not entail, however, that it is the *numerically identical* person. To see why, consider a malfunction in which one's scanned pattern is transmitted to *two* receiving teletransporters—say, one in San Francisco and one in New York. There would thus be two precisely qualitatively identical, but numerically distinct, persons who step out of each receiving teletransporter: one believing she has arrived at her intended destination and the other wondering how she ended up in the wrong city. Two nonidentical persons cannot be identical to the same original person, since, because of the transitivity of identity, they would have to be identical with each other. Since, however, psychological continuity has been preserved just as it would have been in a successful nonbranching case of teletransportation, and it is difficult to see how two successes could constitute a failure, Parfit concludes that we should consider the two nonidentical persons each as a psychologically continuous "survivor" of the original person.

Parfit's thesis has merited a great deal of attention that would take us too far afield of the current discussion. Suffice it to say that, while many scholars have given up on preserving personal *identity*, there is also

significant resistance to the mere *survival* of persons being sufficient insofar as it allows for multiple survivors. Hence, if any of the theories canvassed above could provide a foundation for personal identity in Parfit's teletransporter scenario, so much the better for them over their competitors.

Olson endorses Parfitian survival with respect to the persistence of one's personhood as a phase of one's existence as the numerically same animal. Hudson's four-dimensionalism allows for stage sharing by the duplicates with the original, thereby implying the Parfitian conclusion that each of them may be counted as a continuer of the original person. McMahan's embodied-mind view follows Parfit in allowing for *egoistic concern*, but not strict identity, to be capable of branching out to two putative "survivors" of oneself. He differs from Parfit, however, in contending that mere psychological continuity does not suffice for egoistic concern, but rather psychological continuity "grounded in the continued existence and functioning of the relevant areas of the same brain."[155] As noted in chapters 3 and 7, unlike McMahan's view, Hasker's emergent dualism allows for the possibility of multiple qualitatively identical minds to emerge from qualitatively identical—even if not numerically identical—physical substrates, although Hasker does not explicitly endorse Parfitian survival in branching cases and so it is unclear how he would account for the identity problem such cases provoke.

Baker's criterion of personal identity in terms of sameness of first-person perspective should preclude the duplication problem by virtue of the inherent *uniqueness* of such a perspective. While it is true that each of the duplicate persons would have a numerically distinct first-person perspective, each would phenomenally experience herself as having the same first-person perspective as the person who stepped into the teletransporter. With no other metaphysical criterion to differentiate their respective claims, Baker's account has no means of *grounding* the original person's first-person perspective as continuing in one of the claimants over the other. I am not raising here the *epistemic* concern over how to determine which of the claimants is the numerically same person—if either—for I do not see how any account, including Thomistic hylomorphism, could provide means for such a determination. Rather, the desideratum at hand is for a metaphysical criterion internal to an account of human personhood and personal identity that

would allow us to say that one of the duplicates is numerically identical to the original person and not the other, even though we cannot determine which.

The only accounts that provide the desired metaphysical grounding are Swinburne's substance dualism and Thomistic hylomorphism. In both accounts, one's psychological states are uniquely instantiated in one's soul, which, as an immaterial substance or form, cannot be technologically duplicated or divided. Thus, while Parfit's teletransporter may create a qualitatively physical duplicate of oneself such that qualitatively identical psychological states may be instantiated in two numerically distinct persons, only one of these duplicate sets of psychological states is grounded in the numerically same soul as the original person. Continuity of *soul* grounds one's persistent numerical identity, not mere psychological or physical continuity. Of course, each duplicate would phenomenally perceive herself to be the numerically same person and, if the duplicated person were a substance dualist or hylomorphist, would each claim that she has the original person's soul and not the other. There is thus no way to epistemically resolve this dispute; yet it remains the case that one of them is wrong and the other is right in claiming to be the original and not a mere "survivor" thereof.

Both substance dualism and hylomorphism provide a metaphysical grounding for the original person's persistent numerical identity as one of the resultant duplicates. One issue for substance dualism, though, is that it offers no criterion linking one's soul uniquely to a numerically identical body; in fact, one of Swinburne's thought experiments involves one's soul becoming causally linked to a numerically distinct body. Given this possibility, there is no principled reason why one's soul could not become causally linked to two numerically distinct bodies simultaneously, allowing for a Swinburnian form of Parfitian survival with the original person's soul becoming causally linked to each of the duplicate bodies. While each body would instantiate a unique first-person perspective, which would imply the existence of *two* souls respective of each, the possibility of one soul instantiating two distinct loci of self-conscious awareness is evinced by the phenomenon of dissociative personality disorder. For Thomistic hylomorphism, however, since one's soul is not equivalent to just one's mind but is also the *substantial form* of one's body, it could inform only one of the duplicate bodies. Hylomorphism thus

provides the only metaphysical grounding to affirm the persistent numerical identity of the original person who steps into the malfunctioning teletransporter with one and only one of the resultant persons, although it cannot be epistemically determined from either first- or third-person perspectives which of the duplicates' bodies is informed by the original's rational soul.

In eschewing substance and emergent dualism, Thomistic hylomorphism would seem to represent some sort of nonreductive materialist theory of human personhood. For Aquinas, a human person is essentially a living human animal, which is Olson's central thesis; however, unlike Olson, Aquinas does not identify a human animal with one's physical body. Rather, he maintains that certain capacities—self-consciousness, intellection, and autonomous volition—cannot be explanatorily reduced to the physical functioning of one's brain. This leads to a conclusion Olson vehemently rejects: a human animal may persist in a postmortem disembodied state (chapter 7). Nevertheless, Aquinas's view shares certain affinities with other materialist accounts discussed in this chapter, which have yielded important desiderata that an adequate account of human nature should satisfy. Such agreement is most evident with Baker's constitutionalist view insofar as it (a) acknowledges that self-conscious thought processes cannot be explanatorily reduced to neural functioning, (b) takes seriously that *embodiment* is a fundamental feature of human existence, (c) recognizes the ontological significance of being a *person*, and (d) preserves the *unity* of a human being as both a person and an animal.

Summative Excursus

Desiderata for an Account of Human Nature

Throughout my analysis of various contemporary views of human nature—substance dualism, emergent dualism, animalism, constitutionalism, four-dimensionalism, and the embodied-mind view—I have cited several desiderata that I contend such a view ought to satisfy:

(1) It is possible that human beings survive bodily death.
(2) It is acknowledged that human beings are biological organisms.
(3) The physical aspect of human nature is not defined in terms of the existence and persistence of material constituents alone but includes the proper organization and functioning of those constituents in a unified organism.
(4) It is acknowledged that conscious thought processes—of at least a certain type—are explanatorily irreducible to neural functioning.
(5) It is recognized that human beings are *persons* and thus add a significant ontological category of self-conscious, free, and moral beings to the universe.
(6) A human being exists as a *unified* entity, as both a person and an animal.
(7) There is no postulation of the existence of ontological entities beyond what may be necessary to account for the facts of human nature, both those that can be empirically verified and those that are held to be metaphysically possible, such as the possibility of postmortem existence.
(8) There is a strict criterion of identity for human beings that is both metaphysically determinate and empirically verifiable.
(9) It is coherent with the Transplant Intuition.

In chapter 1, I provided an initial sketch of each desideratum and a justifying rationale for valuing it as an evaluative criterion for different accounts of human nature. To reiterate briefly: (1) is a fundamental belief held by a significant percentage of human beings,[1] and thus an account of human nature that can account for its metaphysical possibility—if not demonstrability—will be stronger for it; (2) is derived from an evolutionary understanding of human biological and anthropological development, evidence of correlation between mental states and neural states, and the phenomenal experience of one's embodiment;[2] (3) is based on a rejection of mereological essentialism and validation of accounts of material constitution that preserve physical continuity despite changes of parts through time;[3] (4) is based on a rejection of reductivist or eliminativist accounts of the mind/brain relationship, as affirmed by alternative nonreductivist or property dualist accounts;[4] (5) is supported by the ontological significance of the whole new classes of causal properties exhibited by persons and the moral significance of the essential capacities of reason and autonomous volition that ground such causal properties; (6) is premised upon a rejection of substance dualism (chapter 3) and, as with (3), an appreciation of human beings' phenomenal experience of our embodied condition as *living, sentient animals*; (7) is an application of the *principle of parsimony*, otherwise known as "Ockham's Razor"; (8) involves the rejection of Derek Parfit's "survivalist" view, which allows for a person to survive as potentially multiple other persons so long as there is sufficient psychological continuity between them, and of noncriterialism, which denies that there are any criteria of identity over time for persons or objects; finally, (9) is supported by the strength of the metaphysical intuition that a person goes wherever her cerebrum—or at least a sufficient part thereof—would go if it were to be transplanted somewhere outside of her body and maintained in a functional state such that her consciousness, thoughts, and volitions persisted.[5]

While each of the various theories I have surveyed satisfies some of these desiderata, none but one of them satisfies the entire set. For example, substance dualism clearly satisfies (1) but not (6); emergent dualism fulfills nearly all of the desiderata, but Hasker does not provide an adequate response to (8). On the materialist side, animalism stresses (2) and (3), but Olson explicitly denies (5) and (9). Constitutionalism seems to fare the best in satisfying almost the entire set of desiderata but

faces objections noted above that call into question how effectively Baker's metaphysic accounts for (6) or may violate (7) with the "blooming ontology" problem. Four-dimensionalism is compatible with nearly all of the above desiderata, but, like constitutionalism, appears to violate (7) by leading to the conclusion that there are at least two persons—one for each cerebral hemisphere—sitting in my chair right now. Finally, while the embodied-mind view also fulfills most of these desiderata, its limitation of one's essential embodiment to a cerebrum—or a portion thereof—does not adequately account for the phenomenology of human beings' embodied condition qua animal as required by (6).

From the hylomorphic perspective, it is clear that (1) is satisfied by Aquinas's arguments that not only does a rational soul survive separation from its body but also a human being will experience a resurrection in which her soul reinforms its body (chapter 7). (2) is satisfied by Aquinas's definition of a human being as a "rational *animal*" and his further description of a human being as naturally composed of a body informed by a rational soul. A human being exists as an animal organism both when composed of her material body and also—as will be argued in chapter 7—when composed of her soul alone by virtue of her soul's possessing all the capacities proper to animal existence and serving as the "blueprint" for her material body.

The satisfaction of (3) follows from Aquinas's recognition that there is an "ebb and flow" to the material constituents of a living body. An animal's existence—and thus an embodied human being's existence—depends upon its having the proper parts organized in a certain functional manner: "For since the proper matter of a human being is a body mixed and having a certain temperament and having organs, it is absolutely necessary for a human being to have in himself each of the elements and humors and principal organs."[6] The exact micro-level material constituents of such parts, though, are unimportant and may be exchanged. As long as the conditions of "rigid embodiment" at a given time and "variable embodiment" across time are satisfied, the same living body—and hence the same human being—continues to exist.[7]

Aquinas satisfies (4) through his argument that a human being's intellective capacity does not function through a bodily organ and that the intellect includes a "self-reflexive" capacity that would be impossible if it were in any way material.[8] A human being's conscious intellective

and self-reflexive thought processes are not reducible to the neural functioning of a human brain or any other type of physical organ.

Aquinas's recognition that human beings are persons, by virtue of being "individual substances of a rational nature," satisfies (5).[9] Every existence of a human being entails the existence of a person. The significance of being a person is defined by Aquinas in terms of how a person's intellective capacity, and the volitional freedom that follows from this capacity, represent the highest form of existence that is possible for material beings. Human beings, as persons, occupy the highest level in the ontological hierarchy of beings composed of both matter and form and thus have the largest set of causal capacities through which they are able to affect their surrounding environment: "Further still, in a more special and more perfect way, the particular and the individual are found in rational substances, which have dominion over their acts and are not only made to act, as others, but act through themselves; for actions are in singulars. Thus individuals of a rational nature have a special name among other substances; and this name is *person*."[10] Additionally, Aquinas asserts, "*Person* signifies that which is most perfect in all of nature, namely, subsistence in a rational nature."[11]

Aquinas's assertion of the hierarchically ordered ontological distinctiveness of persons echoes one of Baker's central criticisms of animalism, focusing on the singular significance of self-conscious awareness:

> The abilities of self-conscious, brooding, and introspective beings—from Augustine in the *Confessions* to analysands in psychoanalysis to former U.S. presidents writing their memoirs—are of a different order from those of tool-using, mate-seeking, dominance-establishing nonhuman primates—even though our use of tools, seeking of mates, and establishing dominance have their origins in our nonhuman ancestors. With respect to *the range of what we can do* (from planning our futures to wondering how we got ourselves into such a mess), and with respect to *the moral significance of what we can do* (from assessing our goals to confessing our sins), self-conscious beings are obviously unique—significantly different from non-self-conscious beings.[12]

Baker enumerates the following ontologically significant features of the life of human persons that follow from our being self-conscious: natural

language, cultural achievements, rational and moral agency, control over nature, self-understanding, and inwardness.[13] These qualities are all captured by, or follow directly from, the Thomistic concept of persons as having an essentially *rational* nature, which is further specified to include self-consciousness, intellective thought, and autonomous volition.

The satisfaction of (6) is brought about by Aquinas's rejection of Platonic dualism's division of a human being into a "mover"—a soul—and that which it moves—a body. Aquinas complains that Platonic dualism does not allow for a human being to exist as "one unqualifiedly" (*unum simpliciter*) any more than one would say a sailor and the ship he pilots are "one unqualifiedly." Aquinas's description of a rational soul as something that is not a substance but something merely subsistent that is the substantial form of a human body and thus only one part of the human species allows him to assert an immediate unity of body and soul in the composition of a human being. As such, Thomistic hylomorphism takes seriously human beings' phenomenal experience of ourselves not merely as mental, cerebral, or temporal entities but as living, sentient animals.

That Aquinas postulates the existence of an immaterial soul as a subsistent component of a human being may seem to violate (7). As Aquinas argues, however, the existence of a rational soul that is both immaterial and subsistent follows from the fact that human beings possess self-conscious intellective capacities and autonomous volition. Furthermore, the existence of such a type of soul entails the metaphysical possibility of a human being surviving the death of her body while maintaining her personal identity. Aquinas's account of human nature is thus more complex than, say, Olson's animalism, by including an additional metaphysical part that Olson does not allow as a component of human nature. Nevertheless, Aquinas argues—effectively, I think—that an immaterial soul is required to explain certain features of human cognition. Aquinas, though, keeps his ontological commitments conservative in that he does not postulate an immaterial rational soul as a complete *substance* distinct from its body, as do dualists such as Plato and Swinburne.

Aquinas satisfies (8) by offering the persistence of the same soul as the criterion of identity by which the same human being persists through time and change, with or without her body. As will be further discussed in the following chapters, the persistence of the same soul during a

human being's embodied existence can be empirically verified by observing her body's vital activities. Since a rational soul is the substantial form of a human body, it is responsible for a human body's existence as a living animal organism. By observing the presence of a living animal organism, one can empirically verify the presence of the soul that informs it. Finally, Thomistic hylomorphism is compatible with the Transplant Intuition by allowing for a human being's rational soul to inform only her functioning cerebrum; thus (9) is satisfied.

I conclude that Thomistic hylomorphism adds a distinctive voice to the contemporary debate concerning the nature of human persons. Furthermore, Aquinas's hylomorphic account has certain advantages when compared with Swinburne's substance dualism, Hasker's emergent dualism, Olson's animalism, Baker's constitution approach, Hudson's 4DPartist view, and McMahan's embodied-mind account. Aquinas's account also satisfies the desiderata these other theories contribute toward a proper understanding of human nature. Though each of the other accounts I have examined fulfills certain of the above desiderata—some better than others—Aquinas's account satisfies the entire set. While Thomistic hylomorphism may not offer *the* best account of human nature, it at least provides an excellent foundation for developing one, thus meriting serious attention and further analysis—both expository and critical.

CHAPTER FIVE

Starting Out

The Beginning of Human Persons

There are myriad proposals in the philosophical and bioethical literature attempting to define when and under what conditions a human person comes into existence, ranging from conception to well after birth. At the former end of the spectrum is the view I will defend in this chapter as an interpretation of Thomistic hylomorphism, although, as will be seen, other hylomorphists contend that a human person does not begin to exist until some point after conception—either when a human embryo implants in the uterus or when cerebral activity commences in a human fetus.[1]

At the latter end of the spectrum is a set of views I will collectively term *performance theory*; for, on this view, something counts as a person only if it *actually performs* the definitive activities of persons.[2] Performance theorists offer varied lists of the essential activities in which persons engage; among those typically cited are rational thought, self-reflexive consciousness, using language to communicate, having non-momentary self-interests, and possessing moral agency or autonomy.[3] Since a newborn human infant is not capable of performing any of these activities until its brain has developed further, it does not yet count as a person and will not for quite some time—anywhere from nine months to two-and-a-half years after birth.[4] I will not address performance theory directly in this chapter, although, as will be shown, the ontological import of *potentiality* in hylomorphism provides a clear counterpoint to

performance theory. I will also not discuss attempts to locate the beginning of a human person's existence at birth, viability, or quickening, as none of these bear any metaphysical import; there is no evident ontological change, for instance, that a fetus undergoes by passing through the birth canal.[5] This leaves the following points or stages of embryonic/fetal development that are arguably of metaphysical significance in defining the beginning of a human person's existence: conception, uterine implantation, and cerebral development.

Dualist and Materialist Views of the Beginning of a Human Person

According to *substance dualism*, 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.[6] During a person's "normal earthly life," both components exist linked together. That a person "normally" exists as a soul and body linked together, however, does not entail that a person *must* exist in this way: a body is a *contingent* component of a person. A person is essentially a soul; and a soul may be temporarily linked to a body that, for that period of time, is also a component of the person.

It is difficult to determine when a person begins her life on a substance dualist construal of human nature. Since a person is identical to an immaterial soul, the beginning of a person's existence is the same as the beginning of her soul's existence; and it is debated among dualists, starting with Plato, whether one's soul *preexists* her body or comes into existence concurrently with her body.[7] The question of when a person begins her *biological life* is in terms of when a soul's union with a human body begins. There does not appear prima facie any clear criterion by which to demarcate this boundary. Richard Swinburne contends that what is required for a soul to be conjoined to a body is the latter's having the *potential* to develop through "normal growth" those features that are definitive of a soul: the capacity for logical thought, moral awareness, and free will.[8] The criterion of "normal growth" is applicable to a newborn infant, but also arguably to a developing fetus or even a fertilized zygote.[9] Starting from the premise that a soul does not begin to function through a body until that body develops a functioning cerebrum, Swin-

burne outlines two possibilities for when a soul begins to be conjoined to a body: either at conception insofar as an embryo's natural development will allow the soul to begin functioning about twenty weeks later, or just prior to when the soul begins to function—he affirms the latter.[10]

Emergent dualism implies a similar conclusion regarding the beginning of a human person insofar as the "conscious field," which is the essential feature of a person's existence, is generated by a sufficiently developed and functioning cerebrum.[11] A key difference between the two forms of dualism is that while, for the substance dualist, the conjoining of an immaterial soul to a body is an "all-or-nothing" affair, emergentism is compatible with—though it does not necessarily entail—a *gradualist* approach that describes a person as coming into existence processionally, as opposed to instantaneously. This view has the advantage of cohering with the developmental process of the fetal brain, which does not easily lend itself to pinpointing precisely when a person comes into existence.[12]

There is, however, a cost to accepting that persons gradually come into existence.[13] Two key advantages of substance dualism, as well as hylomorphism, are that it provides a stable metaphysical principle underwriting a person's persistent identity and that it accounts for the "primitive unity" of a person as an individual self. A developmental view of emergent personhood, on the other hand, "would require us to posit changing mereological complexity within the self"; it thus behooves the emergent dualist to hold rather that "at an early stage of physical development, a self emerges, having all the capacities of an adult human self, most of which, however, lie dormant owing to immaturity in the physical system from which it emerges."[14] This conclusion, though, returns us to the problem of specifying exactly *when* in the developmental process this sudden emergence of the self occurs.

According to *animalism*, a human being is fundamentally an animal of the species *Homo sapiens*.[15] One of Eric Olson's arguments for this conclusion involves appealing to what he calls "the fetus problem" faced by any account that takes personhood—defined in Lockean psychological terms—as human beings' substance concept.[16] By identifying a human being substantially as an animal, and hence the numerically same animal as the fetus out of which she develops, Olson can give a clear, biologically based answer to the question, "Where does a human person come from?": A human person is a human animal that has reached

a point in its biological development where it can sustain certain key psychological capacities. When a fetus becomes a person, it is not a case of one substance going out of existence and another coming into existence. Rather, a substance—the fetus—gains a phase sortal property: personhood. Olson considers a human being to come into existence when a human organism begins its functional biological existence, starting out as a living embryo, but not necessarily as a zygote that exists immediately after conception. Olson agrees with Norman Ford's argument—discussed below—that a zygote with human DNA is not thereby a human *organism*.[17]

Contrary to the animalist view, *constitutionalism* identifies a human being as fundamentally a person—defined as having the *capacity for a first-person perspective*—constituted by, but not identical with, a human animal.[18] A human organism does not constitute a person until it develops "the relevant neural structures" supporting the capacity for at least a "rudimentary" first-person perspective, which various species of nonhuman animals also exhibit. A rudimentary first-person perspective is a necessary, but not a sufficient, condition for a sentient entity to qualify as a person: "A being with a rudimentary first-person perspective is a person *only if it is of a kind that normally develops robust first-person perspectives.*"[19] This criterion would seem to lead to the conclusion that an embryo from conception counts as a person; however, Lynne Baker specifies that the relevant "capacity" for a rudimentary first-person perspective is akin to Robert Pasnau's definition—explicated below—of a "capacity in hand" to immediately engage in the relevant activity, as opposed to a more remote capacity to develop a capacity to engage in such activity.[20] Hence, she concludes that a fetus without a sufficiently developed brain does not constitute a person, whereas a newborn human organism does, even though the newborn has not yet manifested a first-person perspective.[21]

Hud Hudson lays out his *four-dimensionalist* ontology by delineating three different phases of a human organism's existence: "Vital," "Feeler," and "Thinker." Vital is a living human organism, Feeler a sentient animal, and Thinker "the one and only person in our story."[22] Vital is the temporally longest existent, from the beginning of the organism's life to its death;[23] Feeler shares a significant portion of Vital's existence but comes into existence later, during fetal development; Thinker also

shares part of both Feeler's and Vital's existence but comes into existence later than Feeler. Hudson later names some additional objects: "Scattered," "Embryo," "Fetus," and "Infant." Scattered is a sperm-egg pair prior to their union at conception; Embryo is a presentient human organism; Fetus is a sentient human organism prebirth; and Infant is a born human organism. Hudson defines these objects in the context of cases in which each ceases to exist prior to the next object coming into existence. Thus, for example, Embryo is disaggregated to derive human embryonic stem cells before Fetus comes into existence, and Infant is killed prior to developing the capacity for self-conscious rational thought and autonomous volition. Hence, none of these objects stage-shares with Thinker; and so none counts as a person, has a person as a proper part, or is a proper part of a person. Fetus and Infant have a *sentient* organism as a proper part, though Hudson argues against this being sufficient to ground any moral conclusions regarding whether ending the existence of Scattered, through contraception, or of Embryo, Fetus, or Infant through abortion or infanticide is permissible.[24]

Hudson counters the claim that Embryo, Fetus, and Infant possess more value because they are *potentially* persons by virtue of the fact that, if they were not killed, they would eventually stage-share with Thinker. The problem, Hudson argues, is that—because of his adoption of *unrestricted mereological composition*—an ancient Babylonian sandal would have the moral worth of a person because it stage-shares with President Obama.[25] There are legitimate reasons, however, given Hudson's particular variety of four-dimensionalism, "for claiming that some but not all potential thinkers are themselves persons even when they have not yet manifested that potential."[26] It could be argued—on the basis of premises that will be elucidated and defended below—that Embryo, Fetus, and Infant are "the same kind of stages" of Thinker insofar as they are all stages of a *living animal*: Vital. Conversely, neither Scattered nor an ancient Babylonian sandal counts as a living animal, even if such objects may stage-share with a living animal by means of mereological gerrymandering. Furthermore, the concept of personhood is arguably best applied to the entire existence of a human organism—Vital—and not only to Thinker.[27] If such arguments stand, then there is good cause, even within Hudson's "preferred metaphysics," to delineate the boundaries of personhood coincidentally with those of a human organism.

Finally, Jeff McMahan defines human persons as essentially *embodied minds*, whose persistent identity consists in the physical and functional continuity of one's cerebrum—or one or more specific region(s) thereof—capable of generating consciousness. He thus does not consider an embryo or early-term fetus to be a person.[28] Sometime between twenty and twenty-eight weeks gestation, the fetus has undergone sufficient neural development to generate at least rudimentary conscious states and thereby to qualify as a person ontologically.[29] Morally, however, McMahan employs a *time-relative interest* account of moral status to argue that a fetus's interests are sufficiently weak to be overridden by a woman's interest in terminating her pregnancy, particularly if her health or life is at stake.[30] He also allows for the killing of preimplantation human embryos for stem cell research insofar as they have yet to develop any neural tissue,[31] as well as infanticide of severely disabled newborns, whose time-relative interest in continued life is no stronger than a viable late-term fetus's simply by virtue of having passed wholly through the birth canal and thus may be outweighed by their putative interest in not living with a severe disability along with relevant interests of others who would be involved in their care and support.[32]

Unlike performance theorists, McMahan's account does not require one to be *actually* conscious in order to be a person; rather, what is required is having the relevant neural structures to instantiate the functional patterns that generate consciousness. In short, one must have the *capacity* for consciousness—akin to Pasnau's concept of a "capacity in hand" described below—and not merely the *potential* to develop such a capacity. One criticism of McMahan's view calls attention to the fact that the numerically same embryo—if allowed to develop—will develop into an organism with the right type of brain to generate a conscious mind: "If the part of the organism that is the brain is the source of the mind, and the embryo is the beginning of an organism that will have a brain, it is not clear why the embryo is not the beginning of us—us under construction—even though it is not yet us (i.e., an embodied mind)."[33] McMahan offers an extensive critique of accounts that ground the ontological and moral status of a person in having merely the potential to develop a brain capable of generating a conscious mind, which will be addressed later in this chapter.

Hylomorphic View of the Beginning of a Human Person

While Thomistic hylomorphism has certain affinities with each of the above views of human nature, it nevertheless offers a unique perspective that yields a distinctive conclusion concerning when a human being first comes into existence.[34] As discussed in chapter 2, Aquinas defines a person as "an individual substance of a rational nature."[35] He further asserts that all human beings are persons but that an embryo or fetus is not a human being until its body is informed by a "rational soul."[36] Aquinas's explicit account of human embryogenesis has been generally rejected because of its dependence upon medieval biological information. A number of scholars, however, have attempted to combine Aquinas's basic metaphysical account of human nature with current embryological data to develop a contemporary Thomistic account of a human being's beginning.[37] Some Thomistic scholars argue that an early-term embryo lacks the necessary intrinsic qualities to be rationally ensouled until it reaches a certain point in its biological development. Others contend that there is nothing about an embryo's biological nature, from the moment the process of fertilization is complete, that disallows its being informed by a rational soul.[38] I will elucidate Aquinas's account of human embryogenesis and critically examine the contemporary Thomistic views that have been proposed.

Aquinas's Account of Human Embryogenesis

Aquinas understands a human being to be composed of a rational soul informing a material body (chapter 2). For a body to be rationally ensouled, it must possess the relevant *potentialities* for the soul's proper operations,[39] which requires the body to have the appropriate organic structure.[40] The appropriate organs are those associated with sensation, because it is through sense perception of particular things that the mind comes to possess intelligible forms, which are the natures of things understood as abstracted from any particular material conditions—for example, "humanity" as opposed to "*this* human being." The abstraction of intelligible forms from the products of sensation is the essence of rational thought: "Therefore, the rational soul ought to be united to a body that may be a suitable organ of sensation."[41]

This understanding leads Aquinas to develop an account of successive ensoulment in a human embryo's formation. After conception occurs, a material body exists that is informed by a vegetative soul—that is, an entity that is alive at the most basic level.[42] As the early embryo develops and its organic structure increases in complexity to the point where it can support sensitive operations, the embryo's vegetative soul is annihilated and its matter is informed by a sensitive soul. Since, as discussed in chapter 2, a living thing's numerical identity is determined by its having the same soul, the early vegetative embryo has ceased to exist and a new animal life form with the capacity for sensation has come into existence.

The final stage of prenatal development occurs when the sentient fetus has developed a sufficiently complex organic structure to allow for rational operations.[43] At this point, the sensitive soul is annihilated and the merely sentient fetus ceases to exist as its matter becomes informed by a rational soul.[44] Since Aquinas defines a person as "an individual substance of a rational nature" and since all human beings are persons, a developing embryo or fetus is neither a person nor a human being until it is informed by a rational soul.[45]

The basic metaphysical principle Aquinas employs in this account is that a rational soul does not inform a physical body unless the body is properly disposed for that type of soul. The requisite disposition is the body's having sense organs and a brain capable of processing sensory information so that the mind may abstract intelligible forms. A body disposed in such a way does not seem to exist immediately after fertilization but only after first a vegetative embryo and then a sentient fetus have existed. Aquinas thus concludes that a living, sentient, and rational human being does not begin to exist until some point well after conception.[46]

Ensoulment with Cerebral Development

In offering a contemporary interpretation of Aquinas's account of human embryogenesis, Joseph Donceel and Robert Pasnau each argue that the potentiality for rational thought is present only when a fetus has developed a functioning cerebrum.[47] This conclusion is purported to follow from the fact that a functioning cerebrum is required for rational

thought to occur because it is the organ of a human being's sensitive and imaginative capacities, and cerebral neural activity is correlated with rational operations. In critically analyzing this conclusion as an interpretation of Aquinas's view, we must consider carefully Aquinas's notion of "potentiality" and how it should be applied to determine when a human embryo or fetus first has the potentiality for rational thought.

Aquinas distinguishes between an "active potentiality"—or "first actuality"—to perform some operation and the actual operation—or "second actuality"—that is brought about through some additional cause.[48] Something has an active potentiality if it has within itself everything necessary, given its proper *design environment*, to actualize itself in the relevant manner.[49] The locus of a substance's set of active potentialities is its *substantial form*, as described in chapter 2. By contrast, something has a passive potentiality if it can be the subject of externally directed change such that it can become what it is not already.[50]

Furthermore, active potentiality comes in two varieties, as distinguished by Aristotle: "We can speak of something as a knower either [1] as when we say that man is a knower, meaning that man falls within the class of beings that know or have knowledge, or [2] as when we are speaking of a man who possesses a knowledge of grammar; each of these has a potentiality, but not in the same way: the one because his kind or matter is such and such, the other because he can reflect when he wants, if nothing external prevents him."[51]

[2] is what Pasnau refers to as a "capacity in hand" to perform an operation, which means that no further development or significant change is required for the potentiality to be actualized.[52] For example, a person may have a capacity in hand to speak Spanish if she majored in it in college; but it may be the case at any one moment that she is not using this capacity and so it is not in actual operation, as it would be if she were actually speaking Spanish at that moment. [1] is what Norman Kretzmann refers to as a substance's "natural potentiality" to develop a capacity in hand to perform an operation.[53] For example, before having learned Spanish and thereby developed a capacity in hand to do so, a person would have a natural potentiality to develop this capacity, as opposed to a dog or a plant, which lacks such a natural potentiality. Any human person is born with an innate cognitive architecture that allows her to acquire a language, Spanish or otherwise;[54] other sentient animals

apparently lack such cognitive architecture. Of course, actualizing a human person's natural potentiality for language acquisition requires external input—textbooks, teachers, exposure to native speakers, et cetera—but the natural potentiality itself must be *active* if such input is to be effective. While the actualization of this potentiality may alter a person from being a non–Spanish speaker to being a Spanish speaker, it does not alter her essential nature as a human person with a natural potentiality to acquire languages such as Spanish. Any natural substance has numerous natural potentialities as defined by its essence, some of which may be developed into capacities in hand while others are left undeveloped.[55]

Because a substance possesses its essential set of active potentialities by virtue of its substantial form, which is also what grounds a substance's persistent numerical identity, it follows that (a) something that has an active potentiality for rational thought *already* possesses the essential nature definitive of personhood, and (b) something that lacks such a potentiality, even though it may have the passive potentiality to obtain it, does *not yet* possess the nature of personhood and thus must undergo a change in both specific and numerical identity if it is to become a person.[56]

It might be objected that (a) does not follow insofar as possessing an active potentiality for rational thought no more makes one a person than possessing an active potentiality to learn Spanish makes one a Spanish speaker. But there is a salient difference between these two active potentialities insofar as the potentiality to learn Spanish requires external assistance—a teacher, book, or computer program—to *teach* one how to speak Spanish, to change one from a non–Spanish speaker into a Spanish speaker. This form of external assistance differs *in kind*, however, from the supportive uterine environment a woman provides for an embryo or fetus to develop *on its own*—that is, without any further alteration from an external source to, say, change its genome—into an actually rational being. Left to its own devices, an embryo or fetus *in utero* will naturally come to actualize its potentiality for rational thought; left with merely a supportive environment—air, food, and water—with no further external assistance, a person *on her own* will not be able to actualize her natural potentiality to speak Spanish.

Active potentiality refers to something's capacity to *be* a certain way, as opposed to merely the possibility of its *becoming* something.[57] For ex-

ample, a sperm or ovum would possess the relevant active potentialities definitive of personhood only if it could come to actualize those potentialities while preserving its numerical identity—that is, if it remained the *same* substance identical with itself throughout its development from a germ cell to an actually rational person. A change, however, from a germ cell to a person does not appear to be an identity-preserving transformation: a sperm loses its substantial identity when it fuses with an ovum, and vice versa, to form a new substance—an embryo.[58] Michael Lockwood thus errs when, discussing the ontological status of an embryo produced through in vitro fertilization, he claims that, "to the extent that a fertilized human ovum in vitro has an active potential for developing into a human person, so do the contents of the petri dish prior to fertilization."[59] Lockwood neglects to take into account the lack of numerical identity between a sperm and ovum in a petri dish prior to fertilization and the zygote produced once they conjoin.[60] Therefore, the only sense in which a germ cell may plausibly be called a "potential person" is in the weak sense that it provides the *makings* of a person.

With the Aristotelian concept of potentiality in mind, I follow Aquinas in contending that *all that is required for something to be a person is for it to have at least an active potentiality, in the form of a natural potentiality, to perform rational operations*. The actual performance of such operations is accidental to a person's existence.[61] A developing embryo or fetus possesses an active potentiality for rational thought, although it cannot yet actually think in such a manner. By contrast sperm and ova do not have such an active potentiality: "[Things] are always in potentiality to actuality when they can be reduced to actuality by their proper active principle with nothing external hindering them. However, seed is not yet such. For it must be by many changes that an animal comes from it. But when by its proper active principle, namely, something actually existing, it can already become such, it is then already in potentiality."[62] A sperm or ovum—"seed"—is best understood as having a passive potentiality to become a person. Each must undergo change brought about by an extrinsic principle—namely, union with the other gamete—that transforms them into a substance with active potentialities for the definitive operations of personhood. Once this substantial change occurs, a person exists even if she is not actually exercising all of her definitive operations.

The change required for something to actualize an active potentiality is brought about by its "proper active principle." An active principle is required because a potentiality can be actualized only by something that is already in a state of actuality. Something can be moved from a state of potentiality to a state of actuality only by some active principle that is either internal or external to it. A sufficient condition for something's having an active potentiality is if it can actualize the potentiality by some active principle *internal*—that is, "proper"—to it. Furthermore, for a natural living organism, its *ordered natural development*, the principle of which is active and internal to it, is sufficient for it to *be* that toward which it is developing. As Aristotle concludes in his *De generatione animalium*: "When we are dealing with definite and ordered products of nature, we must not say each *is* of a certain quality because it *becomes* so, rather that they *become* so and so because they *are* so and so, for the process of becoming attends upon being and is for the sake of being, not vice versa."[63]

Consider a key difference between a natural living organism and an *artifact*: namely, the location of their respective "formal causes."[64] When a builder is building a house, the formal cause of the house is the idea the builder has in her mind of how the house should appear—that is, what structure it is to have—once completed. Perhaps this idea has been materially instantiated in a blueprint. Once the house is completed to the builder's satisfaction, in accord with the mental or printed blueprint, the formal cause is now located in the house itself. The matter, having been assembled in the proper fashion, has taken on the form of the house that was previously found only in the blueprint. The form of the house is not present in the matter composing it until the building process is complete.

For a living organism, however, there is no analogue to the builder in whose mind the formal cause of the organism is located—putting aside the possibility that God acts as such a builder. Rather, the formal cause must be located within the organism itself as it is dynamically developing toward its final appearance and structure.[65] A living organism's blueprint is internal to it in a way that a house's blueprint is not, since the latter has an *external* efficient cause that brings it from being potentially a house to being actually a house. A living organism, which has an *internal* efficient cause of its development, must be guided in its devel-

opment by the formal cause already instantiated in it as it moves from being, for example, a person with the potential for rational thought to a person who actually thinks rationally after having developed the requisite organic structure.[66]

A person's substantial form is thus present in the matter composing her from the moment her development begins. Once conception occurs, an embryo has a complete human genome and other cytoplasmic factors that are sufficient—given a supportive environment—for it to develop a functioning cerebrum supportive of self-conscious rational thought.[67] From this fact, one can infer that an embryo, well before it forms a functioning cerebrum, possesses an active potentiality for rational thought insofar as it has a natural potentiality to develop a capacity in hand to engage in such operations.[68]

While the interpretations offered by Donceel and Pasnau closely follow what Aquinas explicitly says concerning embryogenesis, they do not correctly take account of the role Aquinas's nuanced concept of "active potentiality" plays in defining the nature of a human embryo in the light of contemporary genetic understanding.[69] Evidence that a human embryo has an active internal principle guiding its ordered natural development into a being that actually thinks rationally is arguably sufficient to conclude that it is already a rational human being: it has an active potentiality for rational thought and is thereby informed by a rational soul.

A further problem may be raised for Pasnau's interpretation of the concept of active potentiality as referring only to having a "capacity in hand" to perform some operation. Take, for example, having an active potentiality for sight. According to Pasnau's criterion, I have an active potentiality for sight only if I have the proper material structure necessary for this potentiality to be actualized and am simply not utilizing the requisite organ(s)—perhaps because I am asleep or have my eyes closed. Thus I need at least one functioning eye, optic nerve, and visual cortex in order to have an active potentiality for sight.

But consider a case in which a defect in my biological development led to my never developing eyes, optic nerves, or a functioning visual cortex. On Pasnau's interpretation, Aquinas must conclude that, since I lack the proper material structure to see actually, I lack an active potentiality for sight. According to Aquinas, however, a rational soul has all

the active potentialities that are definitive of a sensitive soul, which includes that of sight.[70] Thus, since my being informed by a rational soul is sufficient for my having an active potentiality for sight and since obviously I am informed a rational soul, I must have an active potentiality for sight. This contradicts the conclusion at which Aquinas must arrive on Pasnau's interpretation. On my interpretation, having an active potentiality for sight requires only that I have the proper material structure to develop naturally the requisite organs to actually see, which I have by virtue of my genome, and my not developing such organs can be explained by an external factor that inhibits the actualization of this potentiality. This conclusion allows for Aquinas to assert that I am informed by a rational soul and thus have an active potentiality for sight despite my lacking the requisite organs to actualize this potentiality.

Ensoulment at Implantation

Norman Ford argues that neither an active potentiality for rational thought nor a human embryo's existence as an "individual substance" is possible until approximately fourteen days after fertilization is complete. At this time, the embryo implants in the uterine wall and begins to form the "primitive streak," which is the "epigenetic primordium" of the central nervous system: the brain and spinal cord.[71] The primitive streak's formation indicates that an embryo is beginning to develop a cerebrum and thereby demonstrates its having an active potentiality to engage in rational operations. The occurrence of this event also signals an end to the possibility of twinning: an embryo's division into one or more genetically identical, completely separate organisms.[72] Ford contends that a preimplantation embryo's intrinsic capacity to twin indicates that it is not a unified, individual substance; rather, it is a conglomeration of individual cells.[73] Once twinning is no longer possible and an embryo's cells have begun to function collectively as one organism—evidenced by the loss of cellular totipotentiality—there is sufficient evidence to warrant the assertion that the embryo is informed by a rational soul.[74] Thus, Ford concludes, a human being begins to exist approximately two weeks after conception.

Ford begins by considering the possibility that an individual human being begins to exist at conception. He asserts that, at the completion of

fertilization, there exists something that has a unique genetic identity and a unique ontological identity *as a biological cell*. It does not, however, have a unique ontological identity *as a human being*. After the first mitotic event—the first division of a one-celled zygote—two cells exist that have the same *genetic* identity but are *ontologically* distinct.[75] The same follows for every event of cellular mitosis until the point is reached when mitosis that results in ontologically distinct beings can no longer occur.

The ontological uniqueness of each cell in a preimplantation embryo is evidenced by the lack of differentiation among them. Cells remain undetermined for quite some time as to where they will go and what role they will play in the developing organism. The same indeterminism occurs in cases of twinning. A single cluster of cells is shared in the early developmental process by what will become two ontologically distinct organisms; to which organism each cell will ultimately go is largely undetermined.[76]

Ford concludes, on the basis of the lack of cellular differentiation and the possibility of twinning, that a preimplantation embryo cannot be a person according to Aquinas's definition since it is not an "individual substance." The primitive streak's appearance, coincident with uterine implantation, indicates an embryo's existence as an ontologically unique organism informed by a rational soul.[77] At the formation of the primitive streak, there exists a living biological organism, capable of nutrition and growth, developing the earliest biological tools necessary for sensation, imagination, and rational thought; all these powers are correlated with the brain and spinal cord that develop from the primitive streak. The specific powers of sensation and rational thought are not actualized until the required organs begin to function; however, a rational soul is active by informing the body in its development of the requisite organs.

Therefore, Ford concludes that a human being begins to exist as an individual biological organism with the capacities of life, sensation, and rational thought at the moment the primitive streak begins to form, twinning is no longer possible, and cells that form the embryo proper are determined to the end of constituting a human being and to no other.[78] Critics of Ford's position argue that cellular totipotentiality does not imply a lack of organic unity, organized cellular functioning to

sustain the life of a single organism begins when fertilization is complete, and the possibility of a preimplantation embryo dividing into genetically identical twins does not count against its existence as an individual substance.

"Organic" unity is often understood as a definitive sign of the "substantial" unity required in Aquinas's definition of personhood. Since, however, Aquinas holds strict criteria for something to have substantial unity, it is necessary to see if the concept of organic unity satisfies the relevant criteria. As discussed in chapter 2, Aquinas analyzes various ways in which something may be considered a "unity." For example, a heap of stones is a unity in terms of the constituent stones being spatially contiguous, a house is a unity in terms of its constituent parts being functionally organized in a certain fashion, and a mover and that which it moves are a unity in terms of their agent/patient relationship.[79] None of these types of unity count as substantial unity, though. Aquinas defines a substance as *unum simpliciter* ("one unqualifiedly"). Examples of things that are *unum simpliciter* are elemental substances, certain mixtures of elemental substances, immaterial substances, and living organisms.[80] Aquinas understands living organisms "to have a unity fundamentally different from that of nonliving aggregates."[81]

The unity among a living organism's parts is signified by their *interdependent* functioning. Mere "functional unity" is not sufficient for substantial unity. The bricks, roof tiles, wood beams, et cetera, that compose a house are functionally unified in that they must all be organized in a certain fashion relative to each other in order for the house to exist with its proper structural integrity; but a house is not *unum simpliciter*. A house's functional unity is distinguished from that of a living organism because a living organism's parts depend upon their functional relationship to each other for their very existence as the types of things they are.[82] A brick depends upon its functional relationship to the other parts of a house in order to exist "as a part of the house," but it does not depend upon that relationship in order to exist "as a brick." An organ, such as an eye, that composes an organism depends upon its functional relationship to the organism's other organs, not only for its existence "as a part of the organism," but also for its existence "as an eye." Aquinas asserts that an eye that is functionally disconnected from a living organism can be called "an eye" only equivocally; it is no longer an eye in the proper sense of the term.[83]

For Aquinas, a living organism's organic unity—defined in terms of the interdependent functional relationship among its parts (cells, tissues, organs, etc.)—is a paradigmatic example of substantial unity. In critically examining Ford's account, then, it is necessary to determine whether the cells composing a preimplantation embryo are functionally interdependent. Evidence of their functional interdependence would make it reasonable to assert that a preimplantation embryo has organic, and thus substantial, unity.[84]

There is evidence of an inchoate organization and intercommunication among an embryo's cells that may be indicative of their functional interdependence.[85] Such evidence includes their coming together at implantation to form the primitive streak, as well as other embryonic and extraembryonic tissues shortly thereafter.[86] Additionally, an embryo has an "identifiable body plan" before implantation and formation of the primitive streak: "Recent advances in embryology indicate that the 'blueprint' for the entire human body is defined within the first few hours of life, even as early as the one-cell zygotic stage of development, when the definitive axes associated with the emergence of the primitive streak appear."[87]

Furthermore, Ford acknowledges that there is some sort of "clock" mechanism programmed in a zygote's DNA that guides organic development and "continues through childhood for the growth of teeth, biological changes at puberty, adulthood etc. right through to old age."[88] This clock "seems to be set from the time of fertilization, with each cell's 'clock' running in dependence on, and in co-ordination with, what is happening in its surrounding cells."[89] Ford interprets this phenomenon as supporting his view that each cell constituting a preimplantation embryo is a distinct individual organism that has its own internal clock, which is synchronized with the clocks of the other cells. Such harmonious synchronization, however, is arguably what one would expect if such cells were, "not a mass of distinct individuals, but integral parts of one developing *individual*."[90]

Finally, the apparently random nature of cellular differentiation—which parts of the body or extraembryonic organs each cell will ultimately form—also does not preclude an early embryo's internal organization: "The fact *that* these cells differentiate at all, and in particular ways, suggests the existence of a determining factor or organising principle that is internal to the embryo."[91] Benedict Ashley goes further to

describe the differentiation that occurs as early as the zygote's first cleavage: "From the moment of fertilization there already exists in the zygote (and this was probably already pre-determined in the ovum) a metabolic *polarity*, with the nucleus determining the upper pole of the metabolic gradient, and a *bilaterality* which will eventually be fundamental to the plan of the adult body. Consequently, as the first cell-divisions take place, there is already some differentiation in the cytoplasm of the daughter cells. They may be totipotential when separated, but as existing in the morula, they already constitute heterogeneous parts."[92] Various studies on the development of mouse embryos support Ashley's description of an inherent organizational structure in a zygote and its daughter cells that determines an early embryo's future biological development.[93]

Hence, there is evidence that a preimplantation embryo, despite the totipotentiality of its constituent cells, has an intrinsic organization grounded in its unique genetic identity to grow by cellular mitosis, implant itself in its mother's uterus, and develop into a mature human being capable of rational thought. Evidence of a preimplantation embryo's organic unity provides a reasonable foundation for asserting its substantial unity, fulfilling Aquinas's requirement that something be *unum simpliciter* in order to count as an "individual substance."

The totipotentiality of a preimplantation embryo's constituent cells also allows for it to potentially divide into genetically identical twins. Ford argues that it is metaphysically problematic for one individual organism to give rise to two distinct organisms; especially in the case of rationally ensouled organisms.[94] The following questions arise: Does the rational soul informing the first organism divide? Do all the organisms share the same rational soul with the original? Does the original organism cease to exist, its soul separating from its matter, and are two new rational souls created to inform the divided matter? There is also a fundamental issue concerning *identity*. That something is identical to itself is necessary, and the relation of identity is transitive. Hence, a zygote is identical to itself, and if a preimplantation embryo has the same rational soul as the zygote from which it developed, then the embryo is identical to the zygote. If the embryo divides into twins, it appears that each twin is identical to the original embryo and thus to the zygote. The twins are obviously not identical to each other, but they must be identical if they are both identical to the original embryo, since identity is transitive.

Therefore, an incoherency seems to follow from the assertion that an embryo capable of dividing into twins is a substance identical with itself.

An alternative depiction of the twinning phenomenon, however, involves the original rationally ensouled embryo losing some of its matter and the matter becoming informed by a new rational soul.[95] On this construal of the twinning phenomenon, when one organism, *A*, divides into two organisms, *B* and *C*, either *B* or *C* is identical to *A*,[96] because one of them has the same rational soul as *A*. If, say, *B* is identical to *A*, then *B*'s existence can be traced back to the one-celled zygote from which *A* developed before its division. In this case, *C* is not identical to *A*, because it is informed by a new rational soul created at the moment of *A*'s division.[97] Therefore, since it is not the case that both *B* and *C* are identical to *A*, no incoherency follows from *B* and *C* not being identical to each other and *A* being a substance identical to itself.

There is no evident *epistemic* criterion for determining which of the twins, *B* or *C*, has the same rational soul as *A* and which is the new organism generated by a new rational soul informing matter that previously composed *A*. Epistemic uncertainty regarding which twin is identical with *A*, however, does not preclude the metaphysical claim that one of the twins is identical with *A* while the other is not. Some sort of metaphysical criterion for establishing the identity of either *B* or *C* with *A* remains desirable, however, and may arguably be required if the identity of *A* with either *B* or *C* is to be coherently held.

There are a couple of strategies for responding to this desideratum.[98] The first is to postulate a fundamental *quiddidative* property—recall Swinburne's "thisness" (chapter 3)—that ontologically individuates two qualitatively—in this case, genetically—identical substances. This postulate coheres with hylomorphism insofar as a substantial form, individuated by its inherence in a particular parcel of designated matter, establishes a substance's quiddidative identity (chapter 2). Since *B* and *C* are two distinct parcels of designated matter, each has its own substantial form, and nothing precludes one of them from having the same substantial form as *A* and thereby bearing the same quiddidative property as *A*.[99] The second strategy is to deny the requirement of any metaphysical criterion of identity, since any of the proposed criteria fail to coherently ground any "further fact" to explain identity beyond the bare fact of identity itself.[100]

Given this ontological picture of the phenomenon, natural embryonic twinning is akin to the artificial production of a "clone" insofar as an external agent acts upon an organism to separate some of its matter from it and the matter comes to constitute a genetically identical organism with its own substantial form.[101] While the biological process of twinning is not fully understood, it appears to be a random event, with no apparent internal genetic factor or any clear environmental factor that causes an embryo to twin.[102] To the best scientific understanding, it is as likely that twinning is caused by factors respective of the uterine environment acting upon weak intercellular bonds to cause the embryo to lose some of its cells as it is that an embryo is genetically "programmed" to divide. If there were a genetic determiner for twinning intrinsic to an embryo, then one could argue that this factor precludes an embryo that has it from being an "individual substance" prior to its division.[103] There is, though, no conclusive evidence of an intrinsic genetic determiner for twinning.

It would thus be misleading to equate the *biological* totipotency of the cells constituting a preimplantation embryo with Aquinas's *metaphysical* concept of active potentiality. To say that such cells are biologically totipotent means only that they may come to constitute any of the embryo's tissues or organs, or that—if a group of them separates from the embryo—they may constitute another embryo. No implication follows as to whether the cells possess an active or passive potentiality to constitute another human being. If biological totipotency entailed that each cell had an *active* potentiality to form another human being, which would certainly count against a preimplantation embryo being *unum simpliciter*, then each cell would have to have a proper active principle internal to it that determined it to develop into another human being. But it is not evident that the cells constituting a preimplantation embryo have such an intrinsic principle insofar as they do not in fact develop into another embryo while they constitute the original embryo. Nor, as noted above, do such cells have any sort of intrinsic determining factor by which some of them may be destined to separate themselves from the original embryo and form another. It is thus evident that the biological totipotency of a preimplantation embryo's cells equates with a *passive* potentiality to form another embryo if an external agent acts upon the embryo to separate some of its cells from it; once separated, however, the

cells would have an active potentiality to develop into a fully actualized human being.

On this view, when an embryo twins, it is not the case that it "divides" but that it loses some of its matter. Since the separated matter has an active potentiality to develop into a human being, it is immediately informed, once separated, by a rational soul. It is not necessary to accept Ford's conclusion that a preimplantation embryo's potentiality to divide is a threat to its previous substantial unity: "For, because a thing is divisible, it is not thereby many except potentially."[104] Furthermore, the understanding of twinning as an event in which an embryo merely loses some of its matter allows for an embryo to maintain its substantial unity through the twinning process; and thereby one of the resultant twins is identical to the original embryo.[105]

Therefore, the possibility of a human embryo dividing into genetically identical twins does not preclude its being informed by a rational soul. Nevertheless, even if one grants that cellular totipotentiality and the possibility of twinning do not preclude a preimplantation embryo's existence as an individual substance with organic unity, more needs to be said to support the assertion that the embryo is informed by a *rational* soul, as opposed to a merely vegetative or sensitive soul, especially given that Aquinas explicitly holds that an embryo is first informed by a vegetative soul. Responding to this issue requires providing a reason to think that a preimplantation embryo has an active potentiality for rational thought.

Ensoulment at Conception

John Haldane and Patrick Lee interpret Aquinas as holding that only the *epigenetic primordia* for the biological structures proper to a human being are required for rational ensoulment.[106] This interpretation is based, in part, on Aquinas's recognition of a prenatal human being's gradual development in terms of the actualization of its various potentialities.[107] Ashley concurs and argues that a human zygote contains the relevant primordia by virtue of its DNA-filled nucleus, which functions as the "control center" that regulates embryonic biological functioning, such that a zygote is a unified, individual substance from fertilization onward.[108] John Mouracade also affirms the functional equivalence of

DNA and form, which supports the presence and activity of the former serving as an indicator of the presence and activity of the latter:

> Thus, naturalistically acceptable teleological explanations in biology allow for the understanding of DNA as a paradigmatic case of Aristotelian form. The genetic code is present in the living organism and plays an active role in coordinating and maintaining the life functions of the cell or organism in pursuit of the ends given by the genetic code itself. By structuring the matter of the cellular environment for the purposes of replication, growth, development, metabolism, photosynthesis and other life processes, DNA is the internal source of unity for a living thing. This is exactly what Aristotle takes form to be, the internal source of unity that structures the individual in pursuit of a telos.[109]

The only caveat I would add to Mouracade's comparison is that he implies that the form of a living organism—human or otherwise—is *identical* to its DNA; however, DNA is itself informed matter and thus cannot be identical to the substantial form of the body of which the DNA is a part. Rather, an individual living organism's possession of active DNA guiding its development into a mature member of its species—the *telos* to which Mouracade refers—serves as material *evidence* that the substantial form of that species is actively informing the organism's body. Furthermore, DNA alone is insufficient for a zygote to realize its developmental potential: "In the production of an organism, segments of DNA interact with proteins, metabolites, nutrients, and other segments of DNA according to a specifically structured (though flexible) schedule within a specifically structured (though not invariant) environment which enables such interactions and which is necessary for their occurrence."[110]

In line with Ashley's view, Aquinas holds that animals—human and nonhuman alike—possess a "primary organ" by which a sensitive or rational soul's power to move the various parts of its body is manifested.[111] Aquinas asserts that the primary organ is the foundation of an animal's unity as an organic substance and thus indicates that the animal is ensouled. In fact, all parties discussed in this debate recognize the need to define a primary organ in order to assert that a developing

human embryo has a rational soul. Donceel and Pasnau contend that the primary organ is the brain with a functioning cerebrum because it is directly correlated with both rational operations and metabolic regulation. Ford argues that the primitive streak is the primary organ, because it is the epigenetic primordium for the brain and nervous system. Ashley finds the zygotic nucleus to be the primary organ, as it is the epigenetic primordium of the primitive streak, and thus of the brain and nervous system.[112]

The zygotic nucleus not only functions as a preimplantation embryo's metabolic regulator but also is the epigenetic primordium for the organ correlated with rational operations: the cerebrum formed out of the primitive streak. This supports the conclusion that a one-celled human zygote is informed by a rational soul.[113] It is important to note that it is not merely because of its unique genetic identity that a zygote is an individual human being; for its genetic identity will not remain unique if an identical twin or a clone is formed and will not be sufficient for a human being to develop if a hydatidiform mole is produced.[114] A zygote must also have a primary organ and any other intrinsic biological factors necessary for its epigenetic development into an actually thinking rational human being.[115] In normal cases, a human zygote has an active potentiality to be, through development, an actually thinking rational human being; and this is sufficient to conclude that it is informed by a rational soul.[116]

A challenge to the claim that a zygote is rationally ensouled is based on the fact that it will divide mitotically into two daughter cells that are qualitatively—that is, genetically—identical but numerically distinct: "The zygote ceases to exist at replication: no substance can survive fissioning into duplicate substances."[117] In identifying the zygote as a substance that is numerically identical to the developing person, however, one must include the *zona pellucida* that surrounds the cell as one of its proper parts. The *zona* continues to surround—and thus bind together—the two cells produced by the first mitotic division, and then the three cells that compose the embryo after the next division, four cells, and so on: "The *zona* seems like the real, albeit temporary, external boundary of the developing embryo, rather than a mere container for an otherwise independent set of cells."[118] Hence, there has been no change in substantial identity, since the developing person persists through the change of

what materially constitutes her—the *zona* providing the unifying factor for the increasing number of cells that compose the person as she develops from the zygote stage until about six to seven days after conception, when the *zona* degenerates. I thus conclude, by applying Aquinas's metaphysical principles to contemporary embryological data, that a human being begins to exist at conception.[119] This conclusion coheres with Saul Kripke's *necessity of origin* thesis, since a particular combination of sperm and ovum, providing the designated material body that is informed by an individuated rational soul, could only result in *this particular human being* coming into existence.[120]

Persons with Potential

I elucidated above the Thomistic concept of potentiality as it applies to the developing embryo and fetus.[121] In contemporary debates concerning the beginning of human persons, the so-called "argument from potential" has received significant attention that calls for further exploration and defense of this concept as I have utilized it to affirm the beginning of a human person's existence at conception. The argument from potential is typically formulated as follows: (1) Persons possess a high, perhaps infinite, degree of moral value; (2) Persons thereby possess certain basic rights, including a right to life; (3) Embryos and fetuses typically possess the potential to develop into persons; (4) Having the potential to develop into a person suffices for something to possess the moral value of a person; (5) Hence, embryos and fetuses also typically possess a high, perhaps infinite, degree of moral value and thereby the same basic rights as persons. This conclusion is open to a standard counterargument that the rights possessed by an *actual* entity are not transferable to a *potential* forerunner—for example, when former president Barack Obama was growing up in Hawaii, he did not possess the right, as a potential commander in chief, to order US troops into Afghanistan.[122]

This argument and its critiques may be bypassed, however, if it can be established that embryos and fetuses are not potential but *actual* persons.[123] Of course, embryos and fetuses do not yet engage in any of the activities—namely, self-conscious rational thought and autonomous volition—that define the essence of personhood; however, they arguably

possess the *intrinsic potentiality* to develop themselves—with the assistance of a protective, nutritive environment (something upon which all organisms, including mature human persons, are dependent as well)—into beings who can immediately engage in the definitive activities of persons. The crucial premise here is the claim that possessing the intrinsic potentiality to develop oneself into a fully actualized person suffices for an organism to be a person already:[124] "The claim, properly understood, is that what exists *potentially* in a human embryo *is in fact* the set of properties that are displayed *actually* in the adult, and that therefore an embryo falls right from the start under the proper sortal defined by those properties. If a human embryo is a being that can and will in due time exercise those capacities (providing all goes well, of course), then a human embryo is already a person."[125] I contend that an embryo or fetus is not a "potential person" but a "person with potential"[126]—specifically, the potential to develop oneself, while preserving one's numerical identity, into an entity that actually thinks in a self-conscious rational fashion and engages in autonomous volitional action.[127] I will now engage one significant challenge to this claim.[128]

Jeff McMahan employs a distinction between "intrinsic" and "extrinsic" potentiality that is commensurate, for the most part, with the Thomistic distinction between active and passive potentiality.[129] For an entity to possess an intrinsic potentiality to become X, it must be capable of actually becoming X without external assistance other than its normal environment, as well as preserve its numerical identity in the process of becoming X. Having dismissed embryos and early-term fetuses as not being numerically identical to fully actualized persons, because of his concept of a human person as an "embodied mind," McMahan considers fetuses that have developed in the requisite fashion to possess an identity-preserving potential to become fully actualized persons. He distinguishes between a fetus with no congenital deficiencies that would impair the development of the cognitive capacities definitive of personhood and fetuses that have structural or functional neural deficits such that they can never, without external intervention, develop into fully actualized persons.[130] McMahan first contends that the question of whether the fetuses with the neural deficits possess a morally relevant potentiality to develop the cognitive capacities definitive of personhood depends, not on their *intrinsic* properties alone, but also on the *external*

conditions that may or may not allow such potentiality to be actualized; in other words, it cannot be reasonably claimed that a fetus possesses an intrinsic potentiality for self-conscious rational thought if certain external conditions preclude its actualization.

McMahan compares a child born without eyes a thousand years ago and one born in a world where eye transplants are routinely performed. The former lacks an intrinsic potentiality for sight, since nothing could be done to allow him ever to see; whereas the latter does possess such a potentiality, since he would be able to see once the transplant was performed. Applying this analogy to the case of a fetus with neural deficits, so long as such deficits are not correctable by current medical expertise, McMahan concludes that one cannot reasonably assert that such a fetus possesses an intrinsic potentiality for self-conscious rational thought.[131]

Is it not just as reasonable, however, to assert that the child born without eyes a thousand years ago possesses the same intrinsic potentiality as one born in a world of routine eye transplants?[132] McMahan states, regarding the second child, "Certainly if he receives a transplant and is thereby enabled to see, that demonstrates that all along he had the potential to see."[133] But what if the second child did not receive the transplant because his parents *elected* for him not to have the operation? Maybe it was too expensive or they preferred to raise a blind child, just as congenitally deaf parents may prefer to raise a deaf child.[134] Perhaps human choices may affect what potentialities are realistically present in a given case.[135]

McMahan could respond that there is nothing different about the potentiality of the child whose parents elect for him to receive the transplant and the child whose parents do not, because (a) the medical expertise is readily available for the parents to elect and (b) the children each have well-functioning optic nerves, visual cortex, and cerebrum that will allow them to have conscious visual experiences once their new eyes are attached. The child born a thousand years ago, though, may also have well-functioning optic nerves, visual cortex, and cerebrum such that, if the medical expertise were readily available to him, he would be able to see as well. The only difference between the child born a thousand years ago and the one born in the world of eye transplants is the availability of the extrinsic means to provide him with new eyes; but such extrinsic means would be, for practical purposes, *unavailable* to the latter child if his parents elected not to proceed with the transplant.

McMahan seems forced to admit that the child born in the world of eye transplants would not have the potential for sight unless *all* requisite external conditions were satisfied, including his parents' choice to proceed with the transplant—as well as being able to afford it or have it otherwise paid for. On the other hand, if McMahan considers such conditions on potentiality too strict—as implied by the previous quotation—and believes that parental choice should not be considered a proper determinant of whether the child possesses an intrinsic potentiality for sight, then he should abandon his reliance upon external conditions altogether and admit that there is no difference in intrinsic potentiality between either of the children considered in this case.

Returning to the case of normal versus cognitively deficient fetuses, for McMahan it is clear that a normal developed fetus possesses an intrinsic potentiality to develop into a fully actualized person, whereas fetuses with neural deficits possess only an extrinsic potentiality, since something must be done to them by an external agent in order for them to develop normal cognitive capacities.[136] On this point, I concur with McMahan; where I differ is that I do not consider the *availability* of such external intervention to make a difference with respect to a fetus's relevant potentialities in this regard. Rather, I hold that the presence of certain intrinsic potentialities is indicative of the *kind* of entity a fetus, or anything else, is: a fetus possessing an intrinsic potentiality to develop a brain capable of supporting self-conscious rational thought is a member of the ontological kind *rational animal* or *person*. This remains the case until the fetus, or the later child or adult into whom the fetus develops, dies by losing the intrinsic potentiality, not only for self-conscious rational thought, but also for life altogether (chapter 6). Therefore, contra McMahan, a fetus—or any human organism—that possesses and then apparently loses its intrinsic potentiality for self-conscious rational thought does not in fact lose its potentiality but retains it by virtue of its persisting as the numerically and specifically same kind of entity.[137] In hylomorphic terms, a human organism does not cease to be informed by the substantial form definitive of being a rational animal and thereby continues to possess the relevant intrinsic potentialities definitive of personhood, even if the material conditions of its body do not allow such potentialities to be actualized. "Consider the varied ways in which Aristotle defines lacking some property—*privation*: Privation has several senses; for it means that which has not a certain quality and that which

might naturally have it but has not got it, either in general or when it might naturally have it, and either in some particular way, e.g., when it *completely* fails to have it, or when it in any degree fails to have it. And in certain cases if things which naturally have a quality lose it by violence, we say they suffer privation."[138] A human being who lacks, to use Pasnau's term, a "capacity in hand" for self-conscious rational thought and autonomous volition may yet possess the relevant intrinsic potentiality because it is "naturally suited to possess" such a capacity by virtue of the *kind* of entity it is—"kinds" being understood in this context to be "norm-constituted," meaning that "there is at least one feature such that an entity belongs to the kind only if it *should* have that feature (not: only if it *does* have it)."[139] A canine or feline animal, on the other hand, is not naturally suited to possess such a capacity and therefore lacks both the capacity and the underlying intrinsic potentiality to develop that capacity. The type of "lack" involved in these two cases differs significantly.[140]

A different conclusion may follow, though, for a fetus that *never* possesses the intrinsic potentiality for self-conscious rational thought and autonomous volition by virtue of a congenital deficit,[141] one that precludes its ever developing the requisite neural structures or functionality.[142] I am inclined to agree with McMahan that such a congenitally defective fetus possesses, at best, an extrinsic (passive) potentiality to be subjected to change by an external agent that would, in my view, alter the fetus both numerically and specifically such that it would change from being a *nonrational animal* to being a *rational animal*.[143] This type of externally directed change differs from the typical requirement of, say, linguistic input from an external agent for an infant to develop normal cognitive capacities. The latter input is an extrinsic aid for the infant to actualize its intrinsic potentiality for further cognitive development; the former change involves giving a fetus such potentiality in the first place, and in the process altering its essential nature, as it would not develop any degree of cognitive capacity—relative to being a person—otherwise.[144]

McMahan questions whether there is a moral obligation to provide, if available, treatments that would correct such congenital deficits so that such fetuses may come to possess the intrinsic potentiality to develop into fully actualized persons. With respect to fetuses with a congenital deficit, there is arguably no moral *obligation* to provide them

with such treatment, although nothing morally precludes offering such treatment provided that other goals of comparable or greater moral value are not sacrificed.[145] There would, however, be a *positive prima facie duty* to ameliorate the condition of fetuses, or any other human organism, who demonstrably possess an intrinsic potentiality for self-conscious rational thought but suffer from some sort of removable internal—but noncongenital—or external impediment.[146] As a positive and prima facie duty, though, the strength of the moral obligation will have to be measured against any relevant *negative* duties or other prima facie duties that may be of comparable or greater moral value. For example, it would clearly be impermissible to lobotomize an actually self-conscious rational person in order to derive neural tissue to repair the neural deficits of a fetus so that it might actualize its intrinsic potentiality for self-conscious rational thought.[147]

I can now address McMahan's thought experiment in which it is discovered that members of the canine species possess an intrinsic potentiality for self-conscious rational thought but require significant external assistance to actualize this latent potentiality.[148] On the one hand, the requirement of significant external assistance may indicate that such canines cannot actualize their latent intrinsic potentiality within their natural "design environment"—if so, then despite being intrinsic, such potentiality would not count as *active* per the Aristotelian definition.[149] Yet there may be a positive prima facie obligation to provide the requisite external assistance so long as other comparable moral values are not compromised. Such canines would be no different from normal human fetuses and thus would merit the requisite external assistance as a positive prima facie moral duty. The ontological and moral conclusion would differ, though, if it were the case that canines possessed, not an intrinsic potentiality to develop into fully actualized persons, but rather an extrinsic potentiality to be altered such that their numerical and specific identity changed from being a *nonrational animal* to being a *rational animal*. Once altered, such canines would be like the canines in the first version of the thought experiment and a fortiori like normal human embryos or fetuses; prior to the alteration, however, their potentiality for personhood would be akin to that of sperm or ova.

Postulating such an ontological change may be considered "absurdly counterintuitive."[150] This charge, however, is unfounded insofar as many

ontological theories allow for radical alterations in the essential nature of an entity without any observable change in its sensible properties—or at least such change may not be observable for some time, and so judgment of the entity's substantial nature may need to be suspended until a reasonable period of time has passed. Consider, for example, the constitutionalist's claim—discussed above—that a person comes into existence when a spatially coincident organism develops the capacity for a first-person perspective, or the mereological essentialist's claim that a person is an *ens successivum* who—in the "strict and philosophical sense"—does not persist as the numerically same substance from one moment to the next,[151] or the sortal essentialist's claim that a proper part of a substance ceases to exist if a substance undergoes a change such that it becomes numerically identical to that part,[152] or the animalist's claim that a cerebrum-sized person comes into existence if one's cerebrum is removed from her body—the original person being identical to the now mindless organism that remains behind—and that the cerebrum-sized person ceases to exist if attached to another mindless organism.[153] All of these theories may be considered counterintuitive to a similar degree as the claim criticized here, but they cannot be simply dismissed as "absurd."

I HAVE ARGUED that a proper interpretation of the Thomistic hylomorphic view of human nature leads to the conclusion that a person comes into existence at conception and have defended this conclusion against the criticism that such a "person with potential" cannot be considered to have the same ontological or moral status as a fully actualized person who actively engages in self-conscious rational thought and autonomous volition. A key point to understanding Thomistic hylomorphism that sets it apart from rival versions of dualism and materialism is Aquinas's denial of an ontological divide between a human person and a human organism—postmortem challenges to this view will be taken up in chapter 7. Every other view considered in this chapter—substance dualism, emergentism, animalism, constitutionalism, four-dimensionalism, and the embodied-mind view—allows for a person to come into existence separate from, and temporally later than, the organism to which she is metaphysically related. This is due to all these theories adopting some form of a Lockean *psychological* concept of personhood—even Olson defines personhood in psychological terms but denies that human

beings are essentially persons. I have raised criticisms to each of these accounts in chapters 3 and 4 and have defended the coextensive existence of a human person with the organism informed by her rational soul. I thus conclude that none of them offer a compelling alternative to the Thomistic hylomorphic contention that a human person begins to exist at conception.

CHAPTER SIX

End of Line

The Death of Human Persons

As with the beginning of a human being's life, formulating a proper account of human death is quite contentious.[1] Experts in medicine, biology, philosophy, and theology focus on three proposed criteria for determining when death occurs. The classical "circulatory/respiratory" criterion specifies death to occur when the intake, processing, and distribution of oxygen throughout the body—the body's most vital metabolic functions—irreversibly cease.[2] Without oxygen, all bodily systems begin to shut down and necrosis ensues. In 1968, with the published report of the Ad Hoc Committee of the Harvard Medical School, many scholars and medical practitioners began to question the traditional criterion and argue that, since the brain is the central organ that regulates a human body's metabolic functions, irreversible cessation of the functioning of the brain as a whole—cerebrum, cerebellum, and brainstem—constitutes death.[3] 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.[4]

The general acceptance of the whole-brain criterion has led to the postulation that not every part of the brain need irreversibly cease functioning in order for a human being to have died. If the cerebrum is responsible for the peculiarly human "personal" activities of self-conscious rational thought and autonomous volition, perhaps the death of a human *person* occurs when her cerebrum has been rendered irreversibly non-

functional. This "higher-brain" concept of death is used as the basis to claim that patients in an irreversible *persistent vegetative state* (PVS) are no longer persons and thus should be considered dead.[5]

A number of scholars have argued in the other direction: that the whole-brain criterion allows for individuals to be declared dead who are evidently alive. An individual who has suffered the irreversible cessation of whole-brain function is permanently unconscious and requires extensive mechanical and pharmacological support to maintain biological functioning. Nevertheless, there are cases of prolonged somatic survival[6]—over twenty years in at least one case discussed below—which may indicate that whole-brain death does not entail the death of a human *organism*. Among opponents of the whole-brain criterion, the most vocal and prolific is neurologist Alan Shewmon.[7] Not only has Shewmon presented clinical evidence from a significant number of cases of prolonged somatic survival beyond whole-brain death, but he has also employed philosophical thought experiments that challenge the concept of a human organism's integrative unity being dependent upon having a brain as a control center.

I will begin with a brief overview of what advocates of the other theories of human nature discussed in this volume have argued concerning the question at hand. I will then elucidate Aquinas's explicit account of human death and adjudicate the debate among contemporary Thomists concerning the optimal criterion for determining when a human person has died.

Dualist and Materialist Views of the Death of a Human Person

It is as difficult to determine when a person's life ends on a *substance dualist* construal of human nature as it is to determine when her life begins (chapter 5).[8] Since a person is essentially an immaterial soul who shares in her body's biological life only contingently, the end of a person's existence is the same as the end of the soul's existence, which is not occasioned by bodily death (chapter 7). The question of when a person's *biological life* ends is in terms of when her 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* to support those features that are definitive of a soul: logical thought, moral awareness, and free will.[9] He thereby 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. It seems to follow that one's soul would separate from one's 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 one's biological life ends if her body's cerebrum—responsible for supporting logical thought, moral awareness, and free will—irreversibly ceases to function.

Nevertheless, Swinburne holds that the same "individual"—say, John—may still be present in what is now merely an animal, where the individual is no longer capable of self-conscious rational thought and autonomous volition 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:[11] "'Person' must . . . be a phase-sortal,[12] 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."[13] 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 body is its not exemplifying any degree of mental life. John ceases to exist as a person if key areas of his cerebrum irreversibly cease to function—that is, John's soul ceases to be the soul of a person but remains conjoined to its body.[14] John does not cease to be connected to his body, however, until it exhibits no degree of mental life whatsoever through the total inactivity of the cerebrum. Hence, a body that is merely biologically alive without any capacity for sensation or conscious awareness—as in the case of a PVS patient—would exist without an individual being conjoined with it; such a body would have no soul at all.

Emergent dualists to date have not explicitly addressed the question of what is the proper criterion for determining that a human being has

died, although they have provided accounts of postmortem existence (chapter 7).[15] Nevertheless, advocacy of the higher-brain concept could be inferred on the basis of the emergentist metaphysic. For the key premise that separates emergent dualism from substance dualism is the requirement of a material base from which an individual self emerges.[16] And although emergentists consider one's self to be irreducible to the physical substrate, the degree of ontological independence is not to the extent that the self could exist without some sort of appropriate substratum; hence, emergentism allows for the possibility of postmortem existence only in the case of bodily resurrection or if God were to sustain the self miraculously without any material substrate—an admittedly "ontologically abnormal situation."[17] Thus, insofar as emergentists take seriously the "well-confirmed results of natural science, including research on neurophysiology," the recognized correlation between cerebral functioning and the capacity for self-conscious rational thought that essentially defines a person implies acceptance of the higher-brain concept of death.[18] Note, though, that emergentists do not require that the emergent conscious field *itself* exist in order for a person to exist, but rather the supportive physical system that has the *capacity* to generate the same conscious field. Hence, in cases of *reversible* coma, "The [conscious] field has a 'virtual existence' in the physical system which has supported it in the past and may do so again."[19]

Animalists assert that a human being is fundamentally an animal of the species *Homo sapiens*. A human animal 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, one ceases to exist as a *person*—defined in wholly psychological terms—but may continue to exist as a living human animal.[20] The end of a human animal's existence coincides with the irreversible cessation of its self-sustaining biological existence.[21] Animalists thus disagree with the higher-brain definition of death insofar as a human being remains alive even if irreversibly comatose; nevertheless, a human being no longer exists as a "person" once one's higher-brain functions have irreversibly ceased. According to Eric Olson, death—the end of one's *substantial* existence—occurs once one's *brainstem* ceases to function.[22]

Olson's brainstem criterion does not require the irreversible cessation of cerebral functioning 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 cerebrum alone. This is what may occur in extreme cases of "locked-in" syndrome, in which a patient suffers damage to the brainstem, typically due to a bilateral lesion, but still has a functioning cerebrum. In such cases, a person may be consciously aware but unable to move his body, except perhaps his eyes.[23] In cases where damage to the brainstem is such that it can no longer control respiration, requiring patients to be supported by artificial means, the human animal has ceased to exist.

According to Olson, the person who survives after such a case of brainstem death is not *the same person* that existed before the brainstem ceased to function.[24] For since the numerically same animal no longer exists after brainstem death, the numerically same person can no longer exist. Insofar as I am essentially an animal, I cannot survive my biological demise. If, however, my cerebrum continues to function, then there will be psychological continuity between me—before brainstem 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 brainstem death is best understood as my "Parfitian successor."[25] That is, for all practical, social, and moral purposes, the person who may exist after I suffer brainstem death can be considered as "me"; nevertheless, from a strict metaphysical standpoint, that person is not me, since I am essentially an animal who died when my brainstem ceased to function. This conclusion would also follow if my brainstem were replaced by a functionally equivalent artificial brainstem.[26]

Olson's account is severely *counterintuitive*.[27] The intuition that the continuity of one's consciousness is sufficient for a person to survive—in the strict, and not merely practical, sense—is quite strong. It seems problematic, though, to assert that a human being could survive brainstem death as composed of his functional cerebrum alone. As I will argue below, Olson is correct when he asserts that a human animal, in order to maintain its integrative unity as an *organism*, requires a functioning brainstem. 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 will be argued in chapter 7, however, Aquinas's concept of the nature of a rational soul allows for a human being to persist as composed of one's soul alone and to persist as an *animal* in such a state by virtue of one's rational soul 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.

Constitutionalism identifies a human being as fundamentally a person—defined as having the capacity for a *first-person perspective*—constituted by, but not identical with, a human animal.[28] Lynne Baker holds the end of a human person's existence to concur with the irreversible loss of the capacity for a first-person perspective and thus advocates the higher-brain definition of death.[29] Kevin Corcoran also adopts a psychologically based account of personal identity and concurs that a human organism with an irreversibly nonfunctional cerebrum no longer constitutes a person.[30] Hence, on the constitution approach, a human being, who is fundamentally a person, ends with the irreversible loss of higher-brain functioning.

Recall from chapter 4 Hud Hudson's *four-dimensionalist* schema for denoting different phases of a human organism's existence: "Vital," "Feeler," and "Thinker." Vital is a living human organism, Feeler a sentient animal, and Thinker "the one and only person in our story."[31] Vital is the temporally longest existent, from the beginning of the organism's life to its death;[32] Feeler shares a significant portion of Vital's existence but comes into existence later, during fetal development; Thinker also shares part of both Feeler's and Vital's existence but comes into existence later than Feeler (chapter 5).

Hudson then introduces two new phases of a human organism's existence: "Corpse" and "Irreversible." The former refers to "a material object that comes into being at the death of a particular human organism and that persists (so to speak loosely) until a certain level of disorganization arises among its parts."[33] So defined, Corpse is a distinct material object that does not even overlap with Vital, let alone with

either Feeler or Thinker. The label "Irreversible," on the other hand, "refers to the whole of a human organism that was once a person (i.e., stage-shared with a person) and that was once sentient (i.e., stage-shared with a sentient), but that is now wholly unresponsive."[34] Irreversible thus overlaps with Vital, as well as with Feeler and Thinker, although Irreversible also has stages of nonthinking, nonsentient existence. Hudson thereby concludes that "Irreversible is neither a person nor a sentient, and it is not itself a proper part of either a person or a sentient. Irreversible does, however, have both a human person and a human sentient as a proper part."[35] Hence, Irreversible was temporarily a person and temporarily sentient; after the onset of PVS, however, Irreversible is neither. On the premise of this metaphysical analysis, Hudson ultimately places Irreversible in the same moral category as nonsentient fetuses—such as anencephalics—and corpses.[36] Since only Irreversible exists in the case of PVS, with neither Thinker—the only person in this ontological schema—nor Feeler still existing, Hudson advocates the higher-brain concept of death for human persons.[37]

Jeff McMahan understands human persons as essentially *embodied minds*, whose persistent identity consists in physical and functional continuity of one's cerebrum—or one or more specific region(s) thereof—capable of generating consciousness.[38] He thus affirms the distinction between the death of a person and that of a human organism which, while persisting as the numerically same body, has irreversibly lost the requisite cerebral functions grounding one's capacity for consciousness. McMahan shares critiques mounted by Shewmon and others against the whole-brain criterion of death for human organisms,[39] and he instead advocates for the higher-brain concept of death for human *persons*.[40] He thus contends that we may speak of *two deaths*: that of a human person, when cerebral functions irreversibly cease, and that of a human organism, when cardiopulmonary functions irreversibly cease.[41] In affirming the higher-brain concept of death, McMahan distinguishes between a PVS patient, in an irreversible condition entailing that the person has died, and a patient in a "deep coma" due to damage to the brainstem's ascending reticular activating system, which is in principle reversible, meaning that the person has not yet died insofar as she still possesses the latent *capacity* for consciousness.[42]

Hylomorphic View of the Death of a Human Person

Aquinas's account of human 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."[43] 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*.[44] Aquinas, following Aristotle, identifies the primary organ as the heart, though contemporary science would identify it as the brain—I will elaborate on this point when discussing the concept of "integrative unity" below.

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."[45] Though 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.[46]

Aquinas understands death to occur because a premortem human body is not *perfectly* informed by its rational soul. Material defects can thus arise that render the body unsuitable for rational ensoulment by becoming unable to actualize the soul's vegetative capacities.[47] Aquinas thus identifies a human being's death, defined metaphysically as a rational soul's separation from its body, as when the body can no longer 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 the cessation of respiratory activity.[48]

As with Aquinas's explicit account of human embryogenesis, some may reject or ignore his explicit account of human death because of the outdated biological information at his disposal. Aquinas's account, however, primarily concerns metaphysical principles and invokes biology only twice: when asserting the heart as the body's primary organ through which the soul moves the rest of the body's parts, and when asserting the cessation of respiratory functioning as the proper criterion for determining when death occurs. One can thus put aside those two specific biologically based assertions and instead apply Aquinas's metaphysical

account of the soul/body relationship to the contemporary biological understanding of how and when death occurs.

Death of a Person? The Case of Terri Schiavo

> In 1990, at age 26, Terri Schiavo suffered a heart attack, probably from a potassium deficiency related to an eating disorder. This event caused a severe anoxic brain injury that deprived her brain of oxygen long enough to cause paralysis and extensive neurological damage. She gradually fell into a permanent vegetative state. Although she was able to breathe on her own and was not on a ventilator, she needed continued artificial nutrition and hydration to remain alive. . . . CT scans showed massive shrinkage of her brain, with the cerebral cortex completely destroyed. The scans indicated that most of her brain contained only scar tissue and spinal fluid. The only part of her brain that remained intact was her brainstem, which continued to regulate her cardiac, circulatory, and other vital functions.[49]

The higher-brain concept of death defines the end of a human being's biological existence in terms of the loss of "the capacity to think, feel, be conscious and aware of other people."[50] The criterion for establishing the loss of this capacity is the irreversible cessation of cerebral functioning. Some scholars advocate higher-brain death as an interpretation of Aquinas's understanding of human nature. Their argument is based upon the Thomistic principle that one can assert that a specific type of form informs a particular material body only by observing the body performing the operations that are peculiar to that type of form, or its having the inherent capacity to perform such operations. Therefore, since the form of a human being is a rational soul, the capacities for self-conscious rational thought and autonomous volition being peculiar to that type of soul, one can assert that a particular body is informed by a rational soul, and thus composes a human being, only by observing that it has at least these capacities.

Aquinas claims that self-conscious rational thought and autonomous volition do not occur by means of a bodily organ, as, say, sight oc-

curs by means of the eyes and visual cortex. Aquinas's claim, however, does not preclude rational activity and neural activity being *correlated* with one another, as long as the correlation is not explained in terms of a relation of identity or reduction of the former to the latter. Acknowledging this correlation allows Aquinas's account of human nature to cohere with contemporary neurobiological data. Given the evident correlation between rational operations and cerebral functioning, it seems reasonable to conclude that irreversible loss of cerebral functioning implies the loss of the capacity for rational operations while a human being remains embodied. From this implication, it appears to follow that one cannot assert that a rational soul informs the body of a PVS patient like Terri Schiavo.

Hence, Shewmon—in one of his earliest articles on this topic—and others, arguing from a Thomistic standpoint, conclude that irreversible loss of cerebral functioning entails the loss of a rational soul as a body's substantial form.[51] This construal of death involves a reversal of the "succession of souls" Aquinas holds to occur in human embryogenesis (chapter 5). A human being is informed by a rational soul until her body becomes structurally insufficient to support the soul's definitive capacity for rational thought. While Aquinas understands the mind not to function through a bodily organ, he nevertheless asserts that the operation of a rational soul's sensitive and imaginative capacities, which do function through bodily organs, is required to provide the mind with its proper object of thought while a human being is embodied (chapter 2). Thus the loss of higher-brain functioning, which neurobiological evidence indicates is required for imaginative operation and is correlated with rational activity, precludes rational activity while the soul informs a material body.[52] At the loss of higher-brain functioning, then, it appears that a *substantial change* occurs in which the rational soul separates from the body and a sensitive or vegetative soul is instantiated as the body's substantial form—depending upon whether any sensitive capacities remain in the still-living body. The body is thereby no longer identical to the body that composed the human being because it has a different substantial form, and a substance's persistent identity requires that it be informed by the same substantial form. The body will continue to be informed by at least a vegetative soul until it reaches a point of deterioration where it can no longer structurally support vital metabolic

functions. At this point, the vegetative soul is annihilated, the body ceases to exist as an organic whole, and it is reduced to a mere collection of basic elements. Accepting the higher-brain concept of death, from a Thomistic standpoint, requires one to argue that when a body is no longer able to provide the biological foundation necessary for self-conscious rational thought and autonomous volition, a substantial change occurs in which the rational soul separates and the body becomes informed by either a sensitive or a vegetative soul. If this is what indeed occurs in cases of PVS, then the body on the bed is a "humanoid animal" or perhaps a mere "vegetable."

This purportedly Thomistic account suffers from three serious flaws. First, it is at odds with Aquinas's contention that a rational soul's separation from its body is signaled by the body's inability to actualize its *vegetative* capacities; a PVS patient retains the intrinsic activity of spontaneous respiration and other vital metabolic functions. The higher-brain concept of death thus involves an unwarranted separation of a soul's rational capacity from its sensitive and vegetative capacities. In his explicit account of human embryogenesis, Aquinas holds that a human being's proper capacities do not begin to exist in a developing human embryo at the same time; the vegetative capacities are actualized first, then the sensitive capacities, and finally the rational capacity that signals the existence of a human being (chapter 5). Nevertheless, once a rational soul informs a human body that has developed sufficiently, it alone possesses all of a human being's proper capacities: vegetative, sensitive, and rational. It is not the case that there are three souls informing a fully developed human body. Rather, the vegetative soul that first informs a living human embryo is annihilated once the embryo develops to the point where it has sense organs and sufficient neural development for sensitive operations; it is then informed by a sensitive soul that has both sensitive and vegetative capacities. The sensitive soul is annihilated once the point is reached where neural development is sufficient to support rational operations, and the embryo becomes informed by a rational soul that has vegetative, sensitive, and rational capacities. Aquinas argues at great length that a human being's proper capacities have their source in *one* substantial form: a rational soul.[53]

Relatedly, given Aquinas's contention of the *unicity* of a human being's substantial form, it is not surprising that he characterizes human

death differently than he does human generation. Once a rational soul informs a properly disposed human body, the body must lose its disposition for *all* the soul's proper capacities in order for the separation of soul and body to occur. Accepting the higher-brain interpretation entails the following metaphysical description of how death occurs: there exists first a rational substance informed by a rational soul, and then possibly a nonrational animal substance informed by a sensitive soul, and finally a merely living substance informed by a vegetative soul before its final transformation into a lifeless corpse. This description violates the widely held principle of Ockham's Razor, which states that *ceteris paribus* the simplest explanation of a given phenomenon—that is, the explanation that is the least ontologically complex by requiring the postulation of the least number of entities—is the explanation to which one ought to give assent (chapter 1): "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."[54]

Finally, aside from the metaphysical determination of when death occurs, the higher-brain concept is epistemically problematic for two reasons. First, it is extremely difficult to determine accurately which structures of the brain are correlated with rational activity and when such structures become irreversibly nonfunctional. In fact, there are a number of cases in which PVS patients have been misdiagnosed or have responded successfully to postdiagnostic treatments.[55] A significant example is Patricia White Bull, a New Mexican woman who awoke from a sixteen-year coma after being diagnosed as "permanently vegetative."[56] Second, while Aquinas notes that one can determine the presence of a certain capacity based upon observation of its corresponding activity, it does not follow that failure to observe an activity entails the lack of its corresponding capacity.[57] Therefore, it is fallacious to infer that a PVS patient does not have the capacity for rational thought only on the basis of not having observed the performance of any rational activity or correlative neural activity.[58]

A rational soul is not only the seat of a human being's rational capacity; it is also a human body's substantial form and is thereby the source of its sensitive and vegetative capacities. While a PVS patient may no longer be able to actualize her rational or sensitive capacities, her

soul remains embodied and active by reason of its vegetative operations. A human being exists before death composed of a rational soul informing an organic body and is not identified with merely the exercise of her rational capacity.[59] Hence, we cannot be certain that a PVS patient is no longer a human being until there is incontrovertible evidence that her rational soul has altogether ceased to be active as her body's substantial form. Irreversible cessation of higher-brain functioning may serve as evidence that a soul's rational capacity can no longer be actualized while it remains embodied, and one may wish to infer from this evidence that the rational soul has ceased to inform that body. Such an inference is invalid because a PVS patient's remaining vegetative operations evince that her rational soul remains active as her body's substantial form insofar as the soul's vegetative capacities are still actualized in that body.[60]

Aquinas's explicit statements regarding human death indicate that he takes the cessation of vital metabolic functioning as the proper evidence that a rational soul has ceased to inform a particular body. It may be the case, though, that a Thomistic understanding of death, viewed in the light of contemporary biological data, may end up differing from Aquinas's explicit account. Nevertheless, the argument supporting a higher-brain interpretation of Aquinas's account does not conclusively or persuasively demonstrate that this interpretation is a proper contemporary rendering of Aquinas's account. As I will show in what follows, defining death in terms of the irreversible loss of a human organism's vital metabolic functioning is the most plausible interpretation of Aquinas's view in light of the current biological understanding of death. Such an interpretation allows for a contemporary rendering of Aquinas's account without the radical departure from his explicit assertions required by the higher-brain interpretation. The fulcrum of the debate now shifts to the determination of whether the death of a living human animal should be identified with the cessation of the brain's functioning as a human body's "central organizer" or with the cessation of the vital metabolic functions themselves: circulation and respiration.

Death of an Organism? The Case of T.K.

> At age four [T.K.] contracted meningitis, causing such intracranial pressure that even his skull bones split. Multiple brain-wave tests

> have been flat, and no spontaneous respirations or brainstem reflexes have been observed over the subsequent fifteen years. . . . He remains on a ventilator, assimilates food placed in his stomach by tube, urinates spontaneously, and requires little more than nursing care. While "brain dead" he has grown, overcome infections, and healed wounds. . . . Further confirming the diagnosis [of whole-brain infarction], evoked potentials showed no cortical or brainstem responses, a magnetic resonance angiogram showed no intracranial blood flow, and an MRI scan revealed that the entire brain, including the brainstem, had been replaced by ghost-like tissues and disorganized proteinaceous fluids. . . . There is no question that he became "brain dead" at age four; neither is there any question that he is still alive at age nineteen.[61]

The debate over whether the whole-brain criterion should be abandoned in favor of a circulatory/respiratory criterion turns on the ontological and biological concept of an organism's "integrative unity." While cases exist of human bodies being biologically maintained for a number of years beyond whole-brain death, such as T.K., it does not necessarily follow that a *unified organism* persists in such cases, but rather a collection of independent organs. The key difference argued is that a human organism has some sort of "control center," or controlling influence, that regulates its vital functions, whereas even interdependently functioning organs or organ systems in a whole-brain dead body are not, properly speaking, organically unified in the absence of such a control center, which is the brain as a whole.

Aquinas understands the soul, insofar as it is the principle of a human body's organic functioning, to operate by means of a "primary organ," which he identifies as the heart, although it is evident that the brain better befits this role. Aquinas describes the primary organ as that through which the soul "moves" or "operates" the body's other parts; it is the "ruler" of the body's other parts in the sense that it orders them as a ruler orders a city through laws.[62] Aquinas further cites the dependence of the body's other parts upon the primary organ, by means of which they are able to be active.[63] Insofar as the brain functions as the source of operation for a body's vital autonomic and voluntary functions, regulates such functions and orders them to support the body's holistic-level

existence and activity, and is the critical organ upon which the body's other vital organs—particularly the heart and lungs—depend for their well-ordered functioning, it is evident that it best satisfies Aquinas's description of the primary organ.[64]

Of course, the brain is also dependent upon the rest of the body—especially the heart and lungs—to provide oxygenated blood for it to survive and function: for instance, "The brain must sense a change in oxygen content or acidity of the blood before sending a nervous impulse to the lungs [actually the *diaphragm*] to activate a breath."[65] But whereas the brain is dependent on the rest of the body to provide *support* for its functions, the heart and lungs depend upon coordinating signals from the brain in order to function *at all* to sustain the rest of the body. Although the heart muscle contracts spontaneously and has a self-regulating internal pacemaker, the brain often asserts autonomic control over heart rate in response to various stimuli, and the cessation of brainstem functioning is associated with tachycardia, exemplifying a clear brain/heart relationship essential for a well-functioning, integrated, and self-sustaining human body.[66] It is thus evident that the brain-as-a-whole best satisfies Aquinas's description of the primary organ—the sine qua non without which a developed human body is not properly disposed for rational ensoulment.[67]

This is not to say, however, that a rational soul is *identified* with, *reducible* to, or *located* within the brain. Robert White rhetorically asks, "Where is the human soul located in the human body, if not the brain, and only the brain?"[68] Aquinas's response, denying White's presumptive answer, is that the soul is located in each part of the body it informs, although its various powers may act through distinct organs of the body.[69] Thus, while a human person's soul informs her body *as a whole*, it actualizes the body's various parts through the brain's operation—among other things—of coordinating the vital functions responsible for the circulation of oxygenated blood throughout the body, as well as voluntary muscle control.[70]

On the basis of this metaphysical foundation, I will argue in favor of the whole-brain criterion for determining death from a Thomistic perspective.[71] This criterion is rooted in an understanding of death being related to an organism "as a whole," which James Bernat defines in reference to "that set of vital functions of integration, control, and behavior

that are greater than the sum of the parts of the organism, and that operate in response to demands from the organism's internal and external milieu to support its life and to maintain its health."[72] Bernat further defines the "critical functions" of an organism as a whole, the cessation of all of which is necessary and sufficient to constitute the loss of an organism's functional unity: "1) vital functions of spontaneous breathing and autonomic control of circulation; 2) integrating functions that assure homeostasis of the organism . . . and 3) consciousness."[73] Bernat then shows how these critical functions are dependent upon the brain: "A review of the critical functions of the organism as a whole reveals that they are subserved within the brainstem, hypothalamus, thalamus, and cerebral hemispheres. Respiration and blood pressure control are generated in the brainstem. The complex array of regulatory, feedback, and homeostatic mechanisms are integrated in the brainstem and hypothalamus. Consciousness requires the ascending reticular activating system of the brainstem, thalamus, and cerebral hemispheres. Therefore, the clinical functions of each major part of the brain must be absent for the cessation of the critical functions of the organism as a whole."[74] Bernat contends that the absence of such neural functions is not only *necessary* for a human organism's death but also altogether *sufficient*.

Bernat's three categories of critical functions that define the existence of an organism as a whole can be collectively termed the organism's "integrative unity." This concept is often understood as a definitive sign of the "substantial" unity required in the Boethian definition of personhood that Aquinas adopts: "an individual substance of a rational nature."[75] As discussed in chapters 2 and 5, Aquinas defines a substance as *unum simpliciter* ("one unqualifiedly"). A living organism is *unum simpliciter* because its heterogeneous parts do not each have their own substantial form. Rather, they are all informed by one substantial form through which each part has its own existence and specific nature: "But the parts of some substance are not thus called particular substances, as if they subsisted in themselves; rather, they subsist in the whole. Hence, neither may they be called hypostases, for none of them is a complete substance. Otherwise, it would follow that in one human being there are as many hypostases as there are parts."[76]

The unity among a living organism's parts is signified by their *interdependent* functioning. Mere "functional unity" is not sufficient for

substantial unity.[77] For Aquinas, a living organism's integrative unity—defined in terms of the interdependent functional relationship among its cells, tissues, and organs—is a paradigmatic case of substantial unity.[78]

For Aquinas, a human being's integrative unified existence involves a body informed by a soul that has rational, sensitive, and vegetative capacities. Clearly, a soul's rational and sensitive capacities correspond to Bernat's reference to consciousness.[79] Furthermore, it seems reasonable to correlate Bernat's vital and integrating functions with a soul's vegetative capacities, although this is the focus of Shewmon's challenge that will be addressed below. I thus conclude that the Thomistic concept of death involves the irreversible loss of a human being's rational, sensitive, and vegetative capacities understood by reference to Bernat's critical functions of an organism as a whole.[80] When integrative unity has been irreversibly lost, a body is no longer "proportionate" for rational ensoulment; it can no longer materially support a soul's proper capacities in a *unified* substance. The whole-brain criterion 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 which coincides in a single, empirically verifiable event.[81] The irreversible cessation of whole-brain functioning, I contend, constitutes *the* event that best indicates a rational soul's separation from its body.

That the cessation of whole-brain functioning constitutes death is based upon Aquinas's assertion that a rational soul "moves" the heterogeneous parts of its body through a primary organ.[82] This principle echoes Bernat's concept of an "irreplaceable, indispensable, complex, structural-functional control system that maintains the health and life of the organism, without which the organism no longer can function as a whole."[83] This assertion is challenged by a "holistic" view of organized biological systems, in which "the system is defined and held together not by one integrating part, but by its state-cycle, the pattern of the system, described mathematically, which determines the behavior of the individual components of a complex system and of the system as a whole. In many ways this is modern translation of the Aristotelian substantial form."[84] "From the systems perspective, therefore, death would coincide with the disintegration of the molecular network that makes up the body as a whole. This view rejects the idea that one organ in the body is essential for integration. Rather the whole system is integrated and united by the soul."[85]

This is a compelling counterpoint to the more literal Thomistic thesis. But while contemporary systems biology is certainly an accurate means of describing the integrative unity and operation of various types of entities—particularly lower-level organisms who lack any sort of neural cortex or human organisms at the embryonic stage—it is not necessarily the best descriptor of the unity and operation of higher-level animals, such as mature human beings, which possess a neural structure capable of directing or regulating the rest of the organic system:[86] "In simple organisms, such as a virus, virtually the entire system is the control system. In more complex multicellular organisms, specific structures may develop to form a master control system which supersedes all other subsidiary systems. In man, the brain is the critical control system."[87] This claim, though, is directly challenged by Shewmon, as will be discussed below.

Furthermore, this systems-based counterpoint "does not decide the debate, for one might respond that the functioning of a certain bodily system is not a sign of human presence. It depends on which system and which organs. . . . Each vital organ and system must be related to the person as a whole, identifying what it contributes to the whole."[88] The systemic functioning of organs is not sufficiently indicative of integrative unity unless the system is so interdependently ordered that the very nature of each organ *as this specific organ* depends upon how it functionally cooperates with the body's other organs to actualize a human being's definitive capacities.[89] For example, a living heart that is removed from a body may continue to beat for several minutes until it is transplanted into another body. During the time when it exists completely on its own, is it still "a heart," properly speaking? For Aquinas, the answer is negative: a still-beating heart that is functionally disconnected from the rest of the body, and so does not subserve the body's vegetative capacities, can be termed "a heart" only *equivocally*. Granted, there is little point in altering our linguistic conventions to call a separated, still-beating—or even nonbeating—heart something other than "a heart"; but insofar as the heart's beating serves no systemic purpose by not circulating oxygenated blood throughout the rest of a body, it is an orphaned organ until it is functionally reintegrated with the same or another body.

The same may be the case for a heart, or any other organ, that remains functionally integrated with the rest of the body—and thereby continues to function by circulating oxygenated blood throughout the

body—but does not, by such functioning, subserve the overall vegetative life *of the whole* if the substantial unity definitive of something that is *unum simpliciter* is lacking.[90] Imagine a scenario in which a human being's head were severed from the rest of her body, then all her limbs were amputated from her torso, and then even the skin and muscle were stripped from the remaining torso. We would be left with organs such as the heart, lungs, liver, kidneys, and the digestive system. If the life of such organs were maintained through the provision of oxygen, nutrition, hydration, and some sort of artificial protective covering—say, a clear plastic sack—would these interconnected organs constitute an *organism*? If one agrees with Shewmon—whose view will be elucidated below—that the interconnected activity of more than one organ suffices to constitute the *integrative unity* that is essentially characteristic of an organism, then the answer would be affirmative.

But what if we push the thought experiment further and isolate just the digestive system—stomach, intestines, et cetera—and artificially maintain it through the provision of oxygenated blood, nutrition, and hydration in such a way that not only does each organ of the digestive system remain alive, but the system as a whole continues to perform its essential function of absorbing nutrients received into the stomach for redistribution to the rest of the organism—if only there were a "rest of the organism" for the digestive system to support. Again, insofar as the digestive system on its own involves the interconnected functioning of multiple organs, then it would seem to constitute an "organism" by Shewmon's standard. Yet it seems more than reasonable to conclude that an isolated digestive system not only fails to constitute an organism but also is no longer a "digestive system," properly speaking, if its persistent function of absorbing nutrients serves no further purpose in maintaining the life of a larger *organism as a whole* of which the digestive system is only a part.

Hence, if it is the case that a whole-brain-dead human body is no longer *unum simpliciter*, then a still-beating heart inside such a body would not be "a heart," strictly speaking; and the same goes for any other organ or organ system that may continue to function in that body. While it would beg the question at this point to assert the truth of the antecedent, it would likewise beg the question to assert that the persistence of systemic organic functioning alone is indicative of a whole-brain dead body's being *unum simpliciter*.

Shewmon versus "Brain Death"

Shewmon rejects the whole-brain criterion after examining cases, like that of T.K., in which a human body appears to maintain its integrative unity after whole-brain functioning has irreversibly ceased. Such cases lead Shewmon to conclude that the brain does not function as the body's central organizer. Rather, he argues that the brain "fine-tunes" the vital functions that the body itself exercises as an integrated whole: "The brain cannot be construed with physiological rigor as the body's 'central integrator,' in the sense of *conferring* unity top-down on what would otherwise be a mere collectivity of organs. . . . A living body possesses not an integra*tor* but integra*tion*, a holistic property deriving from the mutual interaction among all the parts."[91] If, as Shewmon argues, a body can maintain its integrative unity without any brain function, then whole-brain death cannot be equated with a human organism's death. He thus advocates a circulatory/respiratory criterion for determining when death occurs.[92]

Shewmon purports that a human organism without a functioning brain can have "at least one emergent, holistic-level property" and that the existence of any such property is sufficient for an organism to have integrative unity.[93] Nicanor Austriaco elaborates: "A property of a composite is defined as 'emergent' if it derives from the mutual interaction of the parts, and 'holistic' if it is not predicable of any part or subset of parts but only of the entire composite."[94] To demonstrate that the requisite holistic-level property exists, Shewmon provides what he terms a "litany of non-brain-mediated somatically integrative functions" that have been observed to persist in the body of a whole-brain-dead individual. Such functions include homeostasis of various mutually interacting chemicals, cellular waste handling, energy balance, maintenance of body temperature, wound healing, infection fighting, stress responses, proportional growth, and even sexual maturation.[95]

Shewmon appeals to a number of cases in which a whole-brain-dead individual appears to exhibit integrative somatic functioning. The most provocative cases involve patients like T.K., who are properly diagnosed as whole-brain dead and yet survive for extended periods of time with technological and pharmacological support. Despite the requirement of mechanical ventilation for respiration and circulation of oxygenated blood to occur, Shewmon contends that these patients

exhibit integrative unity by virtue of exercising the somatic functions listed above. He thus concludes that these patients cannot be considered dead, even though they lack whole-brain function.

According to the Thomistic understanding of human nature, a rational soul's separation from its body occurs when the body can no longer support the soul's intellective, sensitive, and vegetative capacities. If, as Shewmon maintains, integrative vegetative operations can remain in a whole-brain-dead human body, one ought to conclude that a rational soul continues to inform such a body until it ceases its vital functions of circulation and respiration.[96] Does this conclusion require abandoning the Thomistic understanding of human death in terms of whole-brain death? Not necessarily. Several issues can be raised about the cases Shewmon uses to support his conclusion and the inferences he draws.

Shewmon describes a human brain more as a "regulator" or "fine-tuner" of a body's vital functions than as being constitutive of them. It does not seem, however, that this distinction makes a real difference in criticizing the whole-brain criterion. While brainstem functioning is certainly not solely responsible for the vital functions of circulation and respiration, a human body cannot carry out such functions on its own in the absence of brainstem functioning. The assumption of such functions by life-support machinery indicates that the body has lost the capacity to perform them under its own control. It thus remains arguable that integrative unity has been lost in such cases.[97]

It could be argued from a Thomistic hylomorphic perspective that being dependent on machines does not suffice for one to no longer be a person; for patients who are not whole-brain dead—such as those with severe spinal cord injury—may require mechanical ventilation, an artificial pacemaker, or other types of devices in order to stay alive, but they are clearly not dead.[98] From a hylomorphic perspective, however, it is not mere *dependency* that affects an organism's ontological status but in *what manner* an organism is dependent upon certain types of artificial devices.

It must first be noted that Aquinas considers natural substances, such as biological organisms, and artifacts to be significantly distinct types of beings.[99] A natural substance is *unum simpliciter* by virtue of having a single, unique substantial form informing the matter that composes it. An artifact, on the other hand, has unity in a merely "accidental" sense insofar as it is an aggregate of natural substances organized in a particular fashion to perform certain functions or instantiate certain

properties. This fundamental difference precludes an artifact from becoming a "proper part" of a natural substance. It cannot be informed by a natural substance's substantial form because an artifact already has its own principle of organization—namely, the accidental form that results from the aggregate or functional unity of the artifact's constituents.

Of course, simply having its own principle of organization is not sufficient to preclude something from becoming informed by a natural substance's substantial form. A banana has its own principle of organization, but it loses that principle through the process of digestion in which it is broken down into its constituent elements, and those elements become part of the functional integrity of the organism that consumes it.[100] A pacemaker, on the other hand, does not lose its principle of organization when it is placed inside a patient with bradycardia (an abnormally slow heart rate). It retains the integrity of its material constitution and programming that causes it to function properly in emitting weak electrical impulses to stimulate contraction of the heart muscle when it falls below a certain rate. While a pacemaker's functioning assists a patient's biological functioning, the pacemaker's function is not a function *of* the patient. There is no functional unity of the patient with the pacemaker, because the patient does not direct the pacemaker's functioning. The pacemaker's functioning is due to its own internal constitution and programming; it is not "caught up in the life" of the patient.[101]

The external aid provided by a pacemaker, however, is not constitutive of a human being's vital functions. A pacemaker helps regulate, but does not actually perform, such functions. A mechanical ventilator, on the other hand, does perform a vital function: it forces air into the lungs, which in turn stimulates cardiac activity and thereby allows for both respiration and circulation to occur. If cardiac arrhythmia or asystole develops, as usually occurs, then additional artificial support must be provided for cardiac functioning to continue. Patients who suffer the cessation of whole-brain function require mechanical ventilation and other artificial life-support measures to maintain both respiratory and cardiac activity.[102]

There is an important distinction between having one's vital functions "jump-started"—as in the case of CPR—or regulated by external aid and having such functions "taken over" by external artificial support. The distinction is in terms of a human being having *control* over such

functions. An artifact cannot be informed by a natural substance's substantial form because the artifact has its own principle of organization, which precludes its being under the natural substance's functional control. A human being having control over her vital functions is arguably a necessary criterion for her to have the functional integrity one would expect of an organic substance that is *unum simpliciter*. A human being remains biologically alive[103]—that is, her vegetative capacities are actualized in her body—only if she is able to control her vital functions such that they act in a *self-integrating* fashion and not in a merely *coordinated* fashion among themselves with no reference to their composing a larger, more complex organism. Maureen Condic aptly explains this key distinction:

> *Integration*: The compilation of information from diverse structures and systems to generate a response that (1) is multifaceted, (2) is context dependent, (3) takes into account the condition of the whole, and (4) regulates the activity of systems throughout the body for the sake of the continued health and function of the whole. Integration is (by definition) a global response and during postnatal stages of human life is uniquely accomplished by the nervous system, most especially the brain.
>
> *Coordination*: The ability of a stimulus, acting through a specific signaling molecule, to bring responding cells into a common action or condition. Coordination can reflect either (1) a single type of response that occurs simultaneously in multiple cells or (2) a set of synchronous, but cell-type specific responses. Coordination can be local or global and is accomplished both by the brain and by other signaling systems.[104]

The persistence of nonintegrated somatic functions—vital or otherwise—is not sufficient to constitute a human being's substantial vegetative activities. There does persist a degree of *reactive functionality* of one organ or organ system in relation to that of another in a whole-brain-dead body, which accounts for the fact that such a body may undergo the complex coordinated activities associated with, for example, physical maturation or fetal gestation; but it is a conceptual leap to describe such reactive functionality as "integration."[105]

It is not merely the persistence of vital functions that suffices for a human body—and the human being it composes—to be alive and have integrative unity. Rather, a human being must have an "intrinsic active potentiality" to exercise such functions.[106] If a human being cannot actually perform her vital functions, then she is dead:

> We say that an animal lives when it begins to have movement from within itself; and we consider the animal to live as long as such movement is apparent in it. When, however, it does not have any movement from within itself, but is moved only by another, then the animal is said to be dead on account of the failure of life. . . . And thus living is said of all things that drive themselves to movement or operation to some degree; however, those things which by nature do not drive themselves to some movement or operation cannot be called living, unless by some degree of resemblance.[107]

Aquinas further defines a living animal's vital functions in a way that would preclude their being "taken over" by an artificial device and yet remaining functions *of that animal*: "Vital operations are those of which the principles are within the operators, such that the operators induce such operations of themselves."[108] Hence, the principled requirement that one must have the intrinsic capacity to *control* her vital functions, which requires a functioning brain—particularly the brainstem—as a sine qua non.

If one's brainstem is no longer intact and functional but a mechanical ventilator or cardiopulmonary bypass machine is utilized to support one's vital functions, then such functions and the capacity for performing them are no longer attributable to that person. She would have only a "passive potentiality" to receive the benefits—oxygenated air being introduced and circulated throughout her body—that such support can provide.[109] Of course, other artificial mechanisms may also "take over" for vital functions of the body—for example, dialysis replacing kidney function or an insulin pump replacing pancreatic function—but these particular functions are not as central to a human organism's integrative unity as those that circulate oxygenated blood throughout the body, which is essential for all other organic functioning—in the absence of artificial replacement—to persist.

If, however, one's brainstem is intact and functional, then, regardless of whether her dependence on artificial life support is temporary—for example, a patient on cardiopulmonary bypass during an open-heart procedure—or permanent—such as an artificial heart or left-ventricular assist device (LVAD)—it does not follow that she no longer possesses integrative unity insofar as her functioning brainstem materially grounds her persistent active potentiality to actualize integrative control of her vital functions, even if other material conditions of her body preclude her ever actualizing such control.

Therefore, in cases of whole-brain infarction, instead of a human being possessing an intrinsic active potentiality to maintain her body's integrative unity as *unum simpliciter*, "The instrument-ventilator becomes the principal cause that holds together the sub-systems which previously had a natural life, but which now, with their actions conserved mechanically, have the appearance of a living organism. In reality, to be precise, since the soul is no longer present, the life we see is an artificial one, with the ventilator delaying the inexorable process of the corruption of the corpse."[110]

A human body loses integrative unity when it no longer has the intrinsic active potentiality to coordinate the vital functions of circulation and respiration—by virtue of an intact and functional brainstem—and such functions can be maintained only by artificial means. The clinical sign of this capacity being lost is the irreversible cessation of *spontaneous* heartbeat and respiration. These two vital functions are emphasized insofar as the circulation of oxygenated blood throughout the body is *the* fundamental biological requirement for any and all organic activity in the absence of technological replacement. While other functions—such as digestion, waste excretion, and immune response—are also *vital* for an organism to survive, the respective organs associated with these functions are dependent upon oxygenated blood being circulated through them.[111] It must be noted, however, that the functions of the kidneys and hormonal system are also required if oxygenated blood is to be circulated throughout the body. Nevertheless, such organic activity *supports*, but is not *constitutive* of, the vital activity that brings oxygen into the organic system (respiration) and transports it throughout the body (circulation). These other systems help *maintain* the transport system—that is, blood—but do not effect the transport itself. Inductive support for this

contention is the near immediacy with which an organism dies with the cessation of circulatory/respiratory activity contrasted with the longer period required for an organism to perish from kidney or other systemic failures. Thus the form of dependency a whole-brain-dead individual has with respect to a mechanical ventilator or functionally similar device is quite different from that of a living human being who requires a pacemaker, insulin pump, or similar device to regulate or help maintain her vital functions.[112]

Shewmon's claim that certain functions are "integrative" just because they are holistic does not follow.[113] Such functions can be understood as emerging from the interaction of a body's organ systems without entailing that the body has the integrative unity required for it to compose an individual substance that is *unum simpliciter* with a single substantial form. I conclude that a human body's having *control* over its vital functions of circulation and respiration is a necessary criterion for it to have integrative unity; these specific activities are *the* vital functions necessary for somatic integrative unity insofar as all other organs of the body depend upon oxygenated blood being circulated through them in order to survive and function. Shewmon's case for abandoning the whole-brain criterion depends upon there being cases in which spontaneous heartbeat and respiration occur in the absence of whole-brain functioning, and he has not presented any such case.

High Cervical Cord Transection and Decapitation Thought Experiment

In addition to the clinical cases he cites of prolonged somatic survival, Shewmon challenges the whole-brain criterion by considering the real-life case of high cervical cord transection and a fictional thought experiment involving decapitation followed by artificial support of both the body and the severed, but still conscious, head. He contends that if somatic integrative unity is maintained in such cases, despite the functional separation of the brain from the rest of the body, then the whole-brain criterion is conceptually flawed.[114]

High cervical cord transection involves a structural separation between the upper vertebrae and the brainstem, as in the injury suffered by the late Christopher Reeve when he was thrown from a horse.[115] This

structural separation results in the loss of communication between the brainstem and the rest of the body. Patients in this condition are conscious and able to control those parts of their body that remain neurally connected to the brain above the transection—such as facial muscles, eyes, and mouth—but they cannot spontaneously respire and must be connected to a mechanical ventilator. This condition is thus *functionally equivalent* to whole-brain death.[116]

Patients with high cervical cord transection are clearly not dead, since they remain conscious. Hence, such patients are rationally ensouled, which is sufficient for their bodies to have integrative unity. If, however, high cervical cord transection is functionally equivalent to whole-brain death—insofar as both conditions involve the loss of electrical communication between the brainstem and the rest of the body—the bodies of patients in this condition should not have integrative unity, which contradicts what follows from their being rationally ensouled. As a result of this contradiction, Shewmon concludes that the notion of whole-brain death being sufficient for the loss of integrative unity should be abandoned.[117]

Responding to this case from a Thomistic hylomorphic perspective requires first recalling the metaphysical relationship of a human person to his body (chapter 2). A human person is not identical to either his soul or the constituent matter of his body. Rather, a human person is *composed* of his rational soul informing his material body. Aquinas holds that the metaphysical relationship of *composition* is not equivalent to *identity*: something *A* may exist as composed of something else *B*, but *A* is not identical with *B*. Aquinas adopts this thesis in commenting upon the type of composition that results in two things forming a substance that is *unum simpliciter*. Applying the notion of composition without identity to a human person's relationship to his ensouled body, Aquinas contends that a person's capacities and activities must be attributed to the person himself and not to any of his parts. A person's soul is the source of his capacities, and his body is the material support for such capacities; however, a human person is the substance that *has* the capacities and *actualizes* them. That composition is not equal to identity allows for a substance to lose some of its constituent parts without loss of its identity. For example, while a person normally exists with two hands, as

defined by his human nature, he could lose a hand and still exist as the same person.

Returning to the case at hand, given that life-support machinery cannot become a proper part of a human body's substantial unity and that a body dependent on artificial support for its vital functions cannot have integrative unity, it follows that the body of a patient with high cervical cord transection is no longer informed by his rational soul below the point of the transection.[118] The patient remains conscious and able to control his body above the level of the transection, which indicates that he is alive and informed by his rational soul; but his soul now informs only his head and those parts of his body that his brain can still control, such as motor control over his facial muscles and other parts of his head such that he can communicate, grimace, move his eyes, and so on. The rest of his body, though still structurally joined to him, is no longer a *proper part* of him because it no longer participates in his integrative organic functioning. With the help of artificial life support, the rest of the body continues to circulate oxygenated blood to the brain, which allows it to continue functioning and the patient to remain conscious.[119] This relationship, though, of body to brain is no different than if the patient's head were severed and connected to an external mechanical pump; as will be discussed below, neither the pump nor the body is a proper part of the patient.[120]

This conclusion is admittedly counterintuitive, and Shewmon exploits this feature of it: "Is such a body an implacably disintegrating 'collection of organs,' or a live 'organism as a whole' that happens to be severely disabled and dependent on medical technology? If the former, then we would have the bizarre anomaly of a 'conscious corpse'; if the latter, then the [brain-dead] body must equally be an 'organism as a whole' despite *its* severe disability and technological dependence."[121] Shewmon presents a false dilemma, because this account does not entail the "bizarre anomaly" of a "conscious corpse" for two reasons. First, it is not the body—the so-called "corpse"—that is conscious but the human person now composed of only his head. Second, the part of the body that no longer composes the person is a "corpse" only in the technical sense of not being informed by a rational soul; but this does not imply that there is no life in the body. The cells and independent organ systems maintained with artificial assistance are each alive, each informed by a

vegetative soul; they just no longer constitute the person's life—that is, their vegetative capacities are no longer those of the patient's rational soul. If a patient with high cervical cord transection regains functional unity of his brainstem with the body connected to him—by having new neural tissue or an artificial electrical conductor[122] grafted onto the spinal cord to eliminate the transection—then his rational soul will reinform the body owing to his brainstem's control over the body's vital functions being reinstated.[123]

Shewmon also constructs a thought experiment involving *decapitation* followed by artificial maintenance of both the severed head—such that consciousness persists—and the decapitated body that presents, according to Shewmon, evidence of somatically integrative functions as in the real-life cases of whole-brain-dead individuals discussed above.[124] Concerning the ontological status of the decapitated body, Shewmon asks, "Is the ventilated, non-bleeding, headless body a mutilated and terminally ill 'organism as a whole' or a mere unintegrated collection of living organs and tissues?"[125] On the basis of the above considerations, I conclude that the latter is the case in agreement with Stephen Napier:

> Even though the decapitated organism evinces some level of unified functioning, this is *imposed* from without. The unity is not a property of the body, for the body would disintegrate without these supports. The body has permanently lost the ability to integrate itself due to the loss of the head. This is evidence that the soul is not present in the body. . . . If the organism requires artificial life support due to permanent loss of the organism's *own* ability to regulate vital functions, then this is good evidence that the rational soul has departed *that* body. Admitting that the body needs *external* support (a respirator) is just to admit that the body has lost its own resources to maintain vital functioning. This is evidence that a rational soul is not present.[126]

Shewmon raises a concern with locating the persisting human person with her severed, and still conscious, head—namely, that such a view implies a problematic identification of a person with her conscious brain, such that the irreversible cessation of consciousness—higher-brain death—would entail a person's death and not the loss of integra-

tive unity.[127] While a valid concern, this implication is not logically *entailed* by the conclusion that the person's soul continues to inform only her conscious severed head if we understand the head itself to be a *living body* that continues to compose the person. If, for instance, higher-brain functions were irreversibly lost in the severed head but the rest of the brain—including the brainstem—remained functional, then the person would still be alive until total brain infarction ensued.

This construal of what occurs in Shewmon's thought experiment raises the question of whether a conscious head, separated from its body, constitutes an *organism* and—depending on the answer—whether being functionally or structurally decapitated involves a *substantial change* if being an organism is understood as an essential property of an embodied human being.[128] On the one hand, it seems quite clear that a severed head is not in any sense an "organism" insofar as this term refers to something that "functions as a unit, maintaining homeostasis, metabolizing food, excreting waste, assimilating oxygen, maintaining its boundary, and so forth."[129] Addressing himself directly to Bernat and other whole-brain death proponents, Jeff McMahan contends, "Once the brain has been separated from the rest of the organism, it no longer has any claim to be the control center of anything. It therefore has no more claim to be the organism than the heart would have if it were extracted and kept alive."[130] Peter van Inwagen and Eric Olson argue to the contrary that a human organism can be pared down to "a naked brain" and transplanted into another body.[131]

As I have described it above, the Thomistic hylomorphic perspective would agree with van Inwagen and Olson insofar as they hold that "where my brain [as a whole] goes, go I"; but I take seriously the counterclaim that a separated brain, or severed head, would be insufficient to constitute an "organism." Human persons should thereby be understood as organisms only *contingently*, provided that being an organism is not understood as equivalent to, or as a necessary condition for, being an *animal*; for being an animal is unquestionably an essential property of human persons according to Aquinas.[132] As discussed in chapter 7, if one takes account of Aquinas's metaphysical view of a human being's postmortem existence, it is conceivable for a human *animal*—defined in terms of the persistent existence of a rational soul with unactualized vegetative and sensitive capacities—to exist without being composed of

a material, organic body.[133] Hence, when Christopher Reeve suffered "functional decapitation" following his riding injury, he may have ceased to exist as an *organism* but he did not undergo a substantial change insofar as he persisted as the numerically same *rational animal*—just an animal smaller in size than he was previously.

Shewmon's construal of the decapitation case raises its own metaphysical conundrums. John Lizza, for example, challenges Shewmon's conclusion that a whole-brain-dead or decapitated, but artificially maintained, body may continue to be rationally ensouled—meaning that it possesses, in addition to its putatively active vegetative capacities, unactualized capacities for sentience and self-conscious rational thought and autonomous volition.[134] While I agree with Shewmon, contra Lizza, that an organism that has suffered the irreversible loss of higher-brain function may continue to be rationally ensouled—and thereby compose a human person—Shewmon's extension of this conclusion to a whole-brain-dead body appears to be, as Lizza terms it, "vitalism run amok." This seems particularly true when comparing, in Shewmon's thought experiment, the decapitated body to the conscious, thinking head.[135]

Shewmon's response is to assert that *both* are ensouled in some fashion. He agrees that the conscious, thinking head must be clearly rationally ensouled; but what about the decapitated body, given his contention that it remains an organism with integrative unity? Shewmon presents three options: (1) it is informed by a newly created nonrational soul; (2) it is informed by a newly created rational soul, which would entail that it composes a separate *person*;[136] (3) the original person's soul informs both the spatially separated head and body.[137] If Shewmon's argument holds that such a body persists as an organism with integrative—that is, substantial—unity, then the first option is the most apparent given the evidence at hand of the body's inherent capacities, which do not include capacities for sentience or self-conscious rational thought and autonomous volition, and is also less metaphysically problematic in comparison to the third option. This option requires, however, the postulation of a new living substance coming into existence at the moment of functional separation of the head from the rest of the body. My response to the question at hand—namely, that the decapitated, artificially sustained body fails to constitute an *organism* at all[138]—does not require such multiplication of substantial entities.[139]

Argument from the Radical Capacity for Sentience

In light of Shewmon's objections to the "brain as integrator" rationale for defending the whole-brain criterion, Patrick Lee and German Grisez have proposed an alternative rationale based upon a Thomistic conception of human nature.[140] Their central argument is as follows:

1. A human being is essentially a rational animal.
2. Possessing the radical capacity for sentience is necessary in order to be an animal (rational or otherwise).
3. Irreversible cessation of whole-brain function is sufficient evidence of the entire loss of the radical capacity for sentience.
4. Therefore, the irreversible cessation of whole-brain function is sufficient evidence of the ceasing to be of an animal.
5. Therefore, the irreversible cessation of whole-brain function is sufficient evidence of the death of a rational animal, a human being.[141]

Michel Accad criticizes Lee and Grisez's argument by first claiming that "hylomorphism prohibits the determination of substantial identity by means of empirical assessment of a given matter, because the matter in question is actualized by its present substantial form." He goes on, "To say that the substantial form of the body is *necessarily* of a certain kind ('non-human') *because* the part [i.e., the brain] has a certain property ('radically incapacitated for sentient functioning and rational thought') gives matter more power than hylomorphism allows it to have."[142] Accad is right insofar as matter alone has no power to determine what kind of form it has. Matter alone is what Aquinas terms "*prime* matter," which is merely *the potential to receive form*.[143] In actual substantial generation, however, forms do not inhere in matter without such matter being *properly disposed* to receive that specific kind of form. Hence, as noted above, a rational soul can inform only a body with the requisite sense organs to support intellective cognition—or at least a body with the *intrinsic active potentiality* to develop such organs. In human generation, sperm and ovum must combine to form a body suitable for rational ensoulment (chapter 5); otherwise, what is to stop a rational soul from informing a canine or frog embryo, or a tree or a computer for that matter? More germane to the present discussion, what is

to stop a rational soul from informing the matter of a *corpse*? Accad would presumably accept that we can distinguish a corpse from a living human body even if—just after death has occurred—there is no evident structural difference between the two. The only evident difference is one of *absent function*: a corpse does not exhibit any active vegetative functions that would indicate it is still informed by at least a vegetative soul. Lee and Grisez are simply pointing toward the evident absence of a rational soul's active sensitive functions to indicate that it no longer informs what may still be a living human body.

And this is precisely what leads Lee and Grisez's proposal to a conclusion they would explicitly reject: a human being who had suffered only irreversible loss of higher-brain function, but whose brainstem and cerebellum were intact and functional in maintaining spontaneous respiration and circulation, would also no longer count as a rational animal. On this construal, Terri Schiavo would have ceased to exist when she first entered a persistent vegetative state in 1990 from which she was unable to recover; what was sustained for the next fifteen years would have been merely a living, but nonsentient, organism.[144] Furthermore, Lee and Grisez's thesis would imply that *anencephalic* fetuses and neonates are not human beings since they too lack the rational capacity for sentience.[145]

Lee and Grisez's concept of "radical capacity" echoes the Aristotelian distinction between an "active potentiality"—or "first actuality"—and the actualization of that potentiality—"second actuality" (chapter 5). They contend that a human embryo or fetus, which is not yet *actually* conscious or thinking, nevertheless possesses the *inherent radical capacity* to develop itself into an actually conscious, thinking person. Additionally, a human being may suffer a severe condition that precludes the *actualization* of her radical capacity for sentience, but the capacity may persist nevertheless. Hence, a human being in a comatose state, but whose brain remains sufficiently structurally intact such that she could in principle regain consciousness, retains the radical capacity for sentience and is thereby still an animal. In more severe cases, however, involving actual *destruction* or *absence* of the neurological structures required for sentience, Lee and Grisez conclude, "If an organism has neither brain tissue nor the capacity to develop it, then it entirely lacks mammalian sentience."[146] This is evidently the case with anencephalic

fetuses and infants, as well as patients, such as Terri Schiavo, who are properly diagnosed as being in an irreversible persistent vegetative state due to irreparable damage to critical cerebral structures required for consciousness, thought, and volition.

I affirm the metaphysical foundation for Lee and Grisez's view. I thus do not agree with Accad's claim that we cannot epistemically infer the presence or absence of a rational soul by observing the evident functions—or evidence of the radical capacities for such functions—that are in principle actualizable in a particular human body.[147] There must, however, be a *minimal threshold of evidence* for a rational soul's most basic capacities being actualizable in a particular body that would allow for a *reasonable inference* that this body is indeed informed by this type of substantial form. Otherwise, it becomes theoretically possible to claim that a dog, mouse, hydrangea, or cell phone is informed by a rational soul on the basis of mere assertion, without evidence, that it possesses radical capacities for life, sensation, and rational thought.

I disagree, however, with Lee and Grisez's claim that the radical capacity for *sentience* is the essential divisor between rationally ensouled human beings and nonhuman bodies. Hypothetical arguments may be formulated that take their basic metaphysical approach in either direction away from their own conclusion. In one direction, it could be argued that they mistakenly focus on the *generic* category to which human beings belong—animal—instead of the *specific* difference between us and all other kinds of animals—rationality. Individuals in PVS, 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 cerebral functioning to support a reasonable inference that they possess the radical capacity for rational thought.[148]

Lee and Grisez could counter with two hypothetical responses: (1) the radical capacity for rationality may still be present so long as there is a minimally conscious animal; (2) we lack sufficient epistemic certainty to conclude that such patients lack rationality. Contra (1), there is no more reasonable basis to infer the radical capacity for rationality in a minimally conscious individual than there is to infer the radical capacity for sentience in a whole-brain-dead individual. Both have suffered irreversible damage to critical areas of the brain supportive of, respectively,

higher-order rational thought or sentience. If Lee and Grisez are going to accept one type of neural damage as indicative of the loss of a radical capacity essential to human beings—sentience—they should accept the other as reliable evidence for such a loss—in this case, rationality—as well. Unless, that is, (2) is correct; however, (2) does not rule out *in principle* the development of sufficiently precise diagnostic techniques to establish, with adequate *moral certitude*, irreversible damage to cerebral structures that are fundamentally critical to supporting self-conscious rational thought and autonomous volition.[149]

In the other direction, while it is certainly unreasonable to infer the existence of a radical capacity for sentience in a corpse, a rhododendron, or a pencil, it is not unreasonable to infer the persistence of such a capacity in a still-living human organism whose vegetative functions are intact. Lee and Grisez contend, "If the living remains [of a whole-brain-dead human body] have a soul, then it is a vegetative soul, not a rational or animal soul."[150]

I argued above against hylomorphic-based arguments in favor of higher-brain death on the basis of Aquinas's strong contention of the *unicity* of a human being's substantial form. As discussed in chapter 5, Aquinas holds that a human being's proper capacities do not begin to exist in a developing human embryo or fetus at the same time; vegetative capacities are actualized first, then sensitive capacities, and finally rational capacities signaling the existence of a human being. Nevertheless, once a rational soul is instantiated as *the* substantial form of a human body that has developed sufficiently, it alone possesses *all* of a human being's proper capacities: vegetative, sensitive, and rational.

Aquinas thus argues at great length that a human being's proper capacities have their source in *one* substantial form: a rational soul.[151] Once a rational soul informs a properly disposed human body, the body must lose its disposition for *all* of the soul's proper capacities in order for the separation of soul and body to occur. Accepting Lee and Grisez's interpretation entails the following metaphysical description of how human death occurs: there exists first a rational substance informed by a rational soul, and then a merely living substance informed by a vegetative soul, and then finally a lifeless corpse—and in some cases their view may allow for an in-between stage involving a sentient, but nonrational, animal informed by a sensitive soul. This description violates Ockham's

Razor, which states that *ceteris paribus* the simplest explanation of a given phenomenon—that is, the explanation that is the least ontologically complex by requiring the postulation of the least number of entities—is that to which one ought to assent (chapter 1). An immediate transformation from a rational substance into a lifeless corpse upon the irreversible cessation of whole-brain function is the simplest explanation warranted.

My aim in this chapter has been to develop a proper Thomistic understanding of the end of a human being's embodied existence—the possibility of postmortem bodily existence having been set aside until the following chapter. As with the beginning of human life, such an understanding involves determining when a rational soul can be asserted as the substantial form of a particular human body. The evidence supporting this assertion is the body's having at least active potentialities for vegetative, sensitive, and rational operations. I conclude that, parallel to the conclusion arrived at in chapter 5 concerning the beginning of a human person's life, the presence of a primary organ through which integrative vegetative functioning is exercised, and thus a human body's organic/substantial unity is achieved, signals that the body is informed by a rational soul. Evidence that the brain typically functions as the integrative foundation for its body's vegetative and sensitive operations, as well as being correlated with rational operations, indicates that it is a fetal, infant, and adult human body's primary organ in most cases.[152] Therefore, the cessation of *both* a brain's rationally correlated and biologically integrative functioning indicates that a particular human body is no longer informed by a rational soul. The whole-brain criterion thus suffices for determining when a human being has died.

CHAPTER SEVEN

Is This All That I Am?

Postmortem Persons

Thomas Aquinas provides an account of human immortality and bodily resurrection intended to be both faithful to Christian scripture and metaphysically sound as an application of the Aristotelian view of human nature. Unfortunately, while we have the benefit of several presentations of Aquinas's arguments for a human soul's persistence beyond its body's death, Aquinas died before completing the final part of the *Summa theologiae*, and so we lack what would have been his most mature thinking on the doctrine of bodily resurrection.[1] Instead, a *supplementum*—appended by his secretary, Reginald of Piperno—reproduces the latter half of Aquinas's commentary on book 4 of the *Sentences* of Peter Lombard, which is one of his earliest works.[2] Because of this lack of a definitive final statement on the matter, it remains an open question for contemporary Thomistic scholars how Aquinas's view of the Resurrection's metaphysical mechanics may have developed from his earlier treatment.[3]

Since Aquinas's time, a plethora of alternative metaphysical accounts have been developed. So the question arises of how Aquinas's account, suitably understood, stands up against what may be more sophisticated views—particularly those that fall squarely in the *materialist* camp of contemporary metaphysics. Throughout this volume, I have shown how Aquinas's hylomorphic view of human nature navigates between the rocks of *reductive* materialism, which holds that nothing exists

over and above material bodies and their constituent parts, and the shoals of *substance* dualism, which holds that we are essentially mental entities who have only a contingent relationship to our bodies. With respect to postmortem existence, Aquinas holds the dualist thesis that at least part of a human being—her rational soul—continues to exist beyond bodily death; but he also makes the materialist claim that bodily resurrection—the reunion of soul and body—is necessary for a human being to exist with her complete nature.

I first offer a tour of various dualist and materialist accounts of how a human being may persist through death and resurrection, raising at least one significant difficulty each faces. I next elucidate Aquinas's view of human postmortem existence and bodily resurrection. In so doing, I adjudicate two interpretive disputes concerning (1) whether the exact same material constituents must compose one's resurrected body as composed her body at, or sometime prior to, her death, and (2) whether a person persists between her body's death and resurrection as composed of her soul alone. With respect to the first dispute, Aquinas explicitly states that any matter may be utilized to compose one's numerically identical resurrected body, yet he considers the use of available matter that composed one's body at death to be "fitting." Concerning the second dispute, Aquinas denies that a separated rational soul is identical to a human person, yet he ascribes numerous, seemingly "personal," qualities to the soul throughout the interim state between death and resurrection. While these debates have been ongoing among Thomists, I offer additional textual support and argumentation for the interpretations I support, striking a balance between faithfulness to what Aquinas explicitly holds and overall metaphysical soundness. Finally, I contrast Aquinas's view with the competing views described below and show how the former avoids or may respond to various problems the latter face. I conclude that Thomistic hylomorphism has several advantages over competing theories insofar as it provides a metaphysically determinate criterion of personal identity; does not require God to preserve one's postmortem identity, only to effect the reunion of one's soul with matter to inform; does not depend upon God curtailing his omnipotence in an ad hoc fashion to preclude the creation of duplicate survivors; and accounts for the evil of bodily death.

Saving Souls: Dualist Accounts of Postmortem Survival

For *substance dualists*, who hold that a person is identical to an immaterial soul, postmortem existence and identity are easy to account for: a person enjoys uninterrupted existence when her body dies by persisting as the numerically same soul.[4] This thesis, however, is not essential to dualism. Richard Swinburne, for instance, describes his account as a version of "soft dualism" and distinguishes it from what he calls "hard dualism," in which a human soul is *necessarily* immortal. He contends that, while a human soul is something distinct from a physical body, it may depend upon a body for its mental functioning, as well as for it to interact with other persons: "Without bodies we would be solitary creatures."[5] Thus a postmortem human soul may cease to function; nevertheless, "It is a separate thing which a God if he chooses can make to function again."[6] Swinburne claims that a "person" exists insofar as she can experience, act, and have "rich" and "complex" mental states.[7] A person is "human" insofar as she has a body with a certain genetic structure. If a person can exist as a soul alone, then she is capable of ceasing to be human without ceasing to exist.[8] A human person's existence, qua human, is not essential to her existence as an individual person. Swinburne understands a person's possible postmortem existence to involve continued survival as a "pure mental substance" with the possibility of being brought into causal interaction with a new body.[9]

An interesting observation concerning a dualistic construal of human death is that it does not entail the nonexistence of a person insofar as a person is essentially an immortal soul.[10] This raises the morally relevant question of whether death—and a fortiori killing—can really be understood as an *evil* for the person who allegedly "dies." While not an argument against the coherence of dualism per se, this question calls for a theory that accounts for the immeasurably tragic nature of bodily death. Swinburne's account can accommodate this desideratum insofar as he holds that a disembodied soul may be functionally inert or perhaps "lonely."[11] This seems like an ad hoc adjustment on Swinburne's part, though, as there is nothing essential to his overall view that requires him to espouse the idea that a person's soul could not function or would have diminished functionality in a disembodied state.[12] I will show how the

Thomistic understanding of the soul provides for the tremendous loss that bodily death brings to a human being's life.

William Hasker argues that a conscious mind, endowed with causal powers and free will, *emerges* from the complex, organized functioning of a human brain—analogously to how a magnet produces and sustains a magnetic field.[13] This view allows for the possibility of postmortem existence with continuity of personal identity if God provides a new material "base" for a person's field of consciousness "in the form of a resurrection body."[14] Hasker does not provide a specific criterion that secures the persistent identity of a person through death to resurrection but rather relies on God to guarantee that the self whose existence is being sustained is the *same* self, although he does mention the importance of continuity of *memory* being maintained to preserve the postmortem person from being "crippled at best."[15]

Hasker's account, like Aquinas's, attempts to navigate between the Scylla of reductive materialism and the Charybdis of substance dualism. His account of the Resurrection, however, has a self-admitted difficulty of potentially leading to "too many thinkers." I discussed this problem in chapter 2 and will revisit it below to show how it arises, in the context of the current topic, for emergent dualism and how hylomorphism can avoid it. Furthermore, Hasker's account relies upon God to provide for the re-emergence of one's conscious field;[16] it also relies on God to guarantee that the re-emerged field is *numerically identical* to the field that collapsed when its generating cerebrum irreversibly ceased to function.[17] Contra Hasker, I consider a more acceptable account of postmortem existence to be one that *minimizes* the necessity of divine intervention by grounding immortality and self-identity in the very nature of human persons themselves. Consider this principle a *theological version* of Ockham's Razor: one ought not to multiply acts of divine intervention beyond what is minimally necessary to account for the phenomenon in question.[18]

Reassembling Bodies: Materialist Accounts of Resurrection

For *animalists*, who deny that human beings have any immaterial component that may persist beyond the body's death, the possibility of

postmortem existence is secured only if the numerically same body is resurrected.[19] But a difficulty arises insofar as the physical dissolution of one's body would seem to preclude the *material and causal continuity* required for the body's persistent identity.[20] As Peter van Inwagen contends, God would be the causal agent responsible for the resurrected body instead of the body's own life processes.[21] Eric Olson concurs:

> *You* have to cause *yourself* to continue existing. It isn't something that other beings or outside forces can do for you. They can help, of course: that's what doctors and drugs and life-support machinery are for. But they can't do the whole job. Likewise, you have to cause yourself to be the way you are at later times; your future state cannot be entirely the result of outside forces. No being existing tomorrow could be you unless it were caused to exist and to be the way it is then at least in part by your existing and being the way you are now. A person is a self-sustaining being.[22]

To satisfy this "immanent causation" requirement, van Inwagen entertains the possibility that God removes the corpse at death and replaces it with a simulacrum, thereby providing for the body's uninterrupted life from the last moment before death to the first moment of resurrection.[23] This proposal has the worrisome consequence that "God is engaged in deception on a monumental scale" insofar as there is a decided tendency to believe that the corpses of our loved ones are not mere "simulacra."[24] Why, one might ask, do Christians and others engage in symbolic and ritualized burial ceremonies? For the living, one could respond. But consider that most people, and not only the religiously inclined, understand the desecration of a corpse somehow, in some extended sense, to "harm" the dead; people regularly visit their loved ones' graves or keep their ashes close to them; and Roman Catholicism considers burying the dead a "corporal work of mercy."[25] Granted, this is not a logical *reductio* of van Inwagen's proposal, but it does motivate the search for a more socially and theologically satisfying account.

Dean Zimmerman attempts to preserve material and causal continuity by postulating that God empowers each constituent particle of one's body to divide at the moment of death: one set of particles continues to compose a living organism—the resurrected body—and the other

set composes a corpse. Since a corpse is not alive, it would be incorrect to say that the living organism that existed just prior to fissioning at the moment of death is identical to it. Rather, the organism's life continues in the resurrected body produced by the fissioned particles.[26]

David Hershenov finds Zimmerman's proposal problematic insofar as, in the case of natural organic fission, the resulting entities are "each half the size of the original."[27] In order to have a corpse and a resurrected body both of the appropriate size, the "extraordinary" nature of the fission must presumably involve God adding new matter to each fissioned particle. This maneuver, however, violates the principles of *part assimilation* by which new matter is able to become "caught up in the life" of an organism without affecting the organism's numerical identity through time and mereological change.[28] Zimmerman responds that Hershenov's proposed principle of part assimilation is not determinately true, as it does not account for the view that the most basic particles that compose a living organism—that is, the fermions (protons, electrons, and neutrons) that constitute each atom—do not persist in the way Hershenov's principle would require them to in order for a living organism to persist throughout its earthly life, because of the inability to "track" the position of such subatomic particles that may randomly switch places in different permutations of a quantum-level system.[29] Hence, this principle is too restrictive to be used to disallow postmortem persistence as Zimmerman's model describes it.

A couple of points may be raised in response to Zimmerman's appeal to quantum-level indeterminacy to call into question the standard view of persistence and Hershenov's criterion for numerical identity with mereological change. First, while Zimmerman notes that the quantum-mechanical view he presents offers a putatively "best explanation" for describing the lack of subatomic "trackability," it is nevertheless an *assumption* that must hold true if Hershenov's part-assimilation principle is to be falsified. Second, it is arguable that fermions are not suitable entities to count as "particles" composing an object because of their inherent ontological instability; perhaps the lowest level of decomposition allowable for a material object is the atomic level. Hence, while Hershenov's assimilation principle would not be applicable at the quantum level, it might still be valid at the atomic (or higher) level where the fissioning process Zimmerman proposes would properly occur.[30]

Zimmerman's proposal also requires the adoption of a "closest continuer" theory of personal identity because of the possibility of one's younger self having fissioned prior to the fission that occurs at death, thereby resulting in two fissioned bodies competing for identity on Judgment Day.[31] Zimmerman's proposal may be defended by claiming that God would not allow such a dilemma to actually arise, although its metaphysical possibility cannot be dismissed.[32] As I contended above, though, a metaphysical account of postmortem survival is preferable if it *minimizes* the extent to which God must be actively involved in the process; additionally, a superior account should not require divine omnipotence to be constrained from doing what is metaphysically possible as part of an ad hoc solution to an identity dilemma.

Hershenov claims, contra van Inwagen and Olson, that material and causal continuity between a premortem and a resurrected body can be preserved through God reassembling the body's constituents in the exact same structural and functional arrangement as they were at the last moment before death. Biological processes thus play a causal role in determining the relative location of the reassembled parts of one's resurrected body.[33] Insofar as Hershenov's proposal is an attempt to preserve the identity of a human being's premortem and resurrected bodies, he admittedly must account for other perplexing puzzles related to "resurrection by reassembly" if, say, X's decomposed remains—the material constituents of X's last moment of life—become part of the soil out of which an edible plant grows and becomes partially composed of X's matter. If Y consumes the plant, some of X will come to compose some of Y. If Y dies not long after, then Y's body-at-death will share some material particles with X's body-at-death. It seems impossible, then, for either X or Y to be resurrected numerically the same.

Hershenov responds that, in such a case, X and Y cannot be resurrected *at the same time*. Perhaps X is resurrected first with the exact same particles that composed his body-at-death. Once resurrected, X can exchange some of his material constituents as part of the normal course of his restored life processes; and, after X has swapped out those particles that had composed Y's body-at-death, then Y can be resurrected. This proposal invites unwanted theological consequences as the general resurrection is doctrinally held to be a singular event at the end of time.[34] If time stops when the Resurrection occurs, there will be no later time

when Y could be resurrected after X. There is also no reason to suppose, as this solution requires, that the "ebb and flow" of material constituents that occurs during our earthly life will continue postresurrection. Aquinas, for example, sees no need for human beings to eat or drink in order to maintain their resurrected bodies if such bodies are in a "glorified" state of physical perfection.[35] Intractable metaphysical and theological issues thus persist for any animalist account of bodily resurrection.

Lynne Baker claims, "If a Christian *need not* be a mind/body dualist, then she *should not* be a mind/body dualist."[36] She thus presents her view of human persons as essentially *constituted* by, but not identical to, bodies supporting each person's unique *first-person perspective*. Baker argues that the numerically same constituents need not form a person's resurrected body, as long as it supports the same unrepeatable first-person perspective.[37] Even if a large number of qualitatively identical bodies are produced, each with all the memories and personality traits of Lynne Baker—and thus each claiming that she *is* Lynne Baker—it can only be the case that at most *one* of them instantiates Baker's unique first-person perspective.[38]

What *accounts for* the sameness of one's first-person perspective? If 101 physically and psychological identical bodies exist and all claim to be Lynne Baker, she may be correct that only one of them is indeed *her*. And while it would be out of bounds to demand that Baker provide us with a third-person epistemic criterion to determine which of the 101 is her, it is fair to require Baker to offer a plausible *metaphysical* criterion that objectively grounds her unique first-person perspective to one particular body that constitutes her.[39] Baker admits that her account lacks such a criterion and opines that "there is no informative non-circular answer to the question: 'In virtue of what do person P1 at t_1 and person P2 at t_2 have the same first-person perspective over time?' It is just a primitive, unanalyzable fact that some future person is I; but there is a fact of the matter nonetheless."[40] However, when discussing resurrection, Baker relies on "God's free decree" to preserve the unique continuity of one's premortem instantiation of her first-person perspective with the postresurrection instantiation of the same first-person perspective constituted by a numerically distinct body.[41] Below, I will show how one could import Baker's notion of the first-person perspective into Aquinas's account of postmortem personal identity while providing the requisite metaphysical criterion her own account lacks.

After critiquing alternative materialist views of postmortem survival, Hud Hudson advocates a *four-dimensionalist* view, in which human persons are each identified with a "spacetime worm" comprising various "person-stages" united by a certain relation of psychological continuity and connectedness and of whom the latter person-stages are appropriately causally dependent upon their earlier person-stages.[42] This view allows for temporal gaps in a person's existence, so long as psychological continuity or connectedness is maintained along with an appropriate causal relation between the last temporal part before the gap and the first temporal part after the gap. Here is a four-dimensionalist picture of Abraham's resurrection: "Abraham's first temporal part (a material object reportedly persisting for a whopping 175 years) had parts which were more or less spatiotemporal neighbors, and . . . despite a considerable temporal gap it will be succeeded by Abraham's second temporal part (a material object which will be eternal)."[43]

This view satisfies the desideratum that the premortem Abraham is numerically identical to the resurrected Abraham insofar as Abraham is identified with the spacetime worm comprising these two macro-level temporal parts—as well as the micro-level, instantaneous temporal parts that compose the macro-level parts.[44] Hudson's account of postmortem existence has much to recommend it, assuming his overall four-dimensionalist metaphysic is both coherent and preferable to its three-dimensionalist rivals, including Thomistic hylomorphism. There are, however, significant objections to four-dimensionalism (chapter 4) that arguably suffice to motivate the search for a three-dimensionalist ontology that accounts for, among other desiderata, the postmortem persistence of the numerically same human being.

Jeff McMahan's *embodied-mind* view has a clear implication regarding the possibility of postmortem existence: unless one's cerebrum, or relevant specific regions thereof sufficient to generate consciousness, are resurrected, there is no hope of an afterlife.[45] Since McMahan's criterion of personal identity involves not merely *functional* replication of one's cerebrum but *physical continuity* as well, then the possibility of one's cerebrum being resurrected encounters the same metaphysical issues—such as preserving immanent causal relations—that other reductive materialist accounts, such as animalism, face. McMahan does not explore such issues, and thus it is unclear whether he would adopt the stra-

tegies van Inwagen, Zimmerman, or others have devised to preserve physical continuity between one's premortem and resurrected bodies. Without availing himself of such a strategy, since McMahan explicitly denies that a functionally duplicate, but physically distinct, cerebrum instantiates the numerically same consciousness, and thereby person, the embodied-mind view offers no hope of postmortem existence.[46] This lack of hope is unsubstantiated, though, since McMahan presents no argument supporting the claim that human persons are not only human organisms *in this life* but human organisms *essentially*, thereby precluding the possibility of existing in some other form postmortem.[47]

Why Not Both? A Hylomorphic Account of Postmortem Survival and Resurrection

Aquinas's account of human postmortem existence has two components. First, at death, a rational soul—the substantial form of a human body—separates from the body but continues to exist and function intellectively and volitionally, since the intellect and will do not require a bodily organ in order to function.[48] After the soul's separation, the body—now a corpse—no longer has substantial unity but is reduced to its constituent elements, which will separate from each other as it decays.[49] The second component is resurrection, in which the soul informs matter provided by God to compose the numerically same human being in her perfected state.[50]

Aquinas contends that a separated rational soul can, by virtue of its own intrinsic capacities, engage in the following activities without the benefit of its body: (1) reflect upon intellective knowledge it already gained in its premortem life and thereby gain insight and new knowledge by reaching conclusions through discursive reasoning, and (2) reflexively think about itself.[51] Additionally, with divine assistance, it can (3) cognize new intelligible forms directly infused in it by God, and (4), upon being granted knowledge of the divine nature, will itself to love God as the source of perfect happiness.[52]

Aquinas nevertheless argues that resurrection is metaphysically necessary insofar as a separated soul does not possess the complete nature of the human species; for the human essence includes both a soul and a

material body that the soul informs in order to exercise its vegetative and sensitive capacities. He thus contends that a separated soul, because it is essentially the substantial form of a particular human body, has a natural "longing" for reunion with its body;[53] accepting as a basic principle of Aristotelian metaphysics that no natural desire can persist forever in vain, Aquinas concludes that a separated soul must be reunited to the body at some point.[54] He even asserts, "If the resurrection of the body is denied, it is not easy—indeed it is difficult—to sustain the immortality of the soul."[55] Nevertheless, Aquinas contends that, since matter per se does not have the capacity to unite itself with a human soul, it must be provided to the soul by God.[56] Once provided with matter to inform, the soul functions as the *formal cause*—the "blueprint," one could loosely say—for the qualitatively and numerically same body to be resurrected out of such matter: "Since the rational soul remains numerically the same, it is united again to the numerically same body at the Resurrection."[57]

Criteria for Sameness of Body

Accounting for the identity of a person's premortem body with her resurrected body raises a significant interpretive issue, which begins with the evident nonidentity of a living human body just prior to its death with the corpse that remains afterwards:[58] "The body present [the cadaver qua cadaver] *is not* and *was not* and *could not be* the body of the man. . . . The cadaver before us is only an aggregate unity of various chemical substances, each of which has its own substantial form. Thus the hair, fingernails, etc., are not that of the man who was once alive."[59] Once a body is no longer informed by a rational soul, it undergoes a substantial change in that it has lost its substantial form and what remains is not even, properly speaking, an individual substance but rather an aggregate of distinct individual substances—the most basic elemental substances the matter of which was previously informed by the body's substantial form.[60]

Since a corpse is not identical to the living body of a human being prior to her death, how can her resurrected body be identical to her premortem body? There is apparently no continuity of identity, and thus Thomistic hylomorphism faces the same challenge as some of the materialist views discussed above. For Aquinas asserts not only that the resurrected body to which one's soul is conjoined "must be of the same

nature and species as the body that was laid down by death" and must be a "human body composed of flesh and bone, with the same organs of which it now consists," but also that "the same numerical form ought to have the same numerical matter. . . . Therefore, it is proper that, since the numerically same rational soul remains, it is reunited to the numerically same body in resurrection."[61] Aquinas does not see a problem with achieving this reunion insofar as both a person's rational soul and her body, in whatever disaggregated form it now has, persist beyond death: "None of the essential principles of a human being fall altogether into nothingness through death; for the rational soul, which is a human being's form, remains after death. . . . The matter also remains, which was subject to that form. . . . Therefore, from the conjunction of the numerically same soul with the numerically same matter, a human being will be restored."[62]

These passages leave open a couple of options for characterizing how an identical resurrected body comes about. First, the actual matter that once formed the living premortem body, and then the corpse, can be brought back together and reanimated by the soul. Second, the soul itself, insofar as it is the body's substantial form, can be said to contain the "blueprint" for that particular body *in potentia*—that is, the separated soul has all the information to form any quantity of matter into the same body that existed before death. Put another way, a rational soul is intrinsically adapted to be the informing principle of *one unique* material body. Thus resurrection involves God bringing matter together to compose the particular body of which the soul is adapted to be the informing principle. Consequently, not even God could resurrect the body of Socrates and have it be informed by the soul of Plato. All God has to do is provide matter for a rational soul to inform and thereby compose the same human person. The question at hand could be encapsulated in an analogue to the classic *Euthyphro* question: Is something S's body because S's soul informs it, or does S's soul inform something because it is S's body?[63]

The latter disjunct places the metaphysical onus on the resurrected body to be numerically the same—by virtue of material reassembly—*in order that* it may be informed by the numerically same soul: "God, therefore, if he is to bring me back to life, must go to the trouble of reassembling my old body."[64] This interpretation is supported by several passages in which Aquinas contends that the elemental constituents composing

one's body at death persist insofar as they remain informed—though no longer by one's soul. Even if they come to compose some other substance between one's death and resurrection, they remain available for God to use in reassembling one's body:

> It is evident that the matter of this human body, whatever form it may accept after the human being's death, escapes neither divine power nor knowledge. Such matter remains numerically the same, insofar as it is understood as existing under quantitative dimensions according to which it can be termed *this* matter and is the principle of individuation. Therefore, if this matter remains the same, and from it a human body is restored by divine power, and if also the rational soul, which remains the same since it is incorruptible, is conjoined to the same body, it follows that the numerically same human being is restored.[65]

Other passages, however, affirm that the numerical identity of the essential features of one's resurrected body—for example, its *corporeity*—is secured by virtue of the body being informed by the numerically same soul. For example, "Neither is the numerical identity in question impeded on the basis that the corporeity does not return numerically the same, since it was corrupted with the body's corruption. For if by *corporeity* is understood the substantial form, through which something is categorized in the genus of corporeal substance . . . such corporeity is nothing other than the soul . . . and thus the corporeity received remains numerically the same, since the same rational soul exists."[66] Aquinas further contends that matter which previously composed a nonhuman substance could come to compose a human being if informed by a human soul: "A natural thing is not what it is from its matter, but from its form. Hence, although that matter which at one time was under the form of bovine flesh rises again in a human being under the form of human flesh, it does not follow that the flesh of an ox rises again, but the flesh of a human being."[67]

That a quantity of matter composes a *human* resurrected body is sufficiently formally caused by virtue of its being informed by a rational soul, because of the soul's essential function as the "blueprint" for its body: "Whatever appears in the parts of the body is all contained origi-

nally, and in a way implicitly, in the soul";[68] "In resurrection the body is adapted to the preexisting soul."[69] The soul's formal plan for its body guarantees that the matter provided to compose the resurrected body conforms to "the truth of human nature":

> What is in a human being materially is not ordered toward the Resurrection except in accordance with what belongs to the truth of human nature, because in accordance with this it is ordered to the rational soul. Now all that is in a human being materially belongs indeed to the truth of human nature insofar as it has something of the species, but not all if the totality of matter is considered, because all the matter that was in a human being from the beginning of life all the way to the end would exceed the quantity due the species. . . . And so the whole of what is in a human being will rise again if the totality of the species is considered, which is attendant upon quantity, shape, place, and the order of the parts; but the whole will not rise again if the totality of matter is considered.[70]

Aquinas thus explains why a resurrected body need not be composed of *all* the matter that previously composed it throughout its earthly life.[71] On this view, a resurrected body is composed of all that is essential to the specific nature of a human body. That is, per Kit Fine's principles of rigid and variable embodiment (chapter 2), a resurrected body has all the requisite organs properly functioning,[72] all the parts of the body are spatially related to one another in the right way, and the body is such that a rational soul is able to reanimate it and carry out all of its essential functions for which it needs the body's organs.

Not only is all of the matter that composed one's premortem body not needed to compose one's resurrected body, but also matter may compose one's resurrected body that never previously composed one's premortem body: "For just as God does not recover all of the matter that was in a human being's body in order to restore the risen body, so also if some matter is lacking God will supply it. Indeed, nature is able to perform this function so that for a child, who does not have the quantity he should, such an amount is added from outside matter through the assumption of food and drink that suffices for him to have his perfect quantity; nor on this account does he cease to be the same in number as he was."[73]

A human body, as a living organism, does not suffer from *mereological essentialism*—the thesis that a numerically identical object persists only if it has the exact same constituents.[74] Rather, a living organism is able to "assimilate" new matter that becomes "caught up" in its life.[75] Aquinas also notes that the material constituents of a living organism are in continuous flux. Organisms undergo cellular decay, and food is taken in and transformed by digestion into raw material to generate new cells and other bodily components: "Now it is manifest that the human form can abandon this matter which is subjected to it. . . . Hence, it follows that [the soul] can come into other matter, thereby changing something else into the truth of human nature."[76] As long as there is material *continuity*, then the same substantial form and the same body persist through such changes in micro-level constituents.[77]

Of course, a human being loses all of her matter at death, and so there is no continuity of material constituents between her premortem and resurrected body. Arguably, then, "A complete change in the matter from one instant to the next would constitute another human person. The implication is that the persistence of the soul in this new matter is not enough to guarantee the continuing identity of the person."[78] As I argued in chapter 2, however, the criterion of substantial identity is not the numerically same matter but the numerically same substantial form: "For any substances x and y, x is identical to y if and only if the substantial form of x is identical to the substantial form of y."[79] This criterion applies to human beings just as it does to any other substance: "What is necessary and sufficient for something to be identical to Socrates is that its substantial form be identical to the substantial form of Socrates."[80]

The relationship of a human being's form to the matter that composes her is quite different from, say, that of a fire's form to its matter; whereas the form of a fire—or any other natural substance—cannot persist without the matter it informs, a rational soul can persist without informing a body. Since a soul's persistent existence and identity do not depend on its informing the same matter—or any matter whatsoever—a human being's identity persists even if her soul ceases to inform the numerically same matter (at death) and later informs totally new matter (at resurrection). The elemental constituents of one's resurrected body are not necessarily the same as those that composed one's premortem body,[81] but one's resurrected body being informed by the numerically

same soul renders it the numerically same body. Any matter informed by a human being's soul composes *her body*—for which the soul "longs" between death and resurrection.

Aquinas asserts that matter can be "changed into true human nature" by virtue of being informed by a rational soul: "Something is said to exist according to the truth of human nature, because it properly belongs to the being of human nature; and this is what shares the form of human nature."[82] He further contends that Christ's resurrection provides a testimony to God's omnipotence in this regard: "Christ rose again from the tomb by divine power, which is confined by no limits. Therefore, it is the case that his rising from the tomb was a sufficient argument that human beings were to be raised up by divine power not only from their tombs but also *out of any ashes whatsoever*."[83]

A pertinent theological question raised by this passage concerns whether Christ's resurrected body is composed of the same material constituents that composed it at death. In other words, if Christ's soul could have informed *any* matter to constitute his resurrected body, then what happened to the matter composing the body that had lain in the tomb for three days?[84] It should first be noted that, although God may utilize any matter to constitute one's resurrected body, Aquinas clearly asserts that God *could* utilize the same material constituents as composed one's body at death.[85] Furthermore, Aquinas contends that Christ's body did not suffer decomposition as do other dead bodies.[86] Hence, to use one of Aquinas's favorite terms, it seems only "fitting" that God would have resurrected Christ through his soul reinforming the exact same matter composing the body lying in the tomb.[87] Perhaps the same will follow for all other human beings whose bodies are preserved somewhat intact on the Day of Resurrection—for example, particular saints whose bodies have been miraculously preserved as *incorruptible*.[88] Note, however, that while Aquinas affirms that Christ's dead and resurrected body remains identical insofar as Christ did not separate from his body at death[89]—although his soul did separate and descend into hell—Christ's body did not remain identical insofar as it ceased to be a living body upon his death and life is an *essential* property of a living body.[90] Since the latter condition would follow for all other human beings, but not the former, this analysis shows that we cannot cross-compare without qualification the metaphysics of resurrection for Christ and that for

other human beings. Nevertheless, the fact that Christ's resurrection prefigures our own does provide some basis for comparison when appropriate, and, when the question arises whether Christ's body was a "true body" after his resurrection, Aquinas does not appeal to the sameness of the material constituents composing both the body in the tomb and the resurrected body that appeared to Mary Magdalene, the Eleven, *et alia*; rather, he appeals to the sameness of *form*.[91]

To conclude, I affirm the following explanation from Robert Pasnau: "Since personal identity does not directly rest on the body's numerical sameness, Aquinas need not explain how numerically the same body can be destroyed and then recreated. The question of whether the resurrected body is the same body or merely a replica does not arise, because sameness of body is accounted for in terms of sameness of form. . . . What preserves identity over time, through death and separation, is the incorruptible essence of the human soul, whose numerical sameness over time is unproblematic."[92] Since the numerically same soul is sufficient for the numerically same body to be resurrected by virtue of the soul informing matter provided by God to constitute the resurrected body, it also suffices for the numerically same human being to persist through time and change.

Is a Separated Soul a Person?

Another key interpretive issue concerns whether Aquinas holds a human being to persist as a separated soul during the interim period *between* death and resurrection.[93] Pasnau and Patrick Toner, for example, contend that Aquinas denies a human being's substantial existence during the interim period. Rather, for Pasnau, a human being exists *partially* by virtue of her soul's continued existence,[94] whereas, for Toner, a human being ceases to exist while only a *part* of her persists.[95] Christina Van Dyke also affirms this "corruptionist" view: "David's rational soul accounts for his functioning as a rational animal, but that rational animal, David, is necessarily a composite of soul *and matter*. . . . David will *not* exist, in essence, when his soul separates from his body at death. Rather, death causes a rupture in human identity that only the bodily resurrection can repair."[96] Elsewhere, she asserts, "In the case of separated souls, I think the right thing to say is that I wholly cease to exist at death, although

something interestingly related to me persists."[97] A key supporting passage comes from Aquinas's early commentary on Lombard's *Sentences*: "The soul of Abraham is not, stricly speaking, Abraham himself but is a part of him—and the same for others. So the life of Abraham's soul would not suffice for Abraham being alive . . . but the life of the whole compound is required—namely, soul and body."[98] Contrary is the "survivalist" thesis that a human being may persist through the interim state between death and resurrection composed of her soul alone.[99] Survivalists complain that corruptionism does not cohere with Aquinas's attribution of many "personal" qualities to a separated human soul, such as enjoying the rewards of heaven or suffering the pains of hell, being capable of understanding and choosing, and appearing to the living and responding to their prayers.[100]

Aquinas makes a curious equivocation when it comes to the question of prayer. At one point, he responds to an objection without denying the objector's claim that "the soul of Peter is not Peter. Therefore, if the souls of the saints pray for us so long as they are separated from a body, we should not request that Saint Peter pray for us, but his soul."[101] But Aquinas clearly asserts at another point that "prayer is a kind of act, but acts are of particular persons."[102]

Stump is thus right to raise the following question: "Suppose we ask about the separated soul that typical medieval question, *quid est?*. If the separated soul which thinks, knows, wills, desires, and grieves is not a human being, then what is it? It is clearly a *hoc aliquid*, a something."[103] Stump's contention that a separated soul "is clearly a *hoc aliquid*, a something," is apparently at odds with Aquinas's statement: "Now the rational soul to a certain extent can be called a *hoc aliquid*, this is supported by its being able to exist subsisting in itself; but because it does not have a complete species, but rather is part of a species, not everything is suitable to it that is suitable to a *hoc aliquid*."[104] Aquinas, though, denies only one respect in which a *hoc aliquid* exists—namely, something having in itself the complete nature of its species. In other words, the soul is not a *substance* in the full sense of that term. Aquinas does not deny that the soul is a *hoc aliquid* in another respect—namely, something *subsisting* in itself: "Therefore, it is granted that the soul is a *hoc aliquid*, as being able to subsist in itself, not on the grounds of its having in itself a complete species, but on the grounds of its completing the human species, as it is the form of the body."[105]

As I noted in chapter 2, in his early works Aquinas took the term *substance* to refer to anything that existed on its own without inhering in something else, as opposed to an "accident": substance equaled subsistence.[106] In later works, Aquinas makes a distinction between *mere subsistence* and *subsistence as a substance*.[107] In line with this distinction, at one point when Aquinas refers to a rational soul as a substance, he qualifies it as meaning "something subsistent" and nothing more.[108] A rational soul can thus subsist on its own, but not as a complete substance such that it would be *identical* to a human being.

A soul's persistent existence, however, *suffices* for a human being's existence. Aquinas argues that a rational soul communicates its existence to a material body such that there is one existence of a composite substance—a human being: "That same being which is in the soul is communicated to the body such that there is one being of the whole composite."[109] He elaborates: "The being of the composite remains in the human soul after the body's destruction; and this is because the being of the form and the matter is the same, and this is the being of the composite. Now the soul subsists in its own being. . . . Hence, it follows that after its separation from the body it has perfect being, and that it can have a perfect operation, although it does not have the perfect nature of its species."[110] The persistent "being of the composite" in the separated soul also partly accounts for the numerical identity of the resurrected body: "Therefore, [the soul's] being, which was that of the composite, remains in the soul when the body is dissolved; and when the body is restored in the Resurrection, it is restored to the same being that has remained in the soul."[111] Aquinas thus concludes, "And so there has been *no interruption in the substantial being of a human being*, such that it would not be possible for the numerically same human being to return on account of the interruption of his being."[112] Human beings do not experience a temporally "gappy" existence.[113]

The question remains whether the persistence of "the substantial being of a human being" in the separated soul suffices for the soul to count as *the person*. For instance, St. Paul, whose epistles are the primary scriptural foundation for the Christian doctrine of the Resurrection after the gospel accounts of Christ's resurrection, "does not refer to the departed as 'souls' or 'spirits.' But he always employs the grammar of persons: the 'I,' the self, the core person is what continues in un-

broken fellowship with Christ during this life, from death to the second coming, and forever."[114] This understanding of St. Paul's postmortem anthropology, however, must be reconciled with Aquinas's emphatic statement—assuming him to be a faithful and accurate commentator on St. Paul—that "my soul is not I."[115]

Aquinas adopts the definition of *person* developed by Boethius: "an individual substance of a rational nature."[116] By *individual substance*, Aquinas intends the Greek term *hypostasis* or, in Latin, *suppositum*, which are logically distinct but refer to the same thing in reality.[117] Prima facie, this would seem to deny attributing the term *person* to a separated soul, since it is not a substance. Note, though, how Aquinas specifies what is entailed by claiming that a person is an individual substance: "Therefore, by its being called 'substance,' accidents are excluded from the idea of a person, which may not at all be called a person. And by its being called 'individual,' genera and species in the genus of substance are excluded, which likewise may not be called persons. And by adding 'of a rational nature,' inanimate bodies, plants, and brute animals, which are not persons, are excluded."[118]

None of the categories of beings that Aquinas excludes from the definition of "person" include the rational soul, for it is not an accident, a genus or species, or an inanimate body, plant, or nonrational animal. Aquinas, however, specifies in the same article, "The separated soul is part of a rational nature—that is, of a human being—and not the whole rational human nature, and thus it is not a person."[119] So a separated soul *partially* fulfills the definition of *person*, since it is at least something subsistent and is clearly rational,[120] but it is not wholly a substance and does not possess in itself the entirety of a human being's rational nature.[121]

A tension exists, since Aquinas explicitly states that a separated soul does not meet the strict criteria for being a person. Nevertheless, the soul possesses in itself a human person's existence—her "substantial being"—as it subsists on its own after the body's death. It also has in itself the capacities by which it can act intellectively and volitionally in ways proper to a person, such as engaging in prayer.[122] Toner recommends considering a separated soul as a "person-like" entity, and morally treating it as such—for example, holding it accountable for actions that followed from its intellect and will prior to death.[123] I would counter that, so long as a metaphysically coherent picture can be offered in support of the

survivalist view from a Thomistic hylomorphic perspective—regardless of whatever conclusion Aquinas himself explicitly holds—then the survivalist thesis is preferable insofar as it is *ontologically simpler*.[124] According to the corruptionist view, first a human person exists, then a distinct person-like entity exists, and then the numerically same human person exists again after being resurrected. In contrast, according to the survivalist view, a human person exists and persists from conception through death and resurrection. No additional "person-like" entity need be postulated.

Both views may appear to be on the same parsimonious footing insofar as all of these enumerated entities share the same *subsistence* by virtue of the numerically same rational soul—regardless of whether it is composing a person or not—persisting through death, the interim state, and resurrection. Both views also share the claim that death involves a *substantial change*, which would seem to imply that there must be two numerically distinct substances: one that exists before and another that exists after the change. The type of substantial change that occurs differs for each view, however. For both views, substantial change occurs because of the separation of a substantial form from the matter it informs. On the corruptionist view, this change results in a complete loss of the original substance—the human person—and an ontologically distinct person-like entity having come into existence, with a converse substantial change occurring at the Resurrection. On the survivalist view, this change does not result in a complete loss of the original substance but rather in the substance's loss of one of its metaphysical parts; the numerically same substance thereby persists, albeit in an incomplete manner. For the survivalist, then, a substantial change does indeed occur at death insofar as matter and substantial form separate from one another, but the implication does not follow that there must be two numerically distinct substances that exist respectively before and after the change.

How is this type of substantial change possible, allowing the survivalist view to be both metaphysically coherent and concurrent with Thomistic hylomorphic principles? Aquinas has the logical resources to allow for such change and thereby resolve the tension noted above in that he holds the notion of "composition without identity": something *A* may exist as composed of something else *B*, but *A* is not identical with *B*, where *B* is a set of parts standing in a particular relation to each

other.[125] That Aquinas applies the notion of composition without identity to a human being's relationship to her soul and body is evidenced by his discussion of the attribution of a human being's capacities and activities. Aquinas contends that a human being's capacities must be attributed to the human being herself, and not to any of her parts.[126] A human being's soul is the source of her capacities; a human being's body is the material support for such capacities. A human being, though, is that which *has* the capacities. And if capacities are properly attributed to the composite substance, then even more so are the activities that follow upon such capacities.[127]

Aquinas does hold that the capacities for intellective thought and volition can be had by a rational soul itself.[128] Nevertheless, "Aquinas thinks that there is something misleading about attributing cognitive functions just to the soul itself. Rather, even such higher cognitive functions as understanding are to be attributed to the whole material composite that is the human being."[129] Even if certain capacities belong to a soul itself, their actual operations are still attributable to a human being—hence Aquinas's assertion that, because prayer is an *act*, it is ascribed to particular persons. This is important for the sake of ascribing moral responsibility for one's actions: "Operation, properly speaking, is not of the part, but of the whole. Hence, reward [or punishment] is due not to the part but to the whole."[130] Aquinas thus considers bodily resurrection to be *morally*, as well as metaphysically, necessary: "Therefore, it is necessary to assert a repeated conjunction of the soul with the body, such that a human being may be rewarded and punished in body and soul."[131] He allows, though, for a separated soul to experience reward or punishment prior to the Resurrection, since the soul has in itself the capacities for intellection and volition from which all moral acts (*actiones humanae*) proceed.[132]

By adopting the notion of composition without identity, Aquinas can consistently hold that a human being is not identical to her soul and yet persists between death and resurrection as composed of her soul alone. Before death, a human being exists by virtue of being composed of her soul as a part,[133] but she is not identical to either it or the matter it informs; for being composed of a set of parts does not entail identity with such parts.[134] Furthermore, a composed substance may lose some of its parts without loss of its identity.[135] Just as I normally exist with two

hands, as defined by my specifically human nature, I could lose a hand and still exist as the same human being. In the same way, just as a human being normally exists as composed of soul and body, she can lose her body and still be identical to herself. In such a state, a human being exists composed of her soul alone, yet she is not identical to her soul.[136]

Nevertheless, given that Aquinas defines a human being's substantial existence as composed of soul and body, a human being who exists composed of her soul alone is *deficient* by not having all the parts proper to human nature: "A human being falls apart at death."[137] This situation is analogous to my continuing to exist if my head were severed but maintained artificially, such that I would survive as a conscious, living entity, but without being—or having become—identical to my head.[138] In such a state, I would *substantially exist*; that is, it would not be the case that I was only *partially* present (part alive, part dead)—analogous to Pasnau's view—or that only my head-part existed but *I* did not—analogous to Toner and Van Dyke's corruptionist view. My existence, however, would be incomplete, since I would lack the rest of the body that I should have according to my specific nature. The same would be said of real-world cases involving, say, a soldier who had both of his legs blown off in combat: it is not the case that he is literally only "half a man," although he may *feel* like that since he is missing parts of himself he should have by nature.[139] As Richard Purtill aptly puts it, "The soul is still a person but a damaged, a mutilated person, lacking many things proper to a human person. A deaf, blind, multiple amputee is certainly still a person, though a terribly damaged one. A disembodied soul is still a person, but even more terribly damaged."[140]

Toner argues that survivalism violates the standard ontology of part-whole relations by allowing a whole—a person—to be composed of only a single part—her soul. He appeals to Peter Simons's "weak supplementation principle" (WSP): any whole with one proper part must have at least one other proper part.[141] Of course, something could be composed of only itself as an *improper* part, but Aquinas makes clear that a person is not identical to her soul; thus one's soul is indeed a proper part of her along with the matter her soul informs premortem and post-resurrection. During the interim period between death and resurrection, however, only the soul exists without any other proper part that together could compose the person. Although contemporary mereologists may

debate the soundness of WSP, Toner presents textual evidence that Aquinas adheres to it in his ontology of composed substances.[142]

While some metaphysicians, including hylomorphists, have admitted that WSP is "pretheoretically plausible," others find it to be either insufficiently supported by metaphysical intuition or outright false.[143] To show that there is nothing incoherent in denying WSP, Oderberg highlights cases that involve a single part that is spatially coextensive with a numerically distinct object it constitutes. One case involves a person who has had all of the parts of her body amputated below the neck and now exists as just a head supported by a biomechanical pump that delivers oxygenated blood to keep her alive. Clearly, this person is not identical to her head, since she previously had other parts that composed her and thereby has borne properties, such as being two-legged, that her head does not bear. Yet, also clearly, this person still exists, since her head suffices for her to exhibit all of the standard capabilities associated with personhood: self-consciousness, rational thought, autonomous volition, and so on. One might counter that a disembodied head is itself a complex material object composed of many parts. Oderberg counters, though, that there is nothing arbitrary in considering a person's head—in itself—as one of her proper parts and, in the case at hand, as her "largest proper part"; hence, despite there being innumerable smaller parts that compose her head, this person can be coherently described as being composed of only one proper part: her head.[144]

Simply showing the coherence of the denial of WSP, however, does not in itself demonstrate that a person persists by virtue of her soul alone without being identical to it. A key question remains with which the survivalist must contend: What non-question-begging *difference* distinguishes a person from her disembodied soul?[145] I contend that a human person and her soul differ in the following essential way: a human person is *by nature* a material object.[146] Aquinas is clear that a human person is naturally composed of both her soul and her material body; death, therefore, is *traumatic* for a person in an even more egregious fashion than, say, dismemberment would be. A rational soul, however, is essentially *immaterial*,[147] even if it is also essentially the substantial form of its body such that it "longs" for its body between death and resurrection. Even when it informs its body, though, this natural state of the soul does not thereby render *it* material, whereas a human person prior to death

or after resurrection *is* a material being. Put another way, a human person, in order to be a *complete* substance, must be composed of matter as a metaphysical part; her soul, though, does not possess the matter it informs as a part but is rather on an ontological par with matter as a person's other metaphysical part insofar as both are incomplete substances: "A person has the intrinsic tendency to *be* a hylomorphic compound; the soul, however, has no tendency to be a compound, only to *unify* with another part so as to constitute a complete person."[148] Another response is that a person, as a substance, is capable of receiving accidental forms; since such forms are distinct from a person's substantial form, and since a substantial form is not something that can receive accidental forms insofar as it is not a substance, a person must be distinct from her substantial form—that his, her soul.[149] Regardless, then, whether Aquinas explicitly adheres to the corruptionist view, it is defensible, in line with Thomistic hylomorphic principles, that Aquinas *could* have—and arguably *should* have—consistently held the survivalist thesis.

Critique of the Thomistic View

Baker argues that the Thomistic view of bodily resurrection faces two intractable difficulties. First, it is metaphysically impossible for a corruptible body—that is, a body that composes a human being premortem—to be numerically identical to an incorruptible body—that is, a resurrected body—insofar as the two bodies have distinct *persistence conditions* that are essential to the identity of each. The second difficulty concerns the *individuation* of separated souls that are no longer related to a particular body, especially since—as I argued above—any matter may be used by God to compose one's resurrected body.

Baker lays out her first criticism thus: "Earthly bodies are organisms, and organisms are essentially carbon-based.[150] Anything that is carbon based is corruptible. So, anything that is incorruptible is not carbon based, and is not an organism, not a human biological body. Since resurrection bodies are incorruptible, they are not carbon based and hence not identical to organisms, human biological bodies."[151] The central premises underlying this argument are that "things have their persistence conditions essentially" and that Thomism "construes a person's corruptible body to be essential to her."

Baker is correct that Aquinas understands one's resurrected body to be incorruptible and numerically identical to one's premortem, corruptible body. He disagrees, however, that a human body's corruptibility is *essential* either to it or to human nature in general:

> We sometimes use accidental differences to signify essential differences that are the causes of the accidents. Hence, "mortal" is put in the definition of a human being, not as though mortality pertained to the human essence, but because that which now is the cause of passibility and mortality according to the present state of life—namely, composition out of contraries—is of the human essence; but it will not be the cause of it then [i.e., after the Resurrection] because of the triumph of the soul over the body.[152]

To restate Aquinas's assertion in light of Baker's criticism: It is essential for the body that composes a human being to be a carbon-based organism; but it is not essential for a carbon-based organism to be corruptible. Corruptibility follows from existence as a carbon-based organism insofar as, premortem, a human soul does not perfectly inform the body; Aquinas considers this a consequence of the Fall and the progression of time.[153] It thus *appears* that corruption is an essential property of organic bodies. One's resurrected body, though, will be *perfectly* informed by one's soul once time has ceased at the general resurrection; as a result, corruptibility will no longer be a property of human beings or the bodies that compose them: "The incorruptible form confers incorruptible being onto the body, nothwithstanding its composition from contraries; for in this respect the matter of the human body will be wholly subject to the human soul."[154] Aquinas thus concludes, contra Baker: "Therefore, it is not for this reason that a human being rises immortal: that he resumes another incorruptible body . . . but for this reason: the same body that now is corruptible, will become incorruptible. . . . In the resurrected state, the corruption of flesh and blood will be removed, the substance of flesh and blood yet remaining."[155]

Baker's second difficulty concerns the alleged necessity of a separated soul to be *individuated* by means of its relation to a body that does not exist during the interim period between death and resurrection. This problem appears to be particularly acute if any matter may be utilized by

God to compose one's resurrected body: "God can make the body of Peter out of the dust that was once the body of Paul."[156]

Aquinas is well aware of the need to provide a principle by which separated souls may be individuated. He sets up the problem with the following dilemma: "For, if human souls are multiplied according to the multiplication of bodies . . . then, with the destruction of bodies, souls cannot remain in their multitude. Hence one of two things must follow: either the human soul ceases to be completely or only one soul remains."[157] Either a human soul perishes when its body is corrupted, which Aquinas has established cannot happen, or only one soul remains as *the* soul for all human beings. The Latin Averroists defended the latter and held that there is one specific form of humanity, and thus one intellect, for all human beings; it is this universal intellect that subsists without respect to any material body.[158] Aquinas accepts neither of these alternatives and proposes a third: "Everything has unity in the manner in which it has *esse* [being/existence]; and consequently, we make the same judgment about the multiplication of things and their *esse*. Now, it is clear that the intellectual soul, according to its *esse*, is united to a body as form; and yet, at the destruction of the body, the intellectual soul remains in its *esse*. By the same reason, the multitude of souls is according to the multitude of bodies; and yet, with the destruction of bodies, souls remain in their multiplied *esse*."[159]

Aquinas draws an important distinction regarding the individuation of souls in relation to bodies that allows this third alternative to go through: "Souls are multiplied *according to* the multiplication of bodies, yet the multiplication of bodies *will not be the cause* of the multiplication of souls."[160] Rather, the cause of a human soul's individuation will be the same as its being (*esse*)—namely, God, who directly creates the soul of each individual human being.[161] A human soul is a subsistent being; it has its own *esse.* A human soul, however, is not created except *in relation to* a material body of which it is the substantial form.[162] A human soul informing a designated material body constitutes the *esse* of an individual human being at the beginning of and throughout her embodied life.

The key to a separated human soul's individuality is its relationship to a particular body of which it is the substantial form. While it is not acting as the substantial form of a body when separated, a human soul

does not lose its natural inclination to be the substantial form of one particular body: "Therefore, just as it is of the soul's nature that it is the form of a body, so it is of *this* soul's nature, insofar as it is *this* soul, that it has an inclination toward *this* body."[163] Baker notes this claim in her argument against Thomism by pointing out that, during the interim period between death and resurrection, there is *no body* toward which a separated soul may be inclined. She does not take account, however, of the Thomistic premise that, because it has been created by God *in* a particular body as its substantial form, a separated human soul preserves *in potentia* the "blueprint" for that particular body of which it is the substantial form:[164] "It is possible for one separated soul to be distinguished from another on the basis of its *past* connection with matter, rather than on the basis of a present connection with matter. The disembodied soul of Socrates is the substantial human form which at some time in the past configured *this* matter, the matter that was part of Socrates in his embodied state. The disembodied soul of Plato is the substantial human form which at some time in the past configured the matter that was part of Plato in *his* embodied state."[165]

It might seem puzzling "how the existence of a soul in the present can be explained by a relationship to something in the past, which no longer exists."[166] This criticism misunderstands the soul's relationship to its body underlying the above claim. It is not the case that postmortem there are two *ontologically* related entities: a disembodied soul and its nonexistent body. Rather, the two are *logically* related by virtue of the soul having been individually created within the particular body of which it is the unique substantial form; the soul is the "stamp"—to use one of Aristotle's descriptors of the form/matter relationship—that was previously impressed in the material "wax" of the now deceased body. Unlike other forms, this stamp, once it comes into existence, may persist without the wax; yet it remains the unique stamp that, when impressed anew in unformed wax, will produce the *specifically* and *numerically* same composite substance. It is thus not only by virtue of its past connection with a particular body that a separated human soul is individuated, but also by virtue of its potential *future* connection to the numerically same body when it is resurrected, deriving from Aquinas's view that one's resurrected body will be conformed to not only the specific but also the *individual* configuration of one's soul.[167]

Another objection concerns the effectiveness of purgatory given that the purification of one's soul typically has to do with the transformation of our *bodily appetites*. If such appetites are not present, insofar as the body is not present, then how can such appetites be transformed such that the resurrected person is no longer plagued by inordinate bodily desires that detract from the glorified vision of God?[168] This construal of the problem, however, reifies the body in a way that is not commensurate with Thomistic hylomorphism. For Aquinas, a rational soul informs *prime matter* to configure it into a living, sentient body supportive of self-conscious rational thought and autonomous volition. Prime matter per se is not configured and thus bears no properties, such as appetites; it is merely the potential to be configured in some fashion depending on the form that comes to inhere in it. The appetites that are subject to the transforming purification of purgatory are thus properties of *the soul*, even if such appetites are called "bodily" insofar as they relate to bodily needs or desires that are satisfied through sensation.[169] Aquinas asserts that a human being's capacities, including appetites, are diversely classified, not according to their being located in distinct substances—such as the soul or body—but according to the different objects toward which such powers are naturally aimed.[170] The unification of a human being's capacities, including appetites, in the soul is evidenced by the subjection of the sensory powers and appetites to *reason*, which marks a difference with respect to *human* sensation as opposed to that of nonrational *brutes*.[171]

It does not follow, however, that the presence of such appetites in the soul entails that the bodily capacities to pursue the satisfaction of those appetites persist also in the soul, except in a "restricted" sense insofar as the soul is the *principle* by which such powers may be produced once the soul is reunited with its body at resurrection.[172] Aquinas also argues that the subjects of virtue are capacities of the soul;[173] and he further notes, without much elucidation, how the virtues typically associated with such "bodily" appetites—such as courage and temperance—may persist in a separated soul insofar as, although the soul is unable to sense, such virtues may be associated with intellective dispositions proper to the soul per se and also insofar as "the seeds of all the virtues are in the will and in the reason."[174] Thus the purifying power of purgatory may be effective in confirming such virtues as properties of one's character such

that, once the soul informs the resurrected body and regains its ability to sense, the existence of such virtues will have persisted uninterrupted through death.

Furthermore, for Aquinas, the subject of purgatory's effects is one's *volition* insofar as it is not one's appetites themselves that led one to sin in her previous life but one's *willful* acquiescence to those appetites when doing so was not in accord with reason:

> Moreover, the order of blame and merit is harmonized with the order of punishment and reward. Now merit and blame do not belong to the body unless it is through the soul; for nothing has essentially merit or demerit except insofar as it is voluntary. Therefore, reward or punishment flow properly from the soul to the body—but it does not belong to the soul because of the body. Thus, there is no reason why, for the sake of punishment or reward, souls must wait for the resumption of their bodies; rather, it seems more fitting that souls, in which there was first blame or merit, are also first in being punished or rewarded.[175]

He thus concludes, "Now these punishments are cleansing from the condition of those who suffer them, in whom there is charity by which their wills are conformed to the divine will; from this charity the power of the punishments they suffer avails them for cleansing."[176]

Hylomorphism versus Dualism

Though not a substance dualist, Aquinas is able to account for a human being's persistent existence and identity in a "hard dualist" fashion, since he argues for the soul's essential immortality due to its immaterial intellective activity (chapter 2). In response to the earlier observation concerning dualism not involving a person's death since she survives her body's demise as her essential self—an immaterial soul—Thomistic hylomorphism, although also holding that a person may survive her body's death by virtue of her soul alone, nevertheless provides a rationale for why death and killing are inherently evil. Since a human being is by nature a soul/body *composite*, death is an "unnatural" state that robs a

person of a significant component of herself with which her soul longs for reunion via bodily resurrection; furthermore, the soul's intellective and volitional activity is curtailed without bodily support. A human person "falls apart at death," and only bodily resurrection can restore her to wholeness.[177]

Furthermore, substance dualism does not entail, but merely allows for the metaphysical *possibility* of, a person's soul surviving her body's death. Personal immortality—with or without subsequent reunion with one's body—thereby requires a *miraculous* intervention.[178] While, for Aquinas, God's miraculous intervention is needed to provide matter for one's soul to inform in order to generate one's resurrected body, it is not necessary for God either to provide for the postmortem persistence of one's soul—which follows from the soul's immaterial nature because of its intellectual and volitional capacities—or to guarantee by fiat the identity of one's premortem and postresurrection bodies, since bodily identity is preserved by virtue of being informed by the numerically same soul. Aquinas's account thus minimizes actions of divine intervention to effect a human person's postmortem survival and thereby avoids running afoul of the theological version of Ockham's Razor described above: one ought not to multiply acts of divine intervention beyond what is minimally necessary to account for the phenomenon in question.

In comparison to Hasker's emergentist view, Aquinas's account has the advantage of providing something that Hasker admittedly needs. Hasker considers the problem of a resurrected body generating its *own* field of consciousness, since it would be suitably organized to do so, before it is conjoined by God to the surviving person's conscious field—yielding two "thinkers" where there should only be one. He responds: "We must imagine the new body created from the very beginning *as the body of this very soul*; the renewed self must be 'in charge' of the resurrection body right from the start."[179] This "imagined" criterion for resurrection may seem ad hoc; but it is not so given Aquinas's account, in which an individual human being's soul is the substantial form of its particular body and, as such, contains the "blueprint" for that particular body. It would not be possible for an individual's resurrected body to exist and function without being informed by *her* soul. In Hasker's resurrection scenario, it is metaphysically possible for the body that God forms as the substratum for an individual's consciousness to generate a distinct con-

scious field unless God guarantees that it will not do so or unless God conjoins it to the individual's consciousness immediately upon its creation, as he could certainly do. Aquinas's account, however, does not require this special guarantee on God's part, since it is metaphysically *impossible* for the material body God resurrects to be informed by any soul other than the soul that informed it premortem.

Hasker's ad hoc maneuver is similar to the defense noted earlier of Zimmerman's proposal from the "closest continuer" charge. I asserted that an account of resurrection that minimizes divine activity in effecting one's survival and eschews limitations on God's omnipotent capacity to do what is metaphysically possible on such an account—such as creating duplicate competitors for one's identity—would be overall preferable.[180] A Thomistic account of human nature—employing, though not requiring, the combined Aquinas-Baker thesis sketched below—would render it metaphysically impossible for God to create competing duplicates insofar as, even if God were to create two or more qualitative identical bodies, only one of them could be the body of the numerically same human being by virtue of being informed by *her* soul, which possesses the unique capacity for *her* first-person perspective.

Hylomorphism versus Materialism

Aquinas's account of bodily resurrection is at odds with materialist theories in which sameness of body depends on having the numerically same material constituents or a continuous history of interchanged constituents, whether of one's body as a whole (animalism) or of sufficient parts of one's cerebrum (embodied-mind view). Rather, for Aquinas, sameness of body is established by sameness of substantial form—one's rational soul. Hence, the same human being can persist even if she completely lacks the *matter* that composes her body and exists by virtue of her soul alone. Compare, for example, X, Y, and Z, where X is a human being before death, Y is a human being between death and resurrection, and Z is a human being after resurrection. According to Aquinas, X and Z have the same body insofar as both are composed of matter informed by the same rational soul. In the case of Y, however, only the same rational soul persists and does not inform any matter. Nevertheless, one

can conceive of the same body persisting *virtually* insofar as the soul contains the particular "blueprint" for X's body and also possesses all the capacities that define the nature of X's body as a living, sentient animal supportive of self-conscious rational thought and autonomous volition.

Because Thomistic hylomorphism holds that a disembodied soul is sufficient for a person to exist between death and resurrection, one issue Olson raises against it is avoided insofar as there is no disconnection between a person's psychological continuity—preserved by her soul alone—and her persistent identity. Olson raises a more serious objection, however, by noting that, if the existence of one's soul is sufficient for a person to exist, it would follow that the soul is sufficient for an *animal* to exist insofar as a human person is essentially an animal. But it is quite difficult to understand "how an organism could persist without being a material thing at all."[181] Of course, one could simply deny that a disembodied soul suffices for an animal organism to exist, but then the issue arises of how a human person's essential nature could be altered from being an animal to being an immaterial soul.

It is thus preferable, if admittedly counterintuitive, for a Thomistic hylomorphist to contend that a human person persists *as an animal* between death and resurrection, and Aquinas has the resources to provide an account of immaterial animality.[182] First, he contends that the corpse left behind at death is no longer an animal: "And thus it is the case that after death, through which the soul is separated from the body, not only does an animal not remain, but also none of an animal's parts."[183] While flesh or bone may seem to remain in a corpse, hands, arms, and other parts through which a soul's operations are manifest in the body are no longer present. This conclusion follows from the fact that a body's existence as an animal is dependent upon its being ensouled: "This animal, through this soul, is not only an animal but an animated body, and a body, and also a *hoc aliquid* existing in the genus of substance."[184]

If a human being's animal body ceases to exist at death, the question arises whether, and if so how, the numerically same animal may be resurrected. Aquinas's response begins by noting that a human being does not have three souls—rational, sensitive, and vegetative—but rather one soul that has the capacities of all three.[185] He denies, however, that the soul's sensitive and vegetative capacities, or their operations, persist in its separated state, since they require a bodily organ to operate.[186] Yet Aquinas asserts that such capacities "remain virtually in the soul, as in their

origin or foundation."[187] Such "virtual" persistence of these capacities is due to the soul's "ability of producing these powers again if united to the body."[188] As a result, he concludes that the resurrected body's "organs will be numerically the same, although the powers be not numerically the same."[189]

Aquinas extends the numerical identity of the resurrected body's organs to those of the premortem body to respond affirmatively to the question of whether the numerically same *animal* rises again. It is worth quoting at length his two different responses:

> But if we assert that the same soul in a human being, according to its substance, is both rational and sensible, we shall experience no difficulties in this matter, because *animal* is defined by means of sense—that is, the sensitive soul—as through its essential form; however, by means of sense—that is, the sensitive power—its definition is known as through an accidental form, which is "the most important part contributing to the knowledge of what a thing is."[190] Therefore, after death the sensitive soul remains, just as the rational soul does, according to its substance. But the sensitive powers, according to some, do not remain. At any rate, since these powers are accidental properties, their variety [numerical diversity] cannot remove the identity of the whole animal, or even the animal's parts.[191]

> "Sense" can be specified in two ways. In one way, it is the sensitive soul itself, which is the principle of this sort of powers; and thus through sense an animal is "animal" as through its proper form. For in this way "sensible" is adduced from "sense," insofar as it is the constitutive difference of "animal." In another way "sense" is said to be the sensitive power itself; and since it is a natural property, as has been said, it is not constitutive of the species but follows from the species. In this way, therefore, sense does not remain in the separated soul; but sense specified in the first way remains. For in a human being the essence of the sensitive and rational soul is the same. Hence, nothing precludes a risen human being from being the numerically same animal, since, for something to be numerically the same, it suffices that its essential principles be numerically the same, but it is not required that the properties and accidents be numerically the same.[192]

Aquinas distinguishes between what is *essential* to the persistence of the same animal (namely, the same form proper to an animal, which is either the sensitive soul or the rational soul that includes the capacities of the sensitive soul), which serves as the *metaphysical* principle of an animal's existence, and what is *accidental* (namely, the sensitive capacities and operations), which serves as the *epistemic* principle by which an animal may be properly classified as such. This conclusion is congruent with his denial that a corpse is an animal: not because sensitive capacities and operations do not persist in the corpse but because the corpse is no longer informed by a sensitive soul. Conversely, insofar as a sensitive soul may persist after death as part of the essence of a rational soul, animality persists in the separated soul. This is also congruent with the conclusion above that the persistence of the same substantial form is the principle of substantial identity, and not any of the nonessential properties that follow from form, such as the actual configuration of matter in the case of the rational soul. Hence, although without her body a human being is unable to actualize many of her capacities, she remains a *rational animal* by virtue of her soul retaining all the capacities—actively, in the case of intellective and volitional capacities, or virtually, in the case of sensitive and vegetative capacities—proper to such a nature.[193]

While this conclusion also strikes a chord of counterintuitiveness, its reasonableness can be shown by comparison to 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. On 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 (chapter 6).

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. Thus, while

Toner is correct that comparing a separated soul to a detached head fails insofar as the head can *actually* engage in sensation whereas the soul cannot, this is a non sequitur.[194] It is not the *activity* that counts but the *intrinsic capacity* for sensation, which the soul retains in its separated state just as much as it would if a human person's body were to remain alive and intact for the most part but were to suffer damage to each one of its sense organs or to critical areas of its brain, such that no type of sensation was any longer possible. The person would remain biologically alive and perhaps even intellectively active despite the lack of ability to acquire new sensory data. Would she not still be an *animal* in such a state?

In fact, because of an extended definition of *life* that Aquinas provides apropos of God and other immaterial beings—angels—it could be said that a separated soul not only retains the capacity for those activities of life that require bodily organs—such as nutrition, growth, and reproduction—but is *actually alive* insofar as it is able to "operate of itself and not as moved by another."[195] So long as one's rational soul exists with those capacities, one persists as both a person and an animal.[196] It thus follows that, for Aquinas, the soul, postmortem, not only continues to engage in intellective and volitional operations but is also the substantial form of the numerically same animal. Hence, it is sufficient to compose a rational animal, which is what a human being essentially is premortem, postresurrection, and at every point in between.[197]

The virtual persistence of X's body in terms of its capacities and other qualitative features determined by X's substantial form—her soul—allows Aquinas, on the interpretation favored above, to hold that the bodies composing X and Z are numerically the same even though there is no sameness or continuity of material constituents. It also allows for the *qualitative* similarity among the bodies of X and Z—though not qualitative *identity* insofar as Z's body is "glorified"—sufficient for Z's body to be recognizable as X's.[198] Aquinas thus provides an account of *resurrection*, not *reincarnation*, since X's soul could not inform matter to compose a body at the Resurrection—Z's body—that would be numerically distinct or so significantly qualitatively dissimilar from X's body at the time of her death that X would be completely unrecognizable[199] or would have a radically disjointed phenomenal experience of her *self*.[200]

This key difference between Aquinas and contemporary materialist theories provides his account with the resources to respond to a number of the issues van Inwagen and others raise concerning the preservation of personal identity between death and resurrection. Van Inwagen's criterion for one's resurrected body to be numerically identical to one's body at death is the causal continuity of life processes.[201] Insofar as Aquinas holds that a human being is essentially a living animal, he would agree with van Inwagen that causal continuity of one's life processes must be maintained through death to resurrection. Unlike van Inwagen, however, Aquinas does not require an *efficient causal chain* among the material body's life processes. Rather, he contends that the *formal cause* of a human animal's life persists continuously insofar as the soul is the animal's substantial form. A human being's *animality* persists by virtue of her soul, even if her animal nature is not materially instantiated between death and resurrection. Thus, while one's life processes are *suspended* between death and resurrection, the formal organization of one's living body at the moment of death is preserved *in potentia* by virtue of the soul and will be reinstantiated in the resurrected material body informed by the same soul; or, to put it in technical Aristotelian terms, between death and resurrection, one's body does not exist *in actu secundo* (second actuality), but it does persist *in actu primo* (first actuality, or active potentiality).[202]

By way of analogy, consider a computer that has been programmed to calculate to the last digit the value of pi. Of course, no computer would ever last long enough to achieve this feat, since the process would be infinite. Fortunately, the computer has on its hard drive not only the program instructions for performing the calculation but also the results of the calculation thus far as it is in process. So, when the computer becomes obsolete and a new computer is to inherit this task, the first computer's hard drive is removed in order to be placed in the new one. When the hard drive is disconnected from the first computer's CPU, the calculative process ceases; yet the program for doing the calculation and all the decimal places that have been calculated thus far persist on the removed hard drive. When the hard drive is connected to the new computer's CPU, the calculation resumes from where it left off as if nothing has happened. Is there any reason to assert that the calculative process begun in the first computer is not the same as the calculative process that is resumed in the second computer?[203]

Even if it is agreed that the calculative process is the same, such is not sufficient to reasonably assert that the two *computers* are numerically identical. But this is only because continuity of calculative processes is not regarded as a necessary or sufficient criterion for the numerical identity of computers—I can erase all the programs and data stored in my computer and yet still have the same computer on my desk capable of functioning if new programs are installed. For van Inwagen and Aquinas, however, continuity of life processes is a necessary and sufficient criterion for the numerical identity of human beings; and the computer analogy illustrates how such processes may persist in a state of suspension if there is something in which they subsist—namely, a rational soul as the analogue to a hard drive.[204]

Therefore, Aquinas can account for the persistent numerical identity of a human being—an *animal*, in agreement with van Inwagen—through death and resurrection without having to postulate that God either engages in "body snatching" (van Inwagen), causes one's cells to fission at the moment of death (Zimmerman), or staggers when individuals are resurrected whose bodies-at-death share material constituents (Hershenov). While every theory discussed in this chapter involves God performing some sort of miraculous feat for resurrection to occur, I submit that a mark of a theory's superiority is that it involves God having to do the least amount of supernatural work to ensure that the numerically same human being persists through death and resurrection. Aquinas requires that God provide "raw matter" for the soul to reinform at resurrection—and thus resurrection counts as a *supernatural miracle*—but that is *all* God must do for the same human being to be composed of the same body she was composed of at death. Van Inwagen, Zimmerman, Baker, and Hasker all render resurrection as a *completely unnatural* event, whereas for Aquinas there are both natural and supernatural elements to resurrection: what is supernatural is the provision of matter for one's soul to inform; what is natural is one's persistent identity with no special divine guarantees or miraculous machinations required.

Concerns regarding "resurrection by reassembly" thus do not confront Aquinas's account. Since a human being's soul—as the substantial form of her body—is sufficient for any matter that composes the resurrected body to be *her* body, Aquinas need not worry, as van Inwagen supposes, that a wicked person could become a lifelong cannibal and thereby escape resurrection and eternal damnation.[205] Van Inwagen errs

by presuming that Aquinas holds the same criterion of identity for both human beings and artifacts—such as a burned manuscript of Augustine's. On one hand, Aquinas does hold that persistence of the same form is the criterion of identity for both types of beings. But he also draws a clear distinction between the persistent identity of artifacts and that of human beings insofar as an artifact's form could not survive its material corruption, whereas a human soul does survive its body's corruption.[206]

Aquinas's account also avoids the *duplication problem*—the concern that God could resurrect *two* bodies, each of which suffices for being my body—which is an issue for Zimmerman's "fission" account. For Aquinas, each human being has only *one* soul, which is *uniquely* the substantial form of a particular human body. Thus, while God could reassemble—or produce through fission—two bodies composed only of atoms that had composed my body at some point before my death, only one of them could be informed by *my* soul, and thus only one of them could be *me*.

This response is analogous to Baker's claim that only one resurrected body may constitute *my* first-person perspective, and it would be advantageous to adopt this feature of her account as a "friendly amendment." A rational soul's nature allows it to endure psychological changes—typical of human life as we acquire new knowledge and experiential memories, while forgetting things we previously knew or experienced—and yet maintain "an unchanging core within us, different from person to person, that makes us who we are."[207] Purtill states, "What might constitute [in part] the uniqueness of the individual soul is the view held by some believers in disembodied survival that each individual is created to appreciate, enjoy and communicate to others some aspect of the Divine Nature which he alone can see. This gives each individual a unique perspective on the world which accounts for the individuality which we grasp in people we know and love. A disembodied spirit with this perspective is necessarily the soul of the dead man who had that perspective."[208]

Aquinas, however, provides an answer to an unresolved question regarding Baker's account: What metaphysically *grounds* the persistence of the same first-person perspective in both a premortem and a resurrected body? Since, according to Baker, 100 out of 101 qualitatively iden-

tical bodies could fail to constitute my first-person perspective, why think that the 101st one would? Why not the 64th? On this point, Aquinas provides an ontological foundation for not only the persistence of my first-person perspective but also its instantiation in one particular body among many, in that my soul is uniquely the substantial form of one particular body. Thus, at least, and at most, one of the 101 qualitatively identical bodies ought to be informed by my soul with my first-person perspective; which one, assuming exact qualitative identity among the 101 resurrected bodies, would be epistemically indeterminable from a third-person standpoint but *metaphysically determinate* by virtue of the one-to-one soul/body relationship.[209] Furthermore, this metaphysical determinacy of self-identity by virtue of the natural condition of one's soul as the unique substantial form of a particular body does not depend upon God decreeing it to be so, thereby preserving Aquinas's account from violating the theological version of Ockham's Razor described above.

In this combined Aquinas-Baker thesis, the numerical sameness of one's soul may be established epistemically from the first-person perspective of the person whose soul it is. Frederick Crosson is thus too quick to conclude that Aquinas's account precludes personal immortality by virtue of one's separated soul insofar as there is no "sense of consciousness of *who* I am."[210] Crosson might respond that his conclusion follows in the absence of the "friendly amendment" from Baker, and it is true that Aquinas never explicitly asserts that the separated soul maintains self-consciousness. He does hold, however, that one of the intellect's capacities that demonstrate its immaterial and separable nature is to be able to "turn upon itself."[211] This intrinsic capacity of the soul to be *reflexively self-conscious* would allow it to have what Baker terms a "first-person perspective."

Hudson's four-dimensionalist view allows for "gappy" existence in that spatiotemporal continuity is not a necessary condition of numerical identity. I agree that nothing rules out a priori the possibility of temporal gaps in one's existence. Nevertheless, there is sufficient doubt regarding this assertion from materialists and nonmaterialists alike to warrant the search for a theory that does not depend upon the possibility of temporal gaps in one's identity. Trenton Merricks notes, though, that both materialists and dualists who hold that one's resurrected body is

numerically identical to one's premortem body are committed to the thesis that the same *body* can "jump ahead in time" from the day of death to the day of resurrection.[212]

As highlighted above, Aquinas does not consider a human being to experience a gap in her existence insofar as her soul persists between death and resurrection, which is both necessary and sufficient for the human being herself to persist as the numerically same individual.[213] Furthermore, because one's soul's is the substantial form of a particular human body, Aquinas's view does not entail that one's body ceases to exist between death and resurrection. It does cease to exist *in actu secundo* insofar as there is no actual material body engaged in the dynamic processes of life and sensation; however, the body persists between death and resurrection *in actu primo*—or "virtually"—insofar as its substantial form persists with all the relevant capacities to inform any matter God provides on the day of resurrection to compose the numerically same material body *in actu secundo* once again. Thus, while there is a gap in the *actual* existence of one's body as a material object, there is no gap in the body's existence with respect to the principle of its specific and individual nature as *this human body*—namely, its unique substantial form.[214]

Metaphysical puzzles concerning human beings' postmortem existence may perhaps be resolvable only by those who have experienced it firsthand. Examining the matter from this side of the veil, there are clear reasons favoring the Thomistic view of human nature, considered both pre- and postmortem, over its dualist and materialist rivals. In discussing the central subject of this chapter—the numerical identity of one's premortem and resurrected bodies—Merricks notes, "The identity of the resurrection body with the body of this life is not inconsistent with dualism, of course. But it does seem to be rather pointless, except for the fact that our original bodies might have some sentimental value to us."[215] If a person is identical to her soul, then the body to which her soul is conjoined does indeed seem to be unimportant except perhaps, as Merricks states, for sentimental reasons. But Aquinas's view asserts the centrality of one's being composed of the numerically same body for the sake of her identity in both the ontological sense of being the *same substance* and the phenomenological sense of being the *same self*.[216]

Admittedly, a strictly materialist account of postmortem bodily resurrection would allow us to avoid multiplying entities, such as the postulation of a separable and subsistent rational soul. Nevertheless, such augmentation of the ontological inventory may be necessary to preclude the multiplication of conundrums that require materialists to employ various metaphysical machinations to resolve. Nearly every such resolution discussed above involves divine fiat not only for resurrection to occur but also to guarantee persistent personal identity. Aquinas's alternative is desirably simpler insofar as resurrection, while requiring divine intervention to reconstitute matter suitable for rational ensoulment, does not require additional divine guarantees to ensure that the numerically same person who died will be resurrected.

CHAPTER EIGHT

Who Is My Sister or Brother?

Treating Persons Ethically

This volume is primarily a work of metaphysics, exploring the *ontological status* of human beings. I have argued that what human beings, you and I, are can be most accurately described as *human persons*, or, in Aquinas's Aristotelian terminology, *rational animals*. The obvious next questions concern the *moral status* of human persons and how we ought to treat persons in various types of ethical dilemmas, particularly at the beginning and end of life. As a conclusion to the present volume, I will provide a brief treatment of these questions; more in-depth treatments may be found in the works cited here. As noted in chapter 1, complete responses to such dilemmas require combining metaphysical conclusions with a particular ethical theory and taking various values into account; I will thus import Aquinas's *natural law* account of morality, which is grounded in his philosophical anthropology. Although some of the authors whose metaphysical views I have discussed throughout this volume have also drawn ethical conclusions to some of these issues, space does not permit me to engage their views adequately in this brief chapter.

Moral Status of Human Persons

As has been previously established, for Aquinas, every human being is a *person*, defined as "an individual substance of a rational nature."[1] Being of a rational nature distinguishes human persons from other material

substances.[2] A human person, though, is not only rational but also a sentient, animate, and corporeal substance.[3] Aquinas thus follows Aristotle in defining human persons as *rational animals*.[4] Rationality, on Aquinas's view, is the highest capacity found among natural substances because it enables persons to come to know universal conceptual truths and to determine their own actions.[5] Hence, he says, the term *person* is attributed to rational beings insofar as they have a special *dignity* by virtue of exhibiting a degree of mastery over their own actions.[6] Human persons possess *freedom of will* due to our intellective capacity,[7] which in turn entails the proto-Kantian thesis that each of us exists first and foremost for our *own sake*—not as instruments to be used for some other end.[8] Relatedly, Aquinas contends that, while each of us is undeniably a member of a larger society of persons, each of us "is a kind of whole unto himself, with rights and duties transcending his membership in the body politic."[9] By contrast, nonhuman animals, though sentient and capable of self-movement, do not possess a will that is *free* but rather appetites driven by natural necessity and thus do not count as persons—at least as far as Aquinas knew.[10]

In sum, human beings qua persons have an essentially rational nature, the definitive capacity of which is for intellective thought, by virtue of which human beings are capable of understanding the universal essences of things and otherwise knowing truth that transcends material reality[11]—culminating in our capacity to receive divine grace by which we may come to understand the source of our being: God. Concomitant with this epistemic capacity is the capacity to orient oneself *appetitively* toward, or away from, what is constitutive of, or detracts from, human flourishing. Human beings have free will due to our ability to choose among various goods we may perceive and assess as appropriate means to attaining our ultimate end understood both naturally—that is, flourishing in accord with our rational nature—and supernaturally—that is, loving union with God.[12] These inherent capacities, grounded in our essential nature and our relation to our Creator, are what grounds the inherent dignity of each individual human being as a person in possession of herself, such that she may not be considered merely as an insignificant member of a larger political whole.

It is important to highlight, as noted in chapter 3, that Aquinas presents an *ontological* definition of human nature, not a reductively

biological definition.[13] We are essentially rational animals and, as such, count as persons. Thus our biological nature is indeed essential to who we are insofar as it subserves the actualization of our capacities for self-conscious rational thought and autonomous volition. Nevertheless, it does not follow that our biological nature is immutably sacrosanct such that it could not be altered in ways that may be beneficial for us by, say, enhancing our definitive attributes as rational animals.[14] It is also important for the ensuing discussion to emphasize that one's body need only subserve the *capacities*—understood in the Aristotelian sense of an "intrinsic active potentiality"—for the activities definitive of personhood in order for one to count as a person. Thus, as I argued in chapters 5 and 6, human embryos and fetuses, or patients in a persistent vegetative state (PVS), count as persons even though they cannot yet, or can no longer, exhibit the *activities* of self-conscious rational thought and autonomous volition.

Aquinas defines *human flourishing* as the fulfillment of our shared nature.[15] Human nature is defined by a set of capacities relative to our existence as living, sentient, social, and rational animals. Our flourishing involves actualizing these definitive capacities such that each of us becomes the most *perfect*—that is, the most complete or fully actualized—person we can.[16] Aquinas claims that to achieve this end all human beings have a set of *natural inclinations* to pursue whatever we perceive to be good—that is, what is objectively desirable to us insofar as it will help actualize our definitive capacities.[17] What he terms the "natural law" includes a set of principles that, if followed, will satisfy one's natural inclinations in accord with reason and thus lead asymptotically to perfection according to one's nature as a human person.[18]

The Thomistic account of natural law is premised upon a relatively basic account of human nature of which the primary common features are *life*, *sentience*, *sociability*, and *rationality*—the last including *self-consciousness, intellection*, and *autonomous volition*. Of course, each of these features must be further refined and, as they become more fine-grained, may be controversial. But a high degree of specification is not required to define certain general natural law precepts.[19] For example, sentience may be understood broadly to refer to our capacity to sense our surrounding environment and respond to it, along with the correlative experiences of pleasure and pain. One could then deduce that de-

priving a person of any of her senses—say, by blinding her—or causing her unwarranted pain would be bad for her.[20] Hence, there is an obligation to avoid intentionally or negligently depriving a person of her senses or causing her undue pain. On the positive side, restoring a blind person's sight, should she desire it, or alleviating her pain would be good and thus worth pursuing, so long as doing so accords with other perfective human goods.[21]

But why do self-consciousness, intellection, and autonomous volition endow a person with an elevated moral status above nonpersons? One defensible answer is that such capacities allow a person to have *significant interests*, the frustration of which would cause her to experience a degree of harm beyond the pain that merely sentient nonpersonal animals may experience—which by no means denies that such animals have interests as well that merit respect to the extent that doing so does not precipitate significant harm, or loss of morally significant benefits, to persons.[22] Furthermore, personhood, on the Thomistic view, is not extrinsically *bestowed* but rather is an *endowment* one possesses by virtue of one's existence as a being of a rational nature who is thereby capable of having such interests, regardless of the value of the particular interests one might have.[23] With this all-too-brief sketch of the moral status of human persons in mind, I will proceed to canvass two controversial questions concerning how we ought to treat human persons at the margins of life.

Ethical Issues at the Margins of Life

In this final section of the volume, I will provide a brief summary of how the Thomistic perspective on both the ontological and moral status of human persons directly affects two of the most controversial issues in bioethics: abortion and care for PVS patients.[24]

Abortion

The term *abortion* refers to the termination of a pregnancy that results in a human embryo or fetus's death. Such a death is always intrinsically bad from a Thomistic perspective insofar as a human person begins to

exist when fertilization is complete (chapter 5). Furthermore, Aquinas contends that *life* is a fundamental good for human beings.[25] Without life, none of a human being's other inherently valuable capacities—including those associated with our rational nature—can be actualized in the service of contributing to the overall goodness of both oneself and the natural world in which human beings exist and flourish. To act against the existence and flourishing of a human being, at any stage of one's existence, constitutes a morally impermissible act that must be avoided because of the natural law mandate to promote life as a fundamental good.

Despite the inherent negativity of any abortion, the question remains whether some forms of abortion may be morally permissible or may occur without anyone being morally responsible. A *directly intended* abortion—as opposed to a *spontaneous* abortion or "miscarriage"—occurs when a woman or some other agent desires to end a pregnancy and does so through either a surgical procedure or a chemical inducement, such as RU-486. In most cases, it is a pregnant woman herself who seeks an abortion with the surgical procedure performed by someone else, though in some cases an abortion is caused by someone else who seeks to end a pregnancy against the woman's own wishes. The moral impermissibility of directly intended abortion is clearly stated by Aquinas when he asserts, "It is by no means permissible to kill the innocent."[26] Aquinas also refers specifically to causing an unborn fetus's death in the case of someone who strikes a pregnant woman: "If the death of either the woman or the animated fetus results, he will not avoid the crime of homicide."[27]

Indirectly intended abortion occurs when a medically necessary procedure must be performed to save a pregnant woman's life that has the foreseen side effect of bringing about the embryo or fetus's death. Examples of such procedures include removing a pregnant woman's uterus with a malignant tumor, removing the pathological section of a fallopian tube in the case of an ectopic pregnancy in which the embryo has implanted in the tube, or giving a pregnant woman radiation and chemotherapy to remit a malignant cancer. These procedures are morally permissible insofar as they are justified by the *principle of double effect* (PDE), which is rooted in Aquinas's moral theory: "Nothing hinders one act from having two effects, only one of which is intended, while

the other is beside the intention. Now, moral acts take their species according to what is intended, and not according to what is beside the intention."[28]

In the type of case in question, by performing an act of preserving one's own life, a person brings about another's death, but under the stricture that the other's death is unavoidable in aiming to achieve the good of preserving her life and that it is "outside" of her intention (*praeter intentionem*). A moral agent in a bona fide double-effect case does not directly intend the negative consequence of her action; rather, it is a *foreseen concomitant consequence* of her directly intended action and, as such, is an *accidental circumstance* that cannot fundamentally alter the action's specific nature—defending one's own life—as morally good. Nevertheless, since there is a defect in the goodness of the circumstances, due to the negative consequence, the action is not good "simply" (*simpliciter*). This defect, however, need not entail that the action is morally impermissible or that the agent has "sinned."[29]

In the present case, the directly intended end is saving the mother's life. The foreseen abortion is not a directly intended end—that is, continuation of the pregnancy would be desired in the absence of the maleficent conditions. Abortion is not the means by which the mother's life is saved; if, for example, the fetus had developed to the point of extrauterine viability and could survive on its own, its survival once the cancerous uterus was removed would have no effect on whether the mother's life was saved. Finally, the fetus's death does not outweigh the good of the mother's life being saved insofar as all human beings have an equal fundamental value.

Other forms of abortion, however, done for various apparently good intentions, fail to be justified by the PDE. Perhaps a woman seeks an abortion to avoid the severe economic, emotional, or physical burdens that may befall her because of her low socioeconomic status, lack of access to adequate health care, or absence of paternal and familial support.[30] While avoiding such burdens, especially if the circumstances of her life make them particularly acute, is certainly a good worth pursuing, utilizing abortion as a means to achieve this good does not meet the conditions of the PDE insofar as the pregnancy's termination and the embryo or fetus's consequent death are directly intended as the means whereby the woman avoids the anticipated burdens, and the good effect of avoiding those burdens is disproportionate to a human person's death.

In sum, any form of directly intended abortion is morally impermissible from a Thomistic perspective. Nevertheless, bringing about an embryo or fetus's death as the result of a necessary lifesaving medical procedure may be permissible if the conditions of the PDE are satisfied.

Care for PVS Patients

In chapter 6, I argued that Aquinas's metaphysical understanding of human nature entails that a human person's death occurs when he suffers the irreversible cessation of whole-brain functioning. This conclusion, along with Aquinas's view of the inherent goodness of human life, has clear implications for how we should treat PVS patients. Furthermore, Aquinas's natural law ethic requires that we treat not only PVS patients but any terminally ill or dying person in a fashion that safeguards their life while avoiding undue prolongation of their pain and suffering.[31] Here, I will address the metaphysical and moral status of PVS patients.

From 2003 to 2005, when she died, the case of Terri Schiavo—a PVS patient—brought national attention to the question whether someone who shows no neurological or clinical signs of conscious awareness is still a "person," or, regardless of this daunting metaphysical question, whether life in such a state is sufficiently valuable to warrant keeping the patient alive by artificial means such as tube feeding and hydration. It is important to differentiate PVS from the more commonly known term *coma*. A comatose patient may be either temporarily or irreversibly so, and her coma may be either pharmacologically induced or caused by neurological trauma. Comas caused by neurological trauma may include either damage to the cerebral hemispheres themselves, which are correlated with conscious rational activity, or damage to the brain's reticular formation, which is the "on-off switch" for wakefulness. PVS patients show no neurological or clinical signs of conscious awareness or rational activity, though their eyes are open and they may exhibit certain reflexive behaviors—such as tracking a moving object in front of them—that mimic purposeful conscious activity.[32] PVS is understood to be *irreversible* in all correctly diagnosed cases, though there have been a significant number of misdiagnoses.[33]

The ethical treatment of PVS patients involves two key questions: (1) Is a PVS patient still a person, or has the person died, leaving merely

a living human organism? (2) Even if a PVS patient is still a person, what value does her continued existence have without the possibility of consciousness? I argued in chapter 6 for an affirmative answer to (1). The question remains, however, whether such a person's life is sufficiently valuable to warrant being maintained through artificial nutrition and hydration (ANH) or other means. Grant Gillett, for instance, argues that "nothing matters" to a creature—person or animal—who is without consciousness: "In order for something to matter to an individual, he must have or be able to form an attitude or preference about that thing—it must figure in his thought in some salient or significant way. That is what it is to care about something."[34] While benefits and harms may still be visited upon someone who is unconscious—such as the benefit of honoring one's requests stated in a will—Gillett contends that such benefits or harms do not *matter* to a person if she is unable to be ever consciously aware of them. The question thus arises whether continued life matters to a PVS patient, and it would seem it does not.

But is a PVS patient's continued biological life truly valueless because it does not matter to her? From a Thomistic perspective, goodness is inherent in all forms of existence, though the level of goodness is relative to the different levels of being Aquinas defines—inanimate, vegetative, sensitive, and rational—as well as to the degree that an individual being's definitive capacities are actualized. One could thus argue that a PVS patient's existence is not "as good" as when she was a more fully actualized human being. Nevertheless, the inherent fundamental goodness of her existence as a rational being and a living organism persists even when she is unable to actualize her rational and sensitive capacities. The primary concern now becomes what constitutes the reasonable limits of support and care to be provided to a PVS patient.

Since Aquinas holds a form of the PDE, the nonutilization of life-sustaining treatment—such as ANH—may be justified provided that the patient's death is not directly intended and that it is intended only that her suffering not be prolonged. In this case, the object of the action is the nonutilization of life-sustaining treatment. The directly intended end is not to prolong the patient's suffering; death is a foreseen concomitant consequence. One may question this description by asserting that, in this case, the patient's death is the direct means by which the end of not prolonging her suffering is achieved. I disagree and contend

that the direct means of not prolonging the patient's suffering is by not employing measures to *sustain* her life indefinitely. The nonutilization of life-sustaining treatment does not cause the patient's death. Her death is due to the natural course of whatever disease or injury she suffers.

Sustaining biological existence is a "good," however, as well as not prolonging suffering: "Human bodily life is a great good. It is a good *of* the person and intrinsic to the person and is not a mere instrumental good or good *for* the person."[35] When only one of these goods can be pursued to the exclusion of the other, the paramount moral requirement is that "evil" not be perpetrated in the pursuance of either one. The questionable element is that the nonutilization of life-sustaining treatment has the concomitant consequence of not preventing the patient's death. Nevertheless, since Aquinas holds the PDE and it is applicable to this type of case, the nonutilization of life-sustaining treatment may be morally permissible.

It is important, though, to consider the type of life-sustaining treatment that may be provided and the type of patient to whom it is being provided in determining if its nonutilization is permissible. In the case of a PVS patient, we may ask what good is served by her life being prolonged. Of course, one fundamental good that is served by utilizing ANH for a PVS patient is "human life itself."[36] In line with this assessment, Aquinas asserts: "It is prescribed that a human being sustain his body, for otherwise he murders himself. . . . Therefore, one is bound to nourish his body, and we are bound likewise with respect to all other things without which the body cannot live."[37] This passage can be interpreted to support the provision of ANH just as we are required to provide food and water to any hungry or thirsty person in need. A more widely applicable interpretation, however, would seem to follow because Aquinas requires the provision of "all other things without which the body cannot live." This implies that we ought to provide artificial respiration and any other medical treatments, such as radiation and chemotherapy for cancer patients, without which their bodies cannot live. Aquinas recognizes, though, that what he has asserted does not entail an absolutely binding obligation: "It is inherent in everyone by nature that he loves his own life and whatever is ordered toward it, but in due measure, such that these things are loved not as if the end were deter-

mined in them, but insofar as they are to be used for the sake of his final end."[38] Hence, the use of ANH is not necessarily warranted in all cases. For example, when a terminally ill patient is facing imminent death, such that any effort to prolong her life would be *futile* or in which her body cannot metabolize what is being provided, ANH is no longer medically or morally indicated.[39] The patient's impending death is hardly affected by its provision.

A PVS patient may not be facing imminent death, but the provision of ANH may nonetheless be futile because it will not improve the prognosis for recovery of conscious rational thought. Kevin O'Rourke and Patrick Norris note Aquinas's distinction between a "human act" (*actus humanus*), which follows from a person's intellect and will, and an "act of a human" (*actus hominis*), which is an autonomic reflex or absent-minded action that does not follow from one's intellect and will.[40] They further note Aquinas's assertion that the purpose of a human being's life—the "final end" to which Aquinas refers in the above passage—is achieved only through the intentional human acts that follow from intellect and will.[41] They thus conclude: "People who are not able to perform acts of cognitive-affective function because of some pathology are not less human, but the moral mandate to help them prolong their lives is no longer present because they will never again perform human acts, that is, acts proceeding directly from the intellect and will. Clearly people in this condition . . . may not be directly put to death nor mistreated in any way, but life support that keeps them alive need not be continued because it does not offer them any hope of benefit."[42] While a PVS patient's biological life has an inherent fundamental value, such value is relative to the patient's pursuit of ends that are consciously willed, which has been mitigated by her irreversibly unconscious condition. The patient still lives and is a person, and so one may not directly intend to end her life or otherwise mistreat her, but measures to prolong a patient's life that are futile—in terms of failing to provide for some measure of recovery—or disproportionately burdensome are not necessarily morally mandated.[43]

No single volume can exhaustively engage with the myriad metaphysical—and other disciplinary—perspectives on the vexed question of the nature of human persons, nor with all of the ethical ramifications that follow from it. I hope to have provided, however, an

adequate elucidation and defense of *Thomistic hylomorphism* as a relevant voice in the current debate among scholars—particularly analytic metaphysicians—concerned with formulating an account of human nature that is internally consistent and that coheres with both objective scientific understanding and subjective phenomenal experience. To the extent that I have succeeded in this endeavor, may the present work serve as a foundation for further engagement with interdisciplinary perspectives not treated here, as well as the great variety of practical ethical issues for which a sound metaphysical understanding of human personhood is crucial in formulating a thorough and defensible moral response.

LIST OF AQUINAS'S WORKS AND ABBREVIATIONS

Abbreviations for Aquinas's Works

CDP	*Collationes in decem praecepta*
CT	*Compendium theologiae*
DEE	*De ente et essentia*
DMC	*De motu cordis*
DME	*De mixtione elementorum*
DPN	*De principiis naturae*
DUI	*De unitate intellectus contra Averroistas*
In BDT	*Expositio super librum Boethii De trinitate*
In DA	*Sententia libri De anima*
In DGC	*Sententia super libros De generatione et corruptione*
In I Cor	*Commentarium super Epistolam Primam ad Corinthios*
In II Thes	*Reportatio super Epistolam Secundam ad Thessalonicenses*
In LDC	*In Librum de causis expositio*
In M	*Sententia super Metaphysicam*
In NE	*Sententia libri Ethicorum*
In Ph	*Sententia super Physicam*
In Sent	*Scriptum super libros Sententiarum*
QDA	*Quaestio disputata de anima*
QDP	*Quaestiones disputatae de potentia*
QDSC	*Quaestio disputata de spiritualibus creaturis*
QDV	*Quaestiones disputatae de veritate*
QDVirt	*Quaestiones disputatae de virtutibus*
QQ	*Quaestiones quodlibetales*
SCG	*Summa contra Gentiles*
ST	*Summa theologiae*

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Nearly all of Aquinas's texts cited in this volume can be found in the Leonine critical edition published by the Vatican:

Aquinas, Thomas. *Opera omnia*. Rome: Commissio Leonina, 1882–.

The following are editions of Aquinas's texts cited in this volume that have not yet appeared in the Leonine critical edition.

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While I have preferred my own translations in this volume, unless otherwise indicated, I found consulting the following English translations of Aquinas's texts helpful.

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English Dominican Fathers, trans. *On the Power of God*. 3 vols. Westminster: Newman Press, 1952.
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McInerny, Ralph, trans. *Aquinas against the Averroists*. West Lafayette, IN: Purdue University Press, 1993.

Mulligan, R., J. McGlynn, and R. Schmidt, trans. *The Disputed Questions on Truth*. 3 vols. Chicago: Henry Regnery, 1952–54.

Pasnau, Robert, trans. *A Commentary on Aristotle's De Anima*. New Haven, CT: Yale University Press, 1999.

Pegis, A., J. Anderson, V. Bourke, and C. O'Neil, trans. *Summa contra Gentiles*. Notre Dame, IN: University of Notre Dame Press, 1975.

Robb, James, trans. *Questions on the Soul*. Milwaukee, WI: Marquette University Press, 1984.

Rowan, John, trans. *Commentary on Aristotle's Metaphysics*. Notre Dame, IN: Dumb Ox Books, 1995.

Vollert, Cyril, trans. *Light of Faith: The Compendium of Theology*. Manchester: Sophia Institute Press, 1993.

NOTES

Chapter One. What Am I?

1. Note that this is a *nontechnical* use of the term *composes*, as opposed to the technical concept of "composition without identity" described in chapter 2.

2. See Plato, *Phaedo*.

3. See Aristotle, *De anima*. The term *hylomorphism* combines the Greek words *hyle* ("matter") and *morphos* ("form"). As will be elucidated in chapter 2, hylomorphism defines human nature in terms of a material body that is *informed* by a rational soul.

4. For a general introduction to Aquinas's life and thought, see Eberl, *Routledge Guidebook*, ch. 1. Different forms of Thomism include "existential" (e.g., Etienne Gilson), "transcendental" (e.g., Bernard Lonergan), and "personalist" (e.g., Karol Wojtyla [Pope John Paul II]); see Kerr, *After Aquinas*.

5. See Haldane, "Analytical Thomism"; Haldane, *Mind, Metaphysics, and Value*; Paterson and Pugh, *Analytical Thomism*.

6. See Stump, "Non-Cartesian Substance Dualism"; Haldane, "Contemporary Philosophy of Mind"; Pasnau, *Thomas Aquinas on Human Nature*; Kenny, *Aquinas on Mind*; Leftow, "Soul, Mind, and Brain"; Oderberg, *Real Essentialism*, ch. 10; Brower, *Aquinas's Ontology*, chs. 12 and 13.

7. This difficulty is exemplified in the efforts of a notable group of metaphysicians—Dean Zimmerman, Alvin Plantinga, Peter van Inwagen, and Hud Hudson—to attempt, albeit briefly in each case, a coherent description of what exactly Aquinas's view of human nature is; see the contributions of each of these thinkers in van Inwagen and Zimmerman, *Persons*. See also Corcoran, *Rethinking Human Nature*, 39; Barnes, "Paradoxes of Hylomorphism."

8. Some reductive materialists consider a human being to be capable of surviving death so long as her numerically same body is *resurrected* (chapter 7). While Aquinas also calls for bodily resurrection in order for a human being to exist fully postmortem, his account allows for an "interim state" in which a human being exists between bodily death and resurrection, during which she is composed of her soul alone.

9. Baker, "When Does a Person Begin?," 41n55.

10. For discussion of the wide variety of views of postmortem existence held in both Eastern and Western religious and philosophical traditions, see Hick, *Death and Eternal Life*.

11. For arguments that stress the importance of this desideratum, see Kavanaugh, "What Is It Like"; Kavanaugh, *Who Count as Persons?*; Taliaferro, "Virtues of Embodiment."

12. See Merleau-Ponty, *Phenomenology of Perception*.

13. This is the metaphorical image Aquinas utilizes to describe Platonic dualism, as will be discussed in chapter 3. Descartes thus explicitly rejects Platonic dualism, which denies any sort of essential connection of oneself to one's body.

14. Descartes, *Meditations on First Philosophy*, VI, §81. For helpful comparisons of Cartesian dualism to Platonic dualism and/or hylomorphism, see Rozemond, *Descartes's Dualism*; Broadie, "Soul and Body"; Skirry, "Hylomorphic Interpretation."

15. See Chisholm, *Person and Object*, app. B.

16. For an influential contemporary defense, see van Inwagen, *Material Beings*.

17. Locke, *Essay concerning Human Understanding*, bk. II, ch. 27, §6.

18. An influential defense of reductive physicalism is provided by Kim, *Mind*. The more extreme thesis of eliminative materialism is defended by Churchland, *Matter and Consciousness*.

19. A prominent proponent of nonreductive physicalism is Searle, *Rediscovery of the Mind*. The foremost defender of property dualism is Chalmers, *Conscious Mind*.

20. A recent collection of such arguments can be found in Koons and Bealer, *Waning of Materialism*.

21. Kant, *Groundwork*, II, §4.434–35, 437, 428 (trans. McGregor, 42, 44, 37).

22. Covering what is "metaphysically possible" is justified by the reasons supporting the first desideratum above.

23. These quotations from Ockham's texts, with citations and commentary, may be found in Adams, *William Ockham*, 1:156–61.

24. See Parfit, *Reasons and Persons*, pt. III.

25. See Merricks, "There Are No Criteria." For a critique of noncriterialism, see Zimmerman, "Criteria of Identity."

26. For defenses of the Transplant Intuition, see S. Shoemaker, "Self, Body, and Coincidence"; S. Shoemaker, "Persons, Animals, and Identity"; Parfit, "We Are Not Human Beings."

27. See Swinburne, *Evolution of the Soul*.

28. See Hasker, *Emergent Self*.

29. See Olson, *Human Animal*.

30. See Baker, *Persons and Bodies*.

31. See Hudson, *Materialist Metaphysics*.

32. See McMahan, *Ethics of Killing*.

33. Hence, according to Thomistic hylomorphism, any claim that you and I are only *contingently* "human beings" is not only false but incoherent. What metaphysical components are required in order for one to be a human being, however, are legitimately debated among Thomists.

34. See Boethius, *Contra Eutychen et Nestorium*, III.

35. See Locke, *Essay concerning Human Understanding*, bk. II, ch. 27, §9.

36. See Pasnau, *Thomas Aquinas on Human Nature*, 115.

37. See Kavanaugh, *Who Count as Persons?*, ch. 4; May, *Catholic Bioethics*, 352–53; Lee and George, *Body-Self Dualism*, 136–38.

38. For discussion of some of these controverted issues not treated in this volume, see Eberl, "Ontological and Moral Significance."

39. See *ST* I, q. 29, a. 1; *ST* III, q. 16, a. 12 *ad* 1. Aquinas explicitly holds that angels—essentially immaterial intellects—and the members of the Divine Trinity are nonhuman persons; see *ST* I, qq. 29–30; *QDP*, q. 9. The Boethian definition also allows for the possibility of there being nonhuman persons living on other planets, as well as for artificially intelligent persons; although Boethius and Aquinas clearly did not countenance such possibilities.

40. See D. Shoemaker, "Insignificance of Personal Identity"; Conee, "Metaphysics and the Morality"; T. Chappell, "Relevance of Metaphysics"; Conee, "Reply to Chappell."

41. Cooper, *Body, Soul*, 90–91. Cooper notes that, in order to be faithful to the Hebrew notion of Sheol, the Sadducees would have to have been "minimal dualists of some sort," although the *rephaim* (ghosts or spirits) that survive biological death "are comatose and eventually fade away."

42. That Aquinas is such a representative has been affirmed especially by the Roman Catholic magisterium; see John Paul II, *Fides et Ratio*, and Leo XIII, *Aeterni Patris*.

Chapter Two. This Is Us

1. This chapter is derived from Eberl, "Aquinas on the Nature," but has been significantly expanded.

2. The claim that Aquinas and Aristotle disagree about the human soul's immortality is controversial insofar as Aquinas did not see his view as differing from Aristotle's and insofar as the latter's view as presented in *De anima* is admittedly ambiguous; see Flannery, "Soul, the Faith." Various historical and contemporary scholars, however, have interpreted Aristotle as ultimately denying

the immortality of the soul, despite the immaterial functionality of the intellect, insofar as Aristotle holds that the intellect requires *phantasms* generated from the external and internal senses, which are wholly materially instantiated—more on this point in what follows. Pietro Pomponazzi thus criticizes Aquinas's view as not being properly "Aristotelian" and as infected with a Platonic dualist strain due to the influence of Augustinian doctrine. For a response to Pomponazzi's critique, which shows how Aquinas's view is consistent with Aristotle's overall account, even if Aristotle himself did not admit this particular implication of his own view, see Eberl, "Pomponazzi and Aquinas."

3. Note that this is a *nontechnical* use of the term *composes*—referring simply to whatever substance or set of parts is necessary for a human being to exist—as opposed to the technical concept of "composition without identity" described later in this chapter.

4. I use the term *materialism* here instead of *physicalism* because, while Aquinas holds that human beings are naturally material entities, he does not hold the thesis of "the causal closure of the physical domain" advocated by proponents of physicalism; see Kim, *Mind*.

5. I argue in chapter 7 that it is not essential for a human being to be composed of a material body in order to exist as an "animal."

6. A disputed point among contemporary Thomists is whether a human being may exist without existing as a person—for example, a human fetus or an irreversibly comatose patient; if so, then a human being is not *essentially* a person. Aquinas, for the record, explicitly asserts that every human being is a person; see *ST* III, q. 16, a. 12 *ad* 1. This debate will be the subject of chapters 5 and 6, with the conclusion argued for that all living human beings count as persons. For discussion of the use of the terms *human being* and *person* in this volume, see chapter 1.

7. See *ST* I, q. 29, a. 1; Boethius, *Contra Eutychen et Nestorium*, III.

8. By *individual substance*, Aquinas intends the Greek term *hypostasis* (Latin: *suppositum*). The terms *hypostasis* and *suppositum* are logically distinct in Aquinas's thought, but they refer to the same thing in reality; see *SCG*, bk. IV, ch. 38. Hence, I make no distinction between the terms here.

9. *QDA*, q. un., a. 3. Cf. *QDA*, q. un., a. 1, *sed contra*; *SCG*, bk. II, ch. 60; *In NE*, bk. I, lect.10, bk. X, lect. 10. Briefly, regarding pronoun use: for the sake of fidelity to the Latin of Aquinas's texts, I use masculine pronouns in all my translations; however, because Aquinas's thought is generally as relevant today as it was in the thirteenth century, I will use both male and female pronouns throughout the volume to highlight Aquinas's audience being gender inclusive. In fact, whereas Aquinas is generally considered to have a negative view of the nature of women in comparison to men—following Aristotle and the predominant attitude among his contemporaries—he actually contends that women are

not of an inferior nature to men and have an equal status to men as rational beings, as persons created in the *imago Dei*; see *ST* I, q. 93, a. 4 *ad* 1, a. 6 *ad* 2. For further correctives on Aquinas's view of women, see Nolan, "Aristotelian Background"; Finnis, *Aquinas*, 171–76. This is not to say, though, that Aquinas would be a "feminist" by contemporary standards or that all his views regarding women are relevant, or palatable, today.

10. Aquinas recognizes different types of beings as persons. In addition to human beings, Aquinas claims that angels are persons who exist as pure immaterial intellects and that God exists as three distinct persons; see *ST* I, qq. 29–30; *QDP*, q. 9. Furthermore, Marie George has explored the theological and philosophical amenability of Thomistic anthropology with the possible existence of intelligent extraterrestrials; see M. George, "Aquinas on Intelligent Extra-Terrestrial Life." Since my interest in this volume is solely with *human* persons, I will not entertain any further discussion of such other types of persons.

11. The term *sentient* is often used in contemporary discussions to refer to whatever mental capacity, or set of capacities, distinguishes persons from nonpersons. The root of this term, however, is the Latin word *sentire*, which means "to feel"; it thus more properly refers to the capacity for *consciousness* of what one senses. Hence, all animal species, endowed with the capacity for sense perception in various forms and concomitant conscious awareness of the objects they perceive, count as sentient. For Aquinas, mere consciousness of what one senses is not what distinguishes persons from nonpersons, but rather the capacity for self-conscious rational thought and autonomous volition.

12. See *In BDT*, q. 5, a. 3.

13. *In M*, bk. VII, lect. 3, §1326.

14. See Hershenov, "Hylomorphic Account."

15. *ST* I, q. 18, a. 3.

16. See Hershenov, "Hylomorphic Account," 500–501.

17. Following Aristotle, Aquinas defines a "rational soul" as a soul that has the relevant capacities for life, sensation, locomotion, self-conscious rational thought, and autonomous volition, and as the type of soul proper to the human species. A "sensitive soul" possesses the relevant capacities for only life, sensation, and—for some species—locomotion, and is the type of soul proper to all nonhuman species of the animal genus. A "vegetative soul" has the relevant capacities for life alone and is proper to all nonanimal living organisms. See Aristotle, *De anima*, bk. II, ch. 3, 414a30–415a14.

18. See *SCG*, bk. II, ch. 68; *In DA*, bk. II, lect. 2.

19. See Skrzypek, *Dynamic Structure.*

20. Cross, "Aquinas on the Mind-Body Problem," 39.

21. *SCG*, bk. II, ch. 69.

22. See Van Steenberghen, *Thomas Aquinas and Radical Aristotelianism*, 73; Leftow, "Soul, Mind, and Brain," 404.

23. Hud Hudson proposes that a Thomistic hylomorphist who wishes to avoid identifying a human being with her body might "identify the human person with the body/soul compound (and not merely with the human animal body that appears as one of its components). Accordingly, whereas the human animal could no more exist without the human person than a body could exist without the soul that enforms [*sic*] it, the human animal is not identical to the human person" (Hudson, "I Am Not an Animal!," 221). The problem with this proposal, however, is that a "human animal body" just *is* the body/soul compound insofar as such a body exists only insofar as it is informed by a rational soul. Hudson's proposal is the victim of a common misconstrual of the hylomorphic view of human nature: a human being is composed not of a soul and a *body*, but rather of a soul and *matter*. The matter in question is unformed "prime matter," which does not bear any properties—such as "human" or "animal"—on its own other than its one essential property of having the potential to be informed.

24. See Leftow, "Souls Dipped in Dust." It is important to emphasize that Leftow's description is not to be read as "Human beings are souls, which are dipped in dust"—implying identification of a human being with her soul—but rather as "Human beings are souls-dipped-in-dust."

25. *DUI*, ch. III. I discuss the differences between Platonic dualism and Thomistic hylomorphism in chapter 3.

26. See *ST* I, q. 76, a. 1.

27. See *QDA*, q. un., a. 10; *SCG*, bk. II, ch. 57; *In DGC*, bk. I, lect. 15, §108.

28. See Pasnau, *Thomas Aquinas on Human Nature*, 88; Frey, "Organic Unity."

29. Aquinas states that the joining of two things by a contact of power (*contactus virtutis*)—that is, one thing being the efficient cause of change in the other—does not result in an unqualified unity; see *SCG*, bk. II, ch. 56; Kretzmann, *Metaphysics of Creation*, 278–90.

30. The qualifier *naturally* refers to a human being's proper mode of existence according to her nature; it is not equivalent, as will be discussed in chapter 7, to what is *essential* for a human being to exist.

31. This qualifier *typically* is due to Aquinas's understanding of the incarnation of Christ, in which the unified substantial existence of both human and divine natures precludes a new ontological entity having come into existence when Christ's soul assumed a human body; see *CT*, bk. I, ch. 211.

32. For Aquinas's account of how elements combine to form a new substance, see *DME*; *SCG*, bk. IV, ch. 35; *In M*, bk. VII, lect. 17, §1680; *ST* I, q. 47, a. 2, q. 76, a. 4 *ad* 4; *QDA*, q. un., a. 9 *ad* 10. For a contemporary account of the hylomorphic thesis of elements and other integral parts being "virtually"—or "nominally"—present in a substance they compose, see Toner, "Emergent Substance."

33. As Aristotle puts it, "We can dismiss as unnecessary the question whether the soul and the body are one: it is as though we were to ask whether the wax and its shape are one, or generally the matter of a thing and that of which it is the matter" (*De anima*, bk. II, ch. 1, 412b5–10; trans. Barnes, 1:657).

34. Referring to a human being's soul and the matter it informs as parts requires an extended notion of "part" than the standard conception of parts as *integral* to a substance, in the way a roof, walls, and floor are parts of a house. Such parts are composites of matter and form that exist even when they do not compose something else. Soul and matter, on the other hand, can be understood as *metaphysical* parts that do not exist individually without composing a human being. For more on this distinction, see Stump, *Aquinas*, 42, 209–10; *In Sent*, bk. II, dist. 3, q. 1, a. 4. Hylomorphists are not in agreement on whether a form should properly be considered a part of a substance or merely "a principle which must be invoked in the real definition of the whole" but not a part distinct from the integral material parts it unifies into a composite substance; see Johnston, "Hylomorphism." Kathrin Koslicki argues convincingly that Aristotle's ontology commits him to "mereological hylomorphism" in which form and matter are distinct parts that together compose a substance; see Koslicki, "Aristotle's Mereology." As will be seen in chapter 7, though, one of Koslicki's key premises in her argument generates a problem for the view that a human being can persist after death composed of her soul alone.

35. *DEE*, ch. II. Cf. *ST* I, q. 75, a. 4.

36. Aquinas's notion of "composition without identity" is similar to, but not exactly the same as, the contemporary notion of "constitution without identity." A constitutionalist view of human nature will be compared to Thomistic hylomorphism in chapter 4. For a brief explanation of the differences between the Thomistic compositionalist and contemporary constitutionalist views, see Williams, "Aquinas in Dialogue," 485–86; Toner, "On Hylemorphism," 461–62; Van Dyke, "I See Dead People," 25–45. The primary difference is that the constitution relation is always conceptualized as a one-one relation—for example, a statue and a lump of clay—whereas the composition relation is typically a one-many relation between a whole and its various macro- and micro-level parts. As will be discussed and defended in chapter 7, a controversial thesis is that Aquinas's composition relation may also hold between a whole and just *one* of its parts if that part is the only one remaining that could compose the whole—namely, a rational soul, as a metaphysical part, composing a human being between her body's death and resurrection.

37. *In M*, bk. VII, lect. 17, §1674. For explication of a general hylomorphic ontology of wholes and their parts, see Koslicki, *Structure of Objects*; Johnston, "Hylomorphism"; C. Brown, *Aquinas and the Ship*; Brower, *Aquinas's Ontology*.

38. See *QDSC*, q. un., a. 11 *ad* 20.

39. *SCG*, bk. II, ch. 50. Cf. *QDA*, q. un., a. 6 *ad* 14.

40. See *ST* I, q. 77, aa. 5–8; *QDA*, q. un., a. 12 *ad* 16.

41. *ST* I, q. 75, a. 2 *ad* 2. Cf. *DUI*, ch. IV; *In DA*, bk. I, lect. 10; *QDSC*, q. un., a. 2 *ad* 2; *CT*, bk I, ch. 85.

42. See *DUI*, ch. III.

43. I thus disagree with my fellow Thomists who state, "The living human body is, therefore, in a very important sense identical to the particular human being" (DeYoung, McCluskey, and Van Dyke, *Aquinas's Ethics*, 28).

44. See *In Sent*, bk. I, dist. 8, q. 5, a. 2 *ad* 1.

45. *ST* I, q. 75, a. 2. Cf. *QDA*, q. un., aa. 2, 14; *In DA*, bk. III, lect. 7, §680. See also Haldane, "Kenny and Aquinas," 133–38; Haldane, "Metaphysics of Intellect(ion)," 48–54; Klima, "Aquinas on the Materiality," 172–76; Lang, "Aquinas's Impediment Argument," 107–24.

46. *ST* I, q. 75, a. 5.

47. See *In LDC*, prop. V; *ST* I, q. 90, a. 2, q. 118, a. 2; *SCG*, bk. II, ch. 87.

48. Cross, "Aquinas on the Mind-Body Problem," 46.

49. See *ST* I, q. 75, a. 6; *SCG*, bk. II, chs. 79–81; Bobik, *Aquinas on Being*, 151–52.

50. See *QDV*, q. 13, a. 4; *CT*, bk. I, ch. 84; *ST* I, q. 75, a. 6.

51. See *SCG*, bk. II, ch. 49; *In Sent*, bk. II, d. 19, q. 1. a. 1; *In LDC*, prop. XV. For a contemporary account of self-reflexive thought that implies a human mind's immateriality, see Haldane, "(I Am) Thinking." Linda Farmer argues that Aquinas's arguments for a rational soul's *incorruptibility* do not entail that the soul is *immortal* in the sense of being "alive"; see Farmer, "Straining the Limits." Farmer's analysis, however, neglects the extended metaphysical sense of being alive that Aquinas intends when he predicates life to another immaterial being—God (see *ST* I, q. 18, a. 3). Farmer does take account of a rational soul's ability to engage in intellective operations on its own but notes its dependence on God to provide it with intelligible forms to think about, since it cannot gain any new knowledge through sensation; she thus concludes that Aquinas's rationale for the soul's immortality is ultimately *theologically* based. There are, however, other intellective and volitional activities in which a rational soul may engage *on its own* postmortem: it can reflect upon intellective knowledge it had already gained in its premortem life; it can reflexively think about itself; and, upon being granted knowledge of the divine nature, it can will itself to either love or reject union with God.

52. See Klima, "Aquinas on the Materiality," 171.

53. See *QDA*, q. un., a. 1 *ad* 1; K. White, "Aquinas on the Immediacy."

54. The term *phantasmata*, transliterated as "phantasms," is sometimes translated as "sense impressions" or "sensory images." Such translations, however, are problematic. As Robert Pasnau describes it, "Phantasms are not simply

our ordinary sensory images. Rather, phantasms are the leftover impressions from those sensory images" (Pasnau, *Thomas Aquinas on Human Nature,* 279; see 278–95). Norman Kretzmann describes them as "cognitive likenesses of particular external things reinstated in physical configurations of the organ of *phantasia* [that is, the brain]" (Kretzmann, *Metaphysics of Creation*, 355; see 350–64). The purpose of phantasms is to be available for the intellect to use in abstracting the intelligible form of perceived things. Hence, phantasms are between the immediate mental impression of an object perceived by sensation and the intellectual understanding of that object's nature as abstracted from any individuating characteristics.

55. See *QDA*, q. un., a. 2; *ST* I, q. 101, a. 2.

56. See *QDA*, q. un., a. 3 *ad* 16.

57. See *SCG*, bk. II, ch. 76; *In DA*, bk. III, lect. 7; *QDA*, q. un., a. 4 *ad* 8; *DUI*, chs. II, IV.

58. Aquinas does not provide extensive arguments connecting a rational soul's volitional capacity with its immateriality. Yet he does consider a separated soul to be capable of volition and also grounds the will's autonomy in the soul's ability to intellectively cognize and deliberate about the various "goods" that it may elect to pursue; see *ST* I, q. 83.

59. See *QDSC*, q. un., a. 11 *ad* 14; *In DA*, bk. II, lect. 2; *SCG*, bk. II, ch. 68; *ST* I, q. 76, a. 1. Note that to speak of a rational soul as "having" capacities means only that it is the foundation—that is, the actualizing principle—for such capacities; as discussed above, a human being composed of a rational soul is the proper subject of ascription for the vegetative, sensitive, intellective, and volitional capacities proper to human nature.

60. See *QDA*, q. un., a. 8 *ad* 15, a. 10 *ad* 1–2; *In DA*, bk. II, lects. 1, 19; *ST* I, q. 76, a. 5 *ad* 3, q. 91, a. 3.

61. See *QDA*, q. un., a. 8.

62. See *QDSC*, q. un, a. 2 *ad* 7.

63. See Stump, "Non-Cartesian Substance Dualism," 514–15.

64. By these examples, I am not asserting that a rational soul has these qualities in itself. Rather, a soul "has" these qualities by virtue of its capacity to actualize a material human body to have them.

65. *ST* I, q. 90, a. 4 *ad* 1. Cf. *SCG*, bk. II, ch. 83.

66. *ST* I, q. 76, a. 1 *ad* 6. I specifically use the definite article—*the* body—in my translation, because a separated soul has a natural inclination to be united, not to any body, but to that particular body of which it is the substantial form, as will be discussed further in chapter 7. For Aquinas's assertion that separated souls retain knowledge acquired prior to death, see *ST* I, q. 89, a. 6.

67. *QDSC*, q. un., a. 2 *ad* 5. Cf. *QDP*, q. 5, a. 10; *ST* Supp., q. 93, a. 1.

68. *ST* I, q. 75, a. 4 *ad* 2. Cf. *ST* I, q. 29, a. 1 *ad* 5.

69. This is especially true in the early treatise *DEE*; see also *SCG*, bk. II, chs. 56, 68. A subsistent being cannot be an accidental quality of a substance. It subsists on its own. Aquinas highlights this quality of persons in an alternative definition he gives: "subsistent in a rational nature" (*ST* I, q. 29, a. 3).

70. *ST* I, q. 75, a. 2 *ad* 1. Cf. *QDSC*, q. un., a. 2 *ad* 16; *QDP*, q. 9, a. 1 *ad* 4; *QDA*, q. un., a. 1 *ad* 8–9; *In DA*, bk. II, lect. 1. See also Stump, "Non-Cartesian Substance Dualism," 517; Leftow, "Soul, Mind, and Brain," 412–14.

71. See *ST* I, q. 75, a. 2, *sed contra*.

72. *In M*, bk. V, lect. 10, §905.

73. *DEE*, ch. II. See Bobik, *Aquinas on Being,* 75–80.

74. Cf. *QDV*, q. 2, a. 6 *ad* 1, q. 10, a. 5.

75. In translating *dimensiones interminatis* thus, I disagree with John Wippel, who offers the translation "indeterminate dimensions." Wippel's translation creates a tension in Aquinas's thought, if not an outright contradiction, that I contend is not present. See Wippel, *Metaphysical Thought,* 358, 362.

76. *In BDT*, q. 4, a. 2.

77. See *ST* I, q. 76, a. 6 *ad* 2; *QDP*, q. 9, a. 1.

78. Owens, "Thomas Aquinas: Dimensive Quantity," 289.

79. See *In BDT*, q. 5, a. 3 *ad* 3.

80. *In BDT*, q. 4, a. 2, *sed contra*.

81. *In BDT*, q. 4, a. 3. Cf. *QQ*, VII, q. 4, a. 3; *ST* Supp., q. 83, aa. 2–3.

82. See K. White, "Individuation," 553–55; Chisholm, "Individuation," 38; Wippel, *Metaphysical Thought,* 363.

83. One point of debate concerns the *cause* of individuation for human beings. Joseph Owens argues that the *esse* possessed by a rational soul that is created individually by God is responsible for the individuated existence of a human being; see Owens, "Thomas Aquinas (b. ca. 1225; d. 1274)"; cf. M. Brown, "Aquinas on the Individuation," 170–71. Lawrence Dewan counters that *esse* is not a causal factor of individuation but that the combination of formal, material, and efficient causes brings about both a human being's existence and her existence as an individual substance; see Dewan, "Individual as a Mode."

84. See Stump, "Aquinas's Metaphysics," 37.

85. On the distinction between individuation and identity, see Oderberg, "Hylomorphism and Individuation."

86. For another recent, more detailed analysis of Aquinas's account of individuation with respect to human beings, see Fitzpatrick, *Thomas Aquinas on Bodily Identity*.

87. See Dewan, "Individual as a Mode," 416.

88. Edwards, "Saint Thomas Aquinas on 'The Same Man,'" 94.

89. *SCG*, bk. IV, ch. 81.

90. *ST* I, q. 119, a. 1 *ad* 5.

91. See *In Sent*, bk. II, dist. 30, q. 2, a. 1 *ad* 4; *SCG*, bk. IV, ch. 81; *In DGC*, bk. I, lects. 15–16; *CT*, bk. I, ch. 159; *QQ*, VIII, q. 3 *ad* 2; Chandlish, "St. Thomas and the Dynamic State," 272–75. Though Aquinas did not have the scientific resources to recognize the existence of cells as constituents of living bodies, he did understand that living bodies decay—that is, lose some material constituents—and are rejuvenated through nutrition—that is, gain new material constituents by digesting food.

92. Edwards, "Saint Thomas Aquinas on 'The Same Man,'" 93.

93. See Edwards, "Saint Thomas Aquinas on 'The Same Man,'" 95.

94. Stump, *Aquinas,* 46.

95. See Oderberg, "Hylemorphic Dualism," 80–81.

96. I will not discuss how significant a material change must be in order for a formal change to occur in an artifact. At one end of the spectrum, a statue of a man may have one of its arms chopped off by vandals and yet remain the same statue. At the other end of the spectrum, a statue may be chopped into a thousand or more pieces by vandals and thereby cease to exist.

97. I am utilizing the term *natural substance* to refer to a material substance that occurs in nature, as opposed to an artifact. I am not referring to any created substance, which would include angels, who are not material.

98. *ST* Supp., q. 79, a. 2 *ad* 4.

99. See *ST* Supp., q. 79, a. 2 *ad* 1.

100. Stump, "Aquinas's Metaphysics," 34.

101. For a contrary argument that the sameness of a human body's *dimensive quantity* grounds its persistent identity, see Fitzpatrick, *Thomas Aquinas on Bodily Identity*, ch. 4.

102. *In I Cor*, ch. 15, lect. 2, §924.

103. The term *mind* does not precisely correspond to Aquinas's term *intellect*. As will be shown, the mind includes certain capacities, such as the estimative capacity, that are distinct from the intellective capacity to understand universal concepts. Thus the intellect is but one capacity of the mind. Contemporary philosophers, though, often understand the concept of mind in a fashion similar to Aquinas's concept of intellect, and thus I propose the above substitution of terms.

104. For a contemporary formulation and defense of a hylomorphic—though not in all aspects *Thomistic*—theory of mind, see Jaworski, *Philosophy of Mind,* ch. 11; Jaworski, *Structure and the Metaphysics*. A key difference between Jaworski's hylomorphic theory and Aquinas's is the former's "embodiment thesis": "Beliefs, desires, and other mental phenomena cannot be defined independently of physical conditions. Definitions of mental phenomena imply something about how mental states are correlated with certain kinds of physical states" (Jaworski, *Philosophy of Mind*, 317; see 340–43). While Aquinas would

agree that a human being's natural embodied state implies mental/physical *correlation*, as in the second sentence of Jaworski's thesis, he would disagree with the first sentence's assertion that mental phenomena cannot be *defined* without reference to physical conditions. Aquinas would agree that Jaworski's thesis holds for mental phenomena at the *sensory* level, but not in the case of self-conscious rational thought insofar as such activity is fundamentally immaterial.

105. There may be other qualities of a human mind that are also irreducible to brain functioning, such as autonomous volition, but I list here the two examples about which Aquinas explicitly argues at length.

106. Oderberg, *Real Essentialism*, 252. Cf. Oderberg, "Hylemorphic Dualism," 89–91; Haldane, "Kenny and Aquinas," 133–38; Haldane, "Metaphysics of Intellect(ion)," 48–54.

107. Plantinga, "Against Materialism," 14.

108. Oderberg, *Real Essentialism*, 254; cf. Oderberg, "Hylemorphic Dualism," 91–92.

109. Klima, "Aquinas on the Materiality," 172.

110. See *ST* I, q. 78, a. 4. That Aquinas recognizes such cognitive activity to be a function of the brain fits with his understanding of nonhuman animals as volitionally *determined*. Animals have the cognitive capacity to recognize goods versus harms, and they must act based upon such recognition. If an animal recognizes something as good—absent any competing goods estimated to be of greater value with respect to the animal's natural flourishing—the animal must move toward it. An animal's brain is the origin of motivation for its body. Human beings share the estimative capacity, and it too is localized in the brain. Nevertheless, human beings are not determined by it, since they have higher cognitive capacities that are not defined by what physically occurs in the brain. Human beings are volitionally *free*; see *ST* I, q. 83.

111. For Plato's argument that a human mind (soul) gains knowledge from its existence prior to embodiment—the trauma of which causes the mind to forget that which it innately knows—and that all learning is thereby "recollection," see Plato, *Meno*.

112. See *ST* I, q. 84, a. 3. Aquinas recognizes that a human mind may gain knowledge by other means: God may directly infuse knowledge into it—as in Augustine's account of "divine illumination"—and it can gain insight and new knowledge by reaching conclusions through discursive reasoning. The former is not a *natural* means of a human mind's acquisition of knowledge, and Aquinas employs it only for the sake of explaining how a separated soul can gain new knowledge; see *ST* I, q. 89, a.1. The latter is part of a human mind's natural intellective processes but is dependent upon sense experience for the initial formation of the concepts utilized in discursive reasoning.

113. See *ST* I, q. 76, a. 5, q. 84, a. 7.

114. Folic acid deficiency has been identified as a critical factor affecting cerebral development, potentially resulting in an infant born with *anencephaly*. See Copp and Greene, "Neural Tube Defects." For elucidation of the biological concept of *epigenesis*, see Robert, *Embryology, Epigenesis and Evolution*.

115. I am grateful to Kevin Corcoran for raising critical questions regarding the description of a soul merely as a "principle of organization."

116. See Chisholm, *Person and Object*, app. B.

117. For a similar assertion, referring to the relationship of a human being and her brain, see Chisholm, "On the Simplicity," 171.

118. See S. Shoemaker, "Self, Body, and Coincidence."

119. Note that McMahan remains "agnostic" concerning the relation of the mind to the parts of the brain that generate consciousness; see McMahan, *Ethics of Killing*, 88. On a mind-brain *identity* model, the "too many thinkers" problem does not arise, but any other model that construes the mind as ontologically distinct, even if dependent upon, the brain would face this problem. David DeGrazia highlights this potential problem for McMahan's view insofar as the latter denies the identification of a person with a human organism, and a human organism has a brain capable of generating conscious thought; see DeGrazia, "Identity, Killing," 420. DeGrazia notes without comment, however, McMahan's rebuttal that saying a human organism thinks by virtue of having a brain that thinks—or at least causally generates conscious thought—is no more problematic than saying that a car makes a noise by virtue of having a part—a horn—that generates noise; see McMahan, *Ethics of Killing*, 92. McMahan employs the notion of derivative and nonderivative properties to which Baker will also appeal in laying out her constitution view of the relation of a person with her body (chapter 4); see McMahan, *Ethics of Killing*, 93–94.

120. See Olson, "Argument for Animalism," 325–26; Hershenov, "Who Doesn't Have a Problem," 203–8.

121. Olson, *What Are We?*, 169.

122. See *ST* I, q. 75, a. 2 *ad* 2.

123. See Hershenov, "Soulless Organisms?," 474–78.

124. See Hershenov, "Soulless Organisms?," 478; Baker, *Persons and Bodies*, 46–58.

125. See *ST* I, q. 75, a. 5.

126. *ST* I, q. 75, a. 2 *ad* 2.

127. *In DA*, bk. I, lect. 10.

128. van Inwagen, *Material Beings*, 94.

129. For further discussion of what it takes for various parts to be functionally organized into an integrated human body, see Pruss, *One Body*, 95–102; this issue will be further analyzed in chapter 6.

130. This is a controversial claim insofar as some metaphysicians—such as Hud Hudson—hold an "unrestricted" mereological view in which an object

may be composed of scattered parts. I will discuss in chapter 4 Hudson's unrestricted mereology in comparison with hylomorphism.

131. Fine, "Things and Their Parts," 65.

132. Mark Johnston offers a complementary definition of the hylomorphic part/whole relationship: "*What it is for* . . . (the item is specified here) . . . *to be is for* . . . (some parts are specified here) . . . *to have the property or stand in the relation* . . . (the principle of unity is specified here)" (Johnston, "Hylomorphism," 658). Thus what it is for a car to be is for wheels, chassis, carburetor, transmission, et cetera to stand in an appropriate structural and functional relationship such that one or more persons may be transported in a controlled manner.

133. Fine, "Things and Their Parts," 65–72. For a critique of Fine's ontology from an alternative hylomorphic perspective, see Koslicki, *Structure of Objects,* ch. 4. The points of disagreement between Fine and Koslicki do not affect the present discussion. Rather, the relevant point here is that both Fine and Koslicki—as well as C. Brown, *Aquinas and the Ship,* and Brower, *Aquinas's Ontology*—show ways in which classical hylomorphism may be reformulated effectively in the language of contemporary mereological theories.

134. Again, regarding a heart, one needs only something functionally equivalent to it, whether a biological organ, an artificial implant, or an external bypass machine to which one is connected.

135. Stump, "Non-Cartesian Substance Dualism," 509.

136. For further details of the functional relationship of various parts of one's brain to the rest of one's body, see chapter 6.

137. Hershenov, "Hylomorphic Account," 492–93.

138. Spencer, "Reexamination," 856–57. Cf. Hershenov, "Soulless Organisms?," 472.

139. The claim that *A* may "become composed" of her detached cerebrum in no way implies that *A* becomes *identical* to her detached cerebrum or a fortiori that *A* is identical to her cerebrum when it is conjoined to the rest of her body; see Burke, "Is My Head a Person?" The same will be true for *A*'s disembodied soul (chapter 7).

140. Hershenov disagrees that the remaining body is no longer an "animal" and contends that hylomorphists should consider being an animal to be a *contingent* feature of a human being's existence. For reasons explicated in chapter 7, I adopt a metaphysically expansive—not a biologically restrictive—concept of "animality" that recognizes a rational soul, and a fortiori any material body it informs, to be an animal insofar as the definitive capacities for life and sentience that are essential to being an animal are present in the soul itself. Since the persisting vegetative organism after cerebral explantation is no longer sentient, I conclude that it is merely a "living organism" as opposed to an animal. Jeremy Skrzypek (personal correspondence) contends that the remnant body could be

informed by a new *rational*—as opposed to merely vegetative—soul and thereby compose a new human being produced via a strange form of asexual "budding." For reasons articulated throughout this volume, the existence of a particular type of substantial form should be inferred on the basis of reasonable evidence that the definitive active potentialities of said form are present within the body in question. In the case of a PVS patient, whose cerebrum is no longer functional, there are reasonable grounds—to be elucidated in chapter 6—that the numerically same substantial form—rational soul—continues to inform her still living body. In the case of a detached—but still functional—cerebrum, there are reasonable grounds—or so I have argued—that the numerically same rational soul continues to inform only that part of one's body. We thus have to epistemically approach the remnant, still living body anew and ask what type of substance it is: *Quid est*? Since the only evident intrinsic potentialities actualizable either now or in the future—barring a radical substantial change—are vegetative, it is most reasonable to conclude that the remnant body is informed by a vegetative soul and not any other type of soul.

141. One might complain that I am unnecessarily complicating the transplant scenario by having *A* and *B* be of different genders, but it is expedient to avoid pronoun confusion.

142. This construal of the situation parallels what I say in chapter 6 regarding cases of high cervical cord transection, in which a human being's head becomes functionally disconnected from the rest of her body, which must be maintained by artificial life-support machinery. In this scenario, I claim that a human being is composed of only her head and that, despite being *structurally* conjoined to her head, the rest of her body is no longer informed by her soul because of the lack of *functional* integrity due to the body's vital metabolic functions no longer being regulated by her brainstem.

143. Toner, "Hylemorphic Animalism," 76–77.

144. For a different argument that a human animal could be pared down to a cerebrum—the rest of the body having been "amputated"—see Pruss, "I Was Once a Fetus," 22–24.

145. Eric Olson contends that a separated cerebrum might be construed as a "living body" but not as an "organism" because of its lack of organic complexity compared to the body that remains after explantation; see Olson, *Human Animal*, 115. If so, then human beings, while essentially animals, may not be essentially organisms. But even the attribution of "living" to a separated cerebrum may not be biologically appropriate insofar as a cerebrum has no brainstem to control vital metabolic activity; see Hershenov, "Death of a Person." David DeGrazia asserts: "Living things are complex products of reproduction—from similar parents, through evolution—that use energy from their environment to impose or maintain internal organization and resist entropy" (DeGrazia, *Human Identity and Bioethics*, 245; cf. Silver, *Remaking Eden*, ch. 1). Nevertheless,

a cerebrum may be considered "alive" in the extended metaphysical sense Aquinas intends when he predicates life to an immaterial being—God (see *ST* I, q. 18, a. 3).

146. Toner, "On Hylemorphism," 465–66. Toner's account parallels Olson's animalist account of what occurs in the transplant scenario and his complaint of implausibility against Hershenov's—and a fortiori my—account; see Olson, *What Are We?*, 172–74. I will critique Olson's animalist account at length in chapter 4, but suffice it to say for now that my countercharge of implausibility against Toner's conclusion would apply to Olson as well.

147. See McMahan, *Ethics of Killing*, 35; Bondeson, "Dicephalus Conjoined Twins."

148. See McMahan, *Ethics of Killing*, 66–69. I say "associated with" as McMahan remains "agnostic" concerning the relation of the mind to the parts of the brain that generate consciousness; see McMahan, *Ethics of Killing*, 88.

149. One response to the dicephalus case is that each twin is a "borderline" human animal, such that strict criteria of composition and identity do not apply; see Blatti, "Animalism, Dicephalus." All other things being equal, however, it is preferable to have an account that provides *determinate* criteria of composition and identity for Abigail and Brittany.

150. Liao, "Organism View Defended," 341.

151. See Liao, "Organism View Defended," 340; Lee and George, *Body-Self Dualism*, 47; Gómez-Lobo, "Sortals and Human Beginnings."

152. See Snowdon, *Persons, Animals, Ourselves*, 186.

153. This parallels what I conclude in chapter 6 regarding individuals who suffer high cervical cord transection. For an additional hylomorphic analysis of the case of dicephalic twins, see Napier, "Justification of Killing," 666–69.

154. See "Twins Born in Brazil." My thanks to Carrington Moore for bringing this story to my attention.

155. Campbell and McMahan, "Animalism and the Varieties," 291. See Bondeson and Allen, "Craniopagus Parasiticus." For a brief report on a recent case of this condition, see "Two-Head Girl Dies." Depending on whether only Jesus's or Emanuel's brainstem and motor cortex controls the rest of their shared body's vital and voluntary muscular functions, their case may be considered another example of *craniopagus parasiticus*.

156. See McMahan, "Killing Embryos," 182–83. A video showing and discussing this experiment, conducted by neurologist Robert J. White utilizing monkeys, can be found at "The First Brain Transplant"; see R. White et al., "Cephalic Exchange Transplantation." My thanks to Britney McMahan for bringing this video to my attention.

157. See Hershenov, "Countering the Appeal," 463–67. Another response to this case is to agree that only one animal organism is present, but two distinct

persons—one of whom is not an animal; see Snowdon, *Persons, Animals, Ourselves*, 187.

158. This is not to say that hylomorphism should admit the existence of multiple persons in cases of dissociative personality disorder. For a critique of utilizing this psychological phenomenon to undermine non–psychologically based accounts of personal identity, see Snowdon, *Persons, Animals, Ourselves,* ch. 7; for a counter, see Reid, "Case," 253–65. The inappropriateness of Hershenov's utilization of this phenomenon in the present case is due to the fact that the manifestation of the different personalities is *temporally distinct*, as opposed to the *simultaneous* manifestation of two different first-person perspectives in *craniopagus parasiticus*.

159. I argue in chapter 7 that a human animal may persist even without any material body altogether insofar as her rational soul persists with all the latent natural potentialities that define her animal nature such that her soul may inform her resurrected body to compose the numerically same living, sentient organism.

160. In my interpretation of the metaphysics of cerebral transplant, I argue that only the transplanted cerebrum would remain informed by the original person's soul; the rest of the body into which the cerebrum is transplanted would be a distinct organism informed by its own vegetative soul that served as a biological "life-support system" for the transplanted cerebrum. This ontology would differ, however, in the case of a whole-brain or head transplant, in which the original person's brainstem becomes functionally integrated with its new body, gaining control over the body's vital metabolic functions, and in which its motor cortex gains control over the body's voluntary muscles. In this case, the new body—which ceased to exist on its own as a living organism once its own brain/head was explanted—would become informed by the transplanted person's rational soul and thereby become *her* body. For further discussion in response to an actual proposal to conduct a human head transplant, see Eberl, "Whose Head? Which Body?," 221–23.

161. See Campbell and McMahan, "Animalism and the Varieties," 297–300.

162. Campbell and McMahan, "Animalism and the Varieties," 299. For a counter-response defending animalism, see Snowdon, *Persons, Animals, Ourselves,* 188–89.

Chapter Three. I Think, Therefore . . .

1. See Plato, *Phaedo*, 115c–e.

2. The section "Souls with Bodies: Substance Dualism" is a revised and updated version of Eberl, "Varieties of Dualism." For Swinburne's conception

of a human person, see Swinburne, *Evolution of the Soul*, 145. Cf. Swinburne, "Personal Identity"; Swinburne, "Structure of the Soul"; Swinburne, "Body and Soul"; Swinburne, *Christian God*, 16–32; Swinburne, "Dualism Intact"; Swinburne, "From Mental/Physical Identity"; Swinburne, "Substance Dualism."

3. See Swinburne, *Evolution of the Soul*, 146.

4. There is some confusion, sometimes within the same article, of whether Swinburne holds that a human person is identical to her soul alone—"simple dualism"—or is identical to a compound of two substances, soul and body, the former being essential to a person's existence while the latter is a contingent part of a person—"compound dualism." For example, in "From Mental/Physical Identity," Swinburne states both "Human beings, you and I, are pure mental substances (which do not supervene on physical substances)" (161) and "Human beings are thus a composite of substances of two genera—a soul which is, I suggest, a simple; and a body which is an organism" (162). In this chapter, I will emphasize Swinburne's advocacy of the former thesis in order to reveal the extent to which it differs from hylomorphism. Even if Swinburne is more properly characterized as a compound dualist, though, his view still differs significantly from Aquinas's insofar as the latter understands soul and *matter*, not soul and *body*, to compose a human person—not in the fashion of two distinct substances combining to form an *aggregate*, but rather as two metaphysical *parts*, neither of which is an independent substance in its own right. For a critique of compound dualism, see Olson, "Compound of Two Substances"; for a response, see Swinburne, "From Mental/Physical Identity," 162n24.

5. See Swinburne, *Evolution of the Soul*, 152; Swinburne, "Personal Identity," 23–24.

6. See Swinburne, *Christian God*, 31; Swinburne, "Personal Identity," 44.

7. Swinburne, *Evolution of the Soul*, 153. Cf. Swinburne, "Personal Identity," 27.

8. See Swinburne, *Evolution of the Soul*, 154; Swinburne, "Personal Identity," 29–30; Swinburne, "Structure of the Soul," 35.

9. See Swinburne, *Evolution of the Soul*, 152–53; Swinburne, "Personal Identity," 25–26.

10. See Nagel, "Brain Bisection"; Parfit, *Reasons and Persons*, ch. 12.

11. While there is some evidence that a person's apparent memories and psychological traits can be preserved in each hemisphere alone in the actual world, Swinburne requires only the logical possibility of such a phenomenon for his argument to stand. The term *apparent memories* is utilized here because a person may be mistaken about the content of her memory or whether a particular memory is indeed *her* memory—for example, she may be remembering a story a friend told her as an event that happened to herself or mistaking a dream experience for reality.

12. Swinburne, "Substance Dualism," 507. Cf. Swinburne, *Evolution of the Soul*, 147–51; Swinburne, "From Mental/Physical Identity," 160.

13. It seems clear that Swinburne intends his second restriction on substitutions of *x* to mean "describing *only* 1984 states of affairs"; nevertheless, I have chosen to keep the restriction in its original form. See Stump and Kretzmann, "Objection to Swinburne's Argument," 405, 410n4.

14. This is the application of the "quasi-Aristotelian" principle.

15. Swinburne, *Evolution of the Soul*, 322–23. Cf. Swinburne, "Personal Identity," 30n16; Swinburne, "Dualism Intact," 69. For a more streamlined presentation of the modal argument for dualism, see Taliaferro, *Consciousness and the Mind*, 173. Taliaferro argues for a view similar to Swinburne's that he terms "integrative dualism," in which a person is immaterial and thus ontologically distinct from her body but nonetheless is "integrally related" to her body.

16. See Swinburne, "Personal Identity," 34.

17. See Swinburne, *Evolution of the Soul*, 333.

18. Swinburne, *Evolution of the Soul*, 333. Cf. Taliaferro, *Consciousness and the Mind*, 208–9.

19. Swinburne, *Evolution of the Soul*, 333. For a fuller discussion, see Swinburne, *Christian God*, ch. 2; Swinburne, "Thisness." For a critique, see O'Leary-Hawthorne and Cover, "Framing the Thisness Issue."

20. Swinburne, *Evolution of the Soul*, 341.

21. Swinburne. *Evolution of the Soul*, 342. Cf. Hick, "Biology and the Soul," 216.

22. See Swinburne, *Christian God*, 46–50.

23. See Swinburne, "Personal Identity," 27.

24. See Swinburne, *Evolution of the Soul*, 166; Swinburne, "Personal Identity," 52.

25. See Swinburne, "Personal Identity," 7.

26. Zimmerman, "Two Cartesian Arguments," 222.

27. Zimmerman, "Two Cartesian Arguments," 223. Charles Taliaferro raises three objections to Zimmerman's argument, but none of them demonstrates the *inconceivability* that a person is identical to her body, which is all Zimmerman needs for his argument to go through; see Taliaferro, *Consciousness and the Mind*, 211–13.

28. This "necessity of origin" thesis is advocated by Kripke, *Naming and Necessity*, 112.

29. See Alston and Smythe, "Swinburne's Argument for Dualism."

30. Olson, *What Are We?*, 153.

31. Swinburne borrows the phrase "immune from error through misidentification" from S. Shoemaker, "Introspection and the Self," 82.

32. Swinburne, "From Mental/Physical Identity," 511.

33. Dean Zimmerman argues, however, that acceptance of property dualism renders substance dualism—or more precisely *emergent* dualism—more acceptable in comparison to materialist rivals; see Zimmerman, "From Property Dualism." For a critique, see Gasparov, "Emergent Dualism."

34. Swinburne, "Substance Dualism," 511.

35. Swinburne, "Dualism Intact," 71. Zimmerman proposes substituting *x* with "I am identical with my body or some part of it." Alston and Smythe propose the substitution, "I am purely material in 1984."

36. In Swinburne, *Evolution of the Soul*, app. C, he refines this last requirement to mean that *x* must be a "hard fact" of 1984—that is, *x* must be a fact of 1984 that does not depend upon any other facts that are outside of 1984. This agrees with Stump and Kretzmann's construal of Swinburne's argument; see note 13 above. Alston and Smythe's proposed substitution for *x* qualifies as a hard fact of 1984. Zimmerman's proposed substitution is a hard fact of 1984 so long as the preposition "[in 1984]" is added to it.

37. Stump and Kretzmann, "Objection to Swinburne's Argument," 406.

38. Swinburne replies to Stump and Kretzmann's article but not to this particular part of their objection; see Swinburne, "Reply to Stump and Kretzmann."

39. See Hasker, "Swinburne's Modal Argument."

40. See Swinburne, "Modal Argument."

41. For additional critiques of Swinburne's argument not discussed here, see Reames, "Response"; Moser and van der Nat, "Surviving Souls"; Snowdon, *Persons, Animals, Ourselves*, 46–47. Reames proposes a parallel argument to Swinburne's with the conclusion that a human person does not have a soul. Moser and van der Nat criticize Swinburne's argument by claiming that it begs the question against nonsubstantialist accounts of human nature—for example, a "Humean" account. In a Humean account of human nature, mental states exist as "bundles" that have no underlying substantial foundation, and a human person's nature and identity are defined by the existence of a particular bundle; see Hume, *Treatise of Human Nature*, bk. I, pt. 4, §6. On this account, there is no necessity of either a physical body or an immaterial soul for a bundle of mental states to exist and persist. For his response to Moser and van der Nat, see Swinburne, "Dualism Intact," 73–75. Hylomorphism concurs with Swinburne's anti-Humean stance. Snowdon contends that Swinburne's argument is invalid insofar as a) "no data have been presented which show that I cannot also survive the destruction of this non-physical part [my soul], so long as other physical parts remain," and b) "no data have been presented which link the immaterial part [my soul] . . . with the occurrence in me of mental processes"; Snowdon further complains that Swinburne's argument requires accepting the possibility of the imagined scenario of my surviving the destruction of my body in the

absence of an "independent investigation" into whether there is an immaterial part of me that would be requisite for such a scenario to be possible.

42. For arguments in favor of this point, see Kavanaugh, "What Is It Like"; Kavanaugh, *Who Count as Persons?*; Taliaferro, "Virtues of Embodiment." Our experienced embodiment is a foundational feature of the *phenomenological* movement in Continental philosophy; see, e.g., Merleau-Ponty, *Phenomenology of Perception*.

43. Pruss, "I Was Once a Fetus," 24. The same issues arise for views that identify a person with her brain (25).

44. Everitt, "Substance Dualism," 337.

45. Hasker, "Persons as Emergent Substances," 111–12. Cf. Yandell, "Defense of Dualism."

46. Although they contrast Aquinas's account with Swinburne's, J. P. Moreland and Scott Rae label Aquinas a "substance dualist" and argue that a person is identical with her soul, which is a substance; see Moreland and Rae, *Body and Soul*, 201–6. Robert Pasnau argues forcefully against the label "substance dualism" being applied to Aquinas's account; see Pasnau, *Thomas Aquinas on Human Nature*, 70. Pasnau's own label, however, "reductive hylomorphism" (44), strikes me as misleading. Aquinas's account should in no way be considered "reductionist," for a person is not reducible to her metaphysical or integral parts, taken individually or aggregately. For further contention that Aquinas is not a substance dualist, see Leftow, "Souls Dipped in Dust," 137–38.

47. *QDP*, q. 3, a. 10. Cf. *ST* I, q. 90, a. 4; *QDA*, q. un., a. 2 *ad* 11; *QDSC*, q. un, a. 2 *ad* 5.

48. See *ST* I, q. 77, a. 5.

49. See *ST* I, q. 84, aa. 6–7, q. 85, a. 1, q. 118, a. 3. For elucidation of the term *phantasmata*, see chapter 2, note 54.

50. Gilson, *Christian Philosophy*, 191.

51. See Swinburne, "Personal Identity," 32.

52. See *ST* I, q. 89, a. 4.

53. Swinburne, "Personal Identity," 32.

54. *ST* I, q. 118, a. 3.

55. *ST* I, q. 75, a. 4.

56. *SCG*, bk. II, ch. 57. Recall from chapter 2 that, strictly speaking, a person's rational soul informs *matter* in order to cause the existence of a living, sentient human body with both the necessary vital and sensory organs, as well as a brain supportive of self-conscious rational thought and autonomous volition. Thus there is no way in which a "human body" could exist and function without being informed by a rational soul.

57. Although a soul, by virtue of being immaterial, cannot add to the *material* quantity of a human person, as is the case with integral parts of other material objects, it does add to the *substantial* quantity of a human person—on

Swinburne's account—insofar as the soul is conceived of as a complete substance on its own, as well as the body to which it is conjoined.

58. Pegis, *St. Thomas and the Problem*, 179; see 150–59 for an explication of Aquinas's various objections to Platonism.

59. Hasker, *Emergent Self*, 188–89. For an additional argument in favor of "mental realism" and the nature of persons as "non-physical basic subjects of mentality," see Foster, *Immaterial Self*.

60. Hasker, "Souls Beastly and Human," 208. Swinburne makes a similar pitch for his version of dualism, appealing to the *continuity* of conscious experience; see Swinburne, "From Mental/Physical Identity," 159. For a detailed presentation of this argument, see Hasker, *Emergent Self*, 122–46; and for a formalized version of the argument, see Hasker, "Persons and the Unity," 182. The historical origin of this argument appears to be Plotinus, *Enneads*, IV.3.3; see Haldane, "Metaphysics of Intellect(ion)," 46. For an objection that the unity-of-consciousness argument actually presents a challenge to emergent dualism, see Shrader, "Unity of Consciousness."

61. See Hasker, "Souls Beastly and Human," 204–7.

62. For an explication and defense of the last theory, see O'Connor and Churchill, "Nonreductive Physicalism."

63. Hasker, "Souls Beastly and Human," 212. For further elaboration of the concept of ontological emergence, see Hasker, *Emergent Self*, 171–78; O'Connor and Wong, "Metaphysics of Emergence"; Toner, "Emergent Substance."

64. Hasker, *Emergent Self*, 190–91.

65. Hasker, *Emergent Self*, 195.

66. See Zimmerman, "From Experience to Experiencer," 195.

67. See Hasker, *Emergent Self*, 190, 194; Hasker, "Souls Beastly and Human," 214–15. For an alternative form of emergentism that does not espouse the ontological independence of a person from the organism from which she emerges—while preserving the distinctiveness of persons, among other organisms, as an ontological kind—see O'Connor and Jacobs, "Emergent Individuals." O'Connor and Jacobs's account has been criticized, most notably, by J. P. Moreland; see Moreland, "Argument from Consciousness." Joshua Johnson, however, has ably responded to Moreland's specific criticisms; see J. Johnson, "In Defense."

68. Hasker, *Emergent Self*, 235.

69. See Hasker, *Emergent Self*, 233. Hasker also considers the possibility that a conscious mind, once it emerges, could be self-sustaining, just as, according to some scientists, the gravitational field of a black hole may sustain itself after the collapsed star that initially generated it has passed completely out of existence; for a debate on this particular point, see Peoples, "William Hasker," 402–4; Hasker, "Hasker on the Banks," 196–97; Hasker, "Emergent Dualism," 309–10.

70. Hasker, "Reply," 205. Hasker is responding to Stewart Goetz's "Questions about Emergent Dualism" in the same issue.

71. Hasker relies on God to guarantee that the self whose existence is being sustained is the *same* self (Hasker, *Emergent Self*, 233), but this does not provide a *criterion* for self-identity.

72. Hasker, *Emergent Self*, 233–34.

73. See Parfit, "Personal Identity," 14–18. For a critical analysis of the memory criterion and Parfit's concept of quasi-memory, see H. Noonan, *Personal Identity*, ch. 8.

74. Hasker, "Souls of Beasts and Men," 276.

75. Hasker, *Emergent Self*, 234.

76. Eric Olson, for example, questions how a physical substance could generate an immaterial *substance*, as Hasker contends. It would be "less mysterious," in his view, if what emerged were "states or aspects of the brain," which would lead to a Humean "bundle view" of persons—see note 41 above—in which a person is identical to a collection of mental states but not a single unified substance; see Olson, *What Are We?*, 167–68. Hasker's unity-of-consciousness argument, however, cuts directly against the Humean view; see Hasker, *Emergent Self*, 144.

77. Hasker, *Emergent Self*, 201.

78. Dilley, review of *The Emergent Self*, 128. Cf. Dilley, "Critique of Emergent Dualism," 41–43.

79. Dilley, "Critique of Emergent Dualism," 43.

80. Hasker, *Emergent Self*, 234.

81. See Merricks, "There Are No Criteria." For a critique, see Zimmerman, "Criteria of Identity."

82. See Merricks, "How to Live Forever," 195.

83. See Peoples, "William Hasker," 406.

84. Note that I am criticizing Hasker's requirement that God function as the *direct proximate* cause of a soul's persistent existence. For Aquinas, God is the more remote "first cause" sustaining everything that exists—see *ST* I, q. 2, a. 3; *QDP*, q. 5, a. 1—but God's role in this regard does not preclude more proximate "secondary causes" in the natural world bringing things into existence and sustaining them, or sustaining themselves once brought into existence by another—see *QDP*, q. 3, a. 7.

85. See Kim, "Lonely Souls." The title of Kim's essay denotes another feature of his argument against substance dualism: namely, that two disembodied souls would not be capable of causally affecting one another, with the result that intersoul communication would not be possible. For contrary arguments in favor of the conceivability of disembodied souls communicating via *telepathy*, see Price, "Survival and the Idea," 286–87; Hick, *Death and Eternal Life*, 121–26.

A Thomistic response could also be offered based on his account of how angels—defined as essentially immaterial intellects—could "speak" to each other; see Goris, "Angelic Doctor."

86. Swinburne, *Evolution of the Soul*, 153.

87. Honnacker et al., "Substance Dualism Substantially Duelled," 117.

88. Hasker, *Emergent Self*, 192. See also O'Connor and Wong, "Metaphysics of Emergence," 660. This "monogamous" nature of the mind/brain relationship may appear to be disrupted by the existence of multiple sets of conscious states in cases of dissociative personality disorder. It is an open question, however, whether these sets of conscious states should be construed as distinct minds or as multiple realizations of the same mind; see Snowdon, *Persons, Animals, Ourselves*, ch. 7.

89. Hasker, *Emergent Self*, 190.

90. Hasker, *Emergent Self*, 192.

91. Hasker, *Emergent Self*, 191. There is a growing body of literature supporting the idea of one's mind being extended beyond the spatial boundaries of one's brain. See Clark and Chalmers, "Extended Mind"; Clark, *Supersizing the Mind*; Noë, *Out of Our Heads*; Menary, *Extended Mind*. For a hylomorphic perspective on the extended-mind thesis, see Jaworski, *Philosophy of Mind*, ch. 11, §4.

92. See *ST* I, q. 75, aa. 1–2.

93. See *ST* I, q. 76, aa. 1, 8.

94. See *ST* I, q. 76, a. 8 *ad* 4.

95. Another response to the causal-pairing problem is to contend that there is a primitive ontological relation between a particular soul and body that metaphysically precedes any causal relation between the two entities; see Goetz and Taliaferro, *Brief History*, 140–45. A more explanatorily satisfying response, however, results from the hylomorphic construal of the soul as the form of its body, thereby providing a principled reason for the causal-pairing relationship as opposed to the assertion of a merely *brute* relation.

96. Hasker, *Emergent Self*, 193.

97. Hasker, *Emergent Self*, 169.

98. See *ST* I, q.76, a. 5.

99. See *ST* I, q.78, a. 1.

100. See Haldane, "Breakdown of Contemporary Philosophy," 71; Haldane, "Metaphysics of Intellect(ion)," 45–48.

101. See Singer, *Animal Liberation*.

102. See Toner, "Hylemorphic Animalism," 78–79.

103. Leftow, "Soul, Mind, and Brain," 411.

104. See Hasker, "Souls Beastly and Human," 206–7, 210–11.

105. See Eberl, "Ontological Kinds," 32–34.

106. Baker, "When Does a Person Begin?," 42.

107. I am grateful to Christopher Kaczor for raising this objection in correspondence.

108. See Ford, *Prenatal Person*, 91. On the basis of what he says elsewhere, I believe that Ford did not intend this error; but others have misread him in this fashion, and so clarification is warranted.

109. See Baker, "When Does a Person Begin?," 42.

110. Hasker, *Emergent Self*, 189. It is worth noting, however, that some emergentists do not see their theory as precluding the possibility "that God is uniquely involved in the creation of each individual human person" (O'Connor and Jacobs, "Emergent Individuals," 87n11).

111. This term refers to the theory expounded by Nicolas Malebranche that God directly causes every event that occurs; see Malebranche, *Dialogues on Metaphysics*.

112. See Farmer, "Human Is Generated." God would also have to create a rational soul in each case of embryonic twinning (chapter 5) as well as when scientists produce a human clone, an animal-human chimera capable of self-conscious rational thought and autonomous volition, or perhaps even an artificially intelligent computer. For discussion of the metaphysical implications of producing the first two types of entities, see Eberl, "Thomism and the Beginning," 328–30; Eberl and Ballard, "Metaphysical and Ethical Perspectives."

113. I am grateful to an anonymous reviewer for emphasizing this point.

114. *SCG*, bk. II, ch. 87. For further elucidation, see Kretzmann, *Metaphysics of Creation*, 384–86.

115. See *ST* I, q. 89.

116. See *ST* I, q. 89, a. 6; Eberl, "Pomponazzi and Aquinas," 78.

117. Hasker, *Emergent Self*, 235. For a further criticism on this point, see Corcoran, *Rethinking Human Nature*, 43–44. Corcoran criticizes Hasker's proposal for not resolving the issue insofar as the resurrected body God provides either will have to be rendered impotent to generate its own conscious field—thereby making it unsuitable to support the conscious field with which it is supposed to be conjoined—or will have to be sufficiently complex to generate its own conscious field. This dilemma does not arise for Aquinas's account insofar as God supplies a disembodied rational soul with *unformed* "prime matter" for it to inform so that the matter—having no previous form of its own—becomes only *that* soul's body.

118. See Swinburne, *Evolution of the Soul*, 146.

119. *In I Cor*, ch. 15, lect. 2, §924.

120. See *SCG*, bk II, ch. 50; *QDA*, q. un., a. 6 *ad* 14; *QDSC*, q. un, a. 11 *ad* 20.

121. For discussion of the wide variety of views of postmortem existence held in both Eastern and Western religious and philosophical traditions, see Hick, *Death and Eternal Life*.

Chapter Four. Thou Art Dust

1. See Stump, "Non-Cartesian Substance Dualism."
2. See Olson, *Human Animal*.
3. Olson, *What Are We?*, 172.
4. See Baker, *Persons and Bodies*.
5. See Hudson, *Materialist Metaphysics*.
6. See McMahan, *Ethics of Killing*, ch. 1.
7. See Olson, *Human Animal*, 30. It is unclear whether Olson intends our biological species identification—*Homo sapiens*—to pick out an essential property. If so, then he must account for the problematic case of what is arguably the numerically same living animal changing its species if it were subject to genetic modification, as in the case of an *animal-human chimera*, whose species identity would be, at the very least, indeterminate if not clearly altogether different. For further discussion of the ontological implications of creating such entities, see Eberl and Ballard, "Metaphysical and Ethical Perspectives." For other defenses of animalism, see Snowdon, "Persons, Animals, and Ourselves"; Snowdon, *Persons, Animals, Ourselves*; van Inwagen, *Material Beings*; Carter, "Why Personal Identity"; Mackie, "Animalism versus Lockeanism"; DeGrazia, *Human Identity and Bioethics*, ch. 2. For an analysis of the essential claims held by all and only these and other animalists, see Johannson, "What Is Animalism?" For a taxonomic analysis of similarities and differences among animalists, see Olson, "What Does It Mean"; Thornton, "Varieties of Animalism." A recent collection of defenses and critiques of animalism can be found in Blatti and Snowdon, *Animalism*.
8. See Olson, *Human Animal*, 124. Cf. Olson, "Is Psychology Relevant"; Olson, "Human People."
9. *Vegetable Case* is an admittedly dehumanizing term but is the nomenclature Olson elected. For an analysis of the metaphysical implications of the PVS condition, see chapter 6.
10. See Olson, *Human Animal*, 17.
11. See Olson, *Human Animal*, 103.
12. See Olson, *Human Animal*, 25. Note that the period of time one exists as a person may be coextensive with her existence as an animal, at least conceivably insofar as God could directly create a mature human animal with psychological features that will persist until her death. Olson denies that this is actually the case insofar as embryos and fetuses are clearly animals with no psychological features.
13. See Olson, *Human Animal*, 25. Olson derives this concept from Wiggins, *Sameness and Substance*, 15. For a detailed analysis, see Robinson, "Constitution and the Debate," 78–85.

14. See Olson, *Human Animal*, 29; Wiggins, *Sameness and Substance*, 24. Olson is careful to note, however, that saying one is an animal *fundamentally* and, say, a parent *nonfundamentally* in no way entails that one is a parent "in a looser or weaker sense" than one is an animal; see Olson, "What Does It Mean."

15. Olson, *Human Animal*, 30.

16. See Olson, *Human Animal*, 35; Olson, "Human Atoms," 399. Olson admits that one could argue that the concept "person" is more like a substance concept, such as "animal" or "immaterial substance," and less like "locomotor," but goes on to say that "it is hard to evaluate this suggestion without having an actual proposal to work with—a definition of personhood as something other than a dispositional or functional property" (Olson, *Human Animal*, 36). Later, I will propose Aquinas's account, in which personhood—or rather *human* personhood—is understood to be the proper substance concept for human beings.

17. Olson, *Human Animal*, 73. Cf. Olson, "Was I Ever a Fetus?"

18. Olson, *Human Animal*, 74.

19. Olson, *Human Animal*, 79.

20. *Pace* Olson, it actually is a matter of debate whether two beings of the same kind can be spatially coincident. See Oderberg, "Coincidence under a Sortal"; Hershenov, "Can There Be."

21. See Olson, *Human Animal*, 135.

22. See Olson, *Human Animal*, 140.

23. See Garrett, "Some Thoughts on Animalism"; Luper, *Philosophy of Death*, 31–32. For defenses of the Transplant Intuition in light of Olson's objections to it, see S. Shoemaker, "Self, Body, and Coincidence"; S. Shoemaker, "Persons, Animals, and Identity"; Parfit, "We Are Not Human Beings." For an argument that the Transplant Intuition may be compatible with a form of animalism, see Madden, "Human Persistence."

24. See S. Shoemaker, review of *The Human Animal*, 497.

25. By "complex cluster of cells," I do not intend the same concept as "lump of flesh" criticized by Olson; see Olson, *What Are We?*, 55. The primary difference between the two concepts is that a "lump of flesh" cannot survive replacement of its parts, whereas I stipulate that an essential feature of the "complexity" of such a cluster of cells is that it does not suffer from *mereological essentialism* and can thus survive part replacement, presuming a sufficient degree of continuity in which any new cells are assimilated into the cluster in such a way as to be "caught up in the life"—to use Peter van Inwagen's helpful phrase—that is a *functional property* of the cluster; see van Inwagen, *Material Beings*, 94.

26. See Olson, *Human Animal*, 90–91; Ford, *When Did I Begin?* I critically analyze Ford's argument in chapter 5.

27. For a critique of Olson's view of when a human organism begins to exist, in light of his view of when a human organism ceases to exist, see Hershenov, "Olson's Embryo Problem."

28. Olson could counter that I could not have existed as a complex cluster of cells because such a "cluster" fails to count as a *substance*. Ford contends that a preimplantation embryo's intrinsic capacity to twin indicates that it is not a unified individual substance. Rather, it is merely a conglomeration of individual cells because of the lack of organic unity and functional integration among the cells. In chapter 5, I argue that Ford's view is mistaken. First, there is evidence of an inchoate organization and intercommunication among the cells that constitute an early embryo, indicating their *functional interdependence*. Second, I argue that the twinning phenomenon may be coherently described in terms of one organism *A* dividing into two organisms, *B* and *C*, and either *B* or *C* being identical to *A*, with the metaphysical "identity-maker" being the rational soul informing *A* that continues to inform *B* after the division of *A*'s physical matter. The other twin, *C*, with whom *A* is not identical, is informed by a distinct rational soul that comes into existence informing *C*'s matter at the moment it divides from *A*. This alternative depiction of twinning, however, would not be an option for Olson, since his reductive materialist ontology does not allow for the hylomorphic concept of souls informing bodies; hence, there would be no "identity-maker" by which *B*, but not *C*, could be identical to *A*. Nevertheless, there is another way of accounting for embryonic twinning from a reductivist perspective, which involves the embryo going out of existence—death through fission—as could also be said of an amoeba when it divides: *A* goes out of existence when *B* and *C* come into existence, and thus neither *B* nor *C* is identical to *A*. If, conversely, the embryo does not divide into twins, then it survives through implantation and fetal development into personhood. This alternative is consistent with Olson's reductive ontology and does not require any further metaphysical criteria to ground the identity of *A* with either *B* or *C*, since *A* has fissioned out of existence and *B* and *C* are both new substances. Given either of these alternative depictions of twinning, my substance concept might be to exist as a complex cluster of cells; the capacity of that cluster to divide and either form another organism while it continues to exist, or fission out of existence into two new organisms, is no threat to my substantial existence prior to the division.

29. See Pallis and Harley, *ABC of Brainstem Death*.

30. See the discussion of Alan Shewmon's argument against the whole-brain criterion of death in chapter 6.

31. See S. Shoemaker, review of *The Human Animal*; Crocker, review of *The Human Animal*. For more robust criticisms of Olson's brainstem criterion of identity, see Blander, "Was I Ever"; L. Davis, "Functionalism," 270–71; Baillie, review of *The Human Animal*.

32. Hershenov, personal correspondence.

33. For additional objections to animalism and responses, see Olson, *What Are We?*, ch. 2; Snowdon, "Objections to Animalism"; Baker, "What Am I?";

Olson, "Reply"; Baker, "Animalism vs. Constitutionalism"; Snowdon, *Persons, Animals, Ourselves*, 238–45.

34. Olson thus rejects an even further reductionist view in which a human being is identified with her *body*, which may persist beyond her death as a corpse; see Olson, *Human Animal*, 150. Various critics have raised a "corpse problem" that parallels Olson's "fetus problem" that he raises against psychologically based views of human personhood and personal identity; see Carter, "Will I Be"; S. Shoemaker, review of *The Human Animal*, 499; Baker, *Persons and Bodies*, 207–8; McMahan, *Ethics of Killing*, 30; Campbell and McMahan, "Animalism and the Varieties," 287–88. Both Olson and Aquinas are able to avoid this problem by conceiving of one's corpse not as an "individual substance" that comes into existence once an animal perishes but rather as a collection of micro-level substances that previously composed the animal as its integral parts; see *ST* I, q. 76, a. 8; *In Sent*, bk. I, dist. 8, q. 5, a. 3 *ad* 3; *In DGC*, bk. I, lect. 15, §108; *QDV*, q. 25, a. 6; Toner, "Hylemorphic Animalism," 70–71; Olson, "Animalism"; Hershenov, "Do Dead Bodies." While Campbell and McMahan complain that they do not find this proposed solution "promising," they offer no reason to judge it so and in fact even consider a similar solution to the problem their own view faces of differentiating between a *functional* brain to which a person, as an "embodied mind," is identical and its materially continuous nonfunctional counterpart that is not identical to a person; see Campbell and McMahan, "Animalism and the Varieties," 289–90.

35. *ST* I, q. 76, a. 3. Cf. *In M*, bk. VII, ch. 3, §1326. See also Lee, "Human Beings Are Animals"; Toner, "Hylemorphic Animalism."

36. For elucidation of the term *phantasmata*, see chapter 2, n54.

37. *SCG*, bk. II, ch. 62. Cf. *QDA*, q. un., a. 2.

38. By "deficient existence," I do not intend that there are degrees of existence for a human being, such that a human being who is composed of her soul alone has only a *partial* existence. Rather, existence is an "all-or-nothing" affair, and a human being may exist as composed by her soul alone. Such existence, however, is *deficient* in that a human being cannot actualize all her proper capacities in the absence of her material body.

39. See *ST* III, q. 16, a. 12 *ad* 1.

40. The modifier *mature* allows, as Olson contends, a human animal to exist as an early-term fetus before the brainstem has developed and begun to function (chapter 5). The claim that a mature human being requires a functioning brainstem in order to be alive has been challenged by cases of prolonged somatic survival following the irreversible cessation of brainstem function; these cases will be discussed in chapter 6.

41. Olson notes that other materialists, discussed in chapter 7, have proposed ways in which the numerically same human being may be resurrected; see

Olson, *What Are We?*, 41. Olson also considers the possibility of "Parfitian resurrection" by virtue of having a psychologically continuous survivor; see Olson, *Human Animal*, 71–72.

42. Baker, *Persons and Bodies*, 164.

43. Aquinas refers to the members of the Trinity, angels, and human beings all as persons; see *ST* I, q. 29, a. 4 *ad* 4. The term *person*, however, is not applied *univocally* to these three distinct types of beings. For example, God the Father is not an "individual substance" but an "incommunicable being or subsistence"; see *ST* I, q. 29, a. 3 *ad* 4, a. 4; q. 30, a. 4. An angel does not have a "rational nature," which implies knowledge by discursive reasoning, but is an "intellectual being" by having the capacity to know without discursion; see *ST* I, q. 58, a. 3. Because of such differences in nature, "person" cannot be the proper substance concept for the members of the Trinity, angels, or human beings. Nevertheless, God the Father's existence as an incommunicable subsistence is analogous to a human being's existence as an individual substance; and an angel's intellective nature is analogous to a human being's rational nature. Thus the term *person* is properly ascribed to the members of the Trinity, angels, and human beings, but not without qualification, and hence not as a substance concept. For Aquinas's detailed description of the members of the Trinity as persons, see *ST* I, qq. 29–30; *QDP*, q. 9. For his account of angelic nature as distinct from human nature, see *ST* I, q. 50, aa. 1–2.

44. I thus disagree with Patrick Toner when he contends that our proper substance concept is simply "human" and not in any way "person" insofar as human beings, for Aquinas, are essentially persons; see Toner, "Hylemorphic Animalism," 68.

45. See Robert and Baylis, "Crossing Species Boundaries"; Eberl and Ballard, "Metaphysical and Ethical Perspectives."

46. I argue in chapter 2 for a hylomorphic interpretation of the cerebral transplant thought experiment in which the original person would be reduced to being composed of her cerebrum alone, even after her cerebrum is transplanted, in the case at hand, into the chimp's body. Hence, there is not one new being who is both a person and a chimp, but rather a *hybrid* of a human cerebrum/person and a chimp. I remain agnostic, however, on whether this is in the end the best hylomorphic interpretation of this thought experiment. For an alternative interpretation, see Hershenov, "Hylomorphic Account." I am grateful to Michael Burke for devising this thought experiment. For his argument that you and I are essentially persons, see Burke, "Dion and Theon," 134–36.

47. I suppose an argument could be made for androids being "animals" in an extended *functional* sense of the term insofar as their bodies, though not organic in the biological sense, are composed of heterogeneous parts that function interdependently in order to produce functions associated with self-sustenance and maintenance (life) and locomotion and sensation (sentience), as

well as supporting self-conscious rational thought and autonomous volition. Angels, by contrast, are essentially pure intellects without any bodies whatsoever.

48. Baker, *Persons and Bodies*, 3. See also Doepke, *Kinds of Things*; Corcoran, "Persons, Bodies"; Corcoran, *Rethinking Human Nature*. For Baker's general argument in favor of the principle of "constitution without identity," see Baker, "Why Constitution Is Not Identity"; Baker, "Unity without Identity." For detailed discussions of Baker's *Persons and Bodies*, see Zimmerman, Rea, and Pereboom (2002).

49. By *capacity*, Baker means that a person may exist if he is not actually perceiving at the moment but possesses an "in hand capacity" to do so, which is closer to actualization than a more remote developmental potentiality; see Baker, "Resurrecting Material Persons," 318. We will examine the distinction between *capacity* and *potentiality* in chapter 5.

50. Baker, *Persons and Bodies*, 7. Cf. Baker, "Persons in Metaphysical Perspective," 443.

51. See Baker, *Persons and Bodies*, 61.

52. Baker, *Persons and Bodies*, 64–65.

53. See Baker, *Persons and Bodies*, 79.

54. See Baker, *Persons and Bodies*, 69–70; Corcoran, *Rethinking Human Nature*, 75.

55. See Baker, *Persons and Bodies*, 72; Baker, "First-Person Perspective."

56. Baker is a theist and so presumably holds that God, and perhaps angels as well, may exist as persons with first-person perspectives without physical bodies. She affirms that her constitutionalist account is focused solely on *human* persons and admits the metaphysical possibility of there being nonhuman persons; see Baker, *Persons and Bodies*, 17.

57. See Baker, *Persons and Bodies*, 16. Baker, however, does not explanatorily reduce a human person's first-person intentional states to physical states of her cerebrum. See Baker, *Saving Belief*; Baker, *Explaining Attitudes*; Baker, "What We Do"; Baker, *Naturalism*.

58. See Baker, *Persons and Bodies*, 109, 145.

59. See Baker, *Persons and Bodies*, 107. Baker even countenances the possibility of a person being constituted by *inorganic* bodily components; see Baker, "Persons and the Extended-Mind Thesis," 653–55.

60. Baker, *Persons and Bodies*, 164.

61. See Baker, *Persons and Bodies*, 35.

62. See Baker, *Persons and Bodies*, 40.

63. Baker, *Persons and Bodies*, 46.

64. See Baker, *Persons and Bodies*, 46–58. For a critique of Baker's employment of this distinction to defend constitutionalism, see Lim, "Derivative Properties."

65. See Baker, *Persons and Bodies*, 98.

66. See Baker, *Persons and Bodies*, 146.

67. Baker's arguments for this conclusion, with responses to other possible criteria of identity for human persons, are found in Baker, *Persons and Bodies*, ch. 5. Kevin Corcoran, a fellow constitutionalist, disagrees that a human person could become constituted by a different body and thus argues that the persistence of the numerically same body is a necessary, though not a sufficient, condition of a human person's persistence; see Corcoran, "Biology or Psychology?," 85–87.

68. See Baker, *Persons and Bodies*, 137–38. Some critics argue that Baker's criterion of personal identity suffers from a "duplication" problem insofar as, if a person's cerebrum were divided and each hemisphere was transplanted into two distinct human bodies, two different persons would wake up with the *same* first-person perspective—both would believe that they were identical to the person who existed before the transplant. Hence, neither third- nor even first-person evidence would be able to determine which of the two resulting persons—if either—was numerically identical to the original person; see Buford, "Baker," 204–8; Meijsing, "Development," 696–98; DeGrazia, "Are We Essentially Persons?," 115–19. Baker could respond that this is merely an issue of *epistemic* indeterminacy and that at most one of the resulting persons has the original person's first-person perspective, since it is by definition *unique*; while epistemic indeterminacy is not a desirable outcome, constitutionalism is by no means alone in having to face this implication of thought experiments involving duplication scenarios. As DeGrazia points out, though, Baker's view suffers from a lacuna of explaining *what accounts for* a person's numerically identical first-person perspective—particularly in light of such epistemic indeterminacy—noting that Baker's denial of the existence of souls and disallowance of brains, brain parts, or bodies to be identical to a person's first-person perspective makes providing such an explanation more difficult. Hylomorphism is better situated to account for the sameness of one's first-person perspective because of the sameness of one's soul, although epistemic indeterminacy in duplication scenarios will unfortunately remain.

69. Regarding the first set of objections, for other defenses of the principle of constitution-without-identity, see Thomson, "Statue and the Clay"; Thomson, "Parthood and Identity"; Johnston, "Constitution Is Not Identity"; V. Chappell, "Locke on the Ontology"; Lowe, "Instantiation, Identity and Constitution"; Doepke, "Spatially Coinciding Objects"; Shorter, "On Coinciding in Space"; Wiggins, "On Being."

70. H. Noonan, "Constitution Is Identity," 145. For similar criticisms, see van Inwagen, "Doctrine"; Lewis, *On the Plurality*, 252.

71. I owe this term to Christopher Brown.

72. Baker, *Persons and Bodies*, 41.

73. See Baker, *Persons and Bodies*, 163; Baker, "Difference That Self-Consciousness Makes"; Baker, "Persons in the Natural Order," 267–68.

74. For similar criticisms, utilizing additional examples of "significant" properties that a human being may gain throughout her life, see Pereboom, "On Baker's *Persons and Bodies*," 620; Wilson, "Persons, Social Agency," 53–57; Hershenov, "Problems," 297–98.

75. See Baker, *Persons and Bodies*, 40–41.

76. Sider, review of *Persons and Bodies*, 47.

77. See Olson, "Material Coincidence," 347.

78. For an "evolutionary just-so story" that depicts "one way that persons could have evolved from human organisms," see Baker, "Persons and the Extended-Mind Thesis," 651–53.

79. Sider, review of *Persons and Bodies*, 45.

80. See Baker, "Resurrecting Material Persons," 318; Pasnau, *Thomas Aquinas on Human Nature*, 115.

81. See *SCG*, bk. II, ch. 60; *QDA*, q. un., a. 11 *ad* 9; *ST* I, q. 76, a. 4 *ad* 1, q. 77, a. 1.

82. For other criticisms of Baker's account, or constitutionalism in general, see Burke, "Copper Statues"; Burke, "Persons and Bodies"; Olson, "Composition and Coincidence"; Olson, "Reply"; Olson, review of *Persons and Bodies*; Zimmerman, "Constitution of Persons"; Hasker, "Constitution View of Persons."

83. See Baker, *Persons and Bodies*, ch. 3.

84. See Stump, "Non-Cartesian Substance Dualism," 511.

85. See Chisholm, *Person and Object*, app. B.

86. See Baker, "Persons and Other Things," 20; Baker, review of *What Are We?*, 1122; Williams, "Aquinas in Dialogue," 485–86; Toner, "On Hylemorphism," 461–62.

87. *QDV*, q. 26, a. 2 *ad* 3–4.

88. See *ST* Supp., q. 96, a. 10, where Aquinas discusses how a soul's receiving an "aureole" (halo) nonderivatively results in the body it informs receiving the aureole derivatively, "such that the aureole is principally [i.e., nonderivatively] in the mind [which is a power of the soul], but shines also in the flesh by a kind of overflow [i.e., derivatively]."

89. See Baker, *Persons and Bodies*, 5. Baker also distinguishes her view from another theoretically close cousin—Hasker's emergent dualism—for a similar reason; see Baker, "Persons in the Natural Order," 269.

90. See Baker, *Persons and Bodies*, 19; Baker, "Need a Christian Be." Baker claims that one should not accept that there is any immaterial component to human nature if one is not required to for philosophical or theological reasons.

Aquinas, however, does have a philosophical reason for holding that a human soul is immaterial: immateriality is required for a soul to exercise its capacity for intellective thought. Aquinas also has a theological reason—a person's persistence between death and resurrection—although he understands his philosophical reason to provide independent support for the theological one.

91. Baker, *Persons and Bodies*, 112.

92. For Aquinas, the distinction is due to his claim that a human person may exist composed of her soul alone. For Baker, the distinction is due to her claim that a person may be constituted by a different physical body than that which actually constitutes her; see Baker, *Persons and Bodies*, 109, 145; Baker, "Materialism," 162.

93. Patrick Toner presses this distinction in arguing against a constitutionalist view of human persons by invoking Aquinas's argument that a person who thinks intellectively is identical to the sentient animal that provides her intellect with sense data from which to abstract universal concepts; see Toner, "Old Argument against Co-location." I would qualify Toner's argument with the claim—argued for in chapter 7—that a human animal's existence does not entail materiality; thus a human person/animal may persist—albeit deficiently insofar as actual sensation requires material organs—composed of her rational soul alone.

94. Baker, *Persons and Bodies*, 72. "Oneself*" signifies the strong sense of self-consciousness that Baker claims to be necessary to have a first-person perspective.

95. See Clarke, *Explorations in Metaphysics*, 212–21.

96. Aquinas does argue that the bare existence of the members of the Trinity, as *persons*, depends upon their essential relationship to each other; otherwise, there would be no distinction between them and God would be only one person; see *ST* I, q. 29, a. 4. This notion of personhood, however, as including essential relationships to other persons applies only to the members of the Trinity and not to other types of persons, such as human beings.

97. It is the case, according to Aquinas, that a nondivine person—an angel or a human being—is dependent upon God as her creator for her bare existence; hence, being in relation to God seems to be necessary for a person's bare existence. The relation of creature to Creator, however, is not the type of relation that Baker has in mind here. Her concern is that one cannot have a first-person perspective without having concepts of things other than oneself. I submit that a human being can exist, created by God, as a person with a first-person perspective without necessarily having concepts of things other than himself. Having such concepts may, as Clarke indicates, be helpful for a human being to develop a richer understanding of his *self*; but such relations are not necessary for a human being's bare existence as a person. The only relation necessary for

a human being's bare existence is as a creature of God—a relation of which a human being may not be aware. Therefore, a human being may exist as a person without having a concept of anything other than himself.

98. Eleonore Stump finds Baker's contention that certain kinds of substances may be essentially defined by their being in relation to other things to "complete" Aquinas's account of substances, rather than "undermining" it; see Stump, *Aquinas*, 38n16. It may be true that, for certain kinds of substances, to exist is to be in relation. Stump, however, does not address this point with respect to the existence of human beings as persons, and I do not find Aquinas to agree with Baker when it comes to that particular case.

99. *SCG*, bk. IV, ch. 48; Stump, *Aquinas*, 38–39.

100. As an artifact, an anvil is not a substance in Aquinas's technical understanding of the term.

101. *In DA*, bk. II, lect. 1. Cf. *DEE*, ch. VI; *DPN*, ch. I; *QDP*, q. 8, a. 4 *ad* 5; *ST* I, q. 76, a. 4; Bobik, *Aquinas on Being*, 247.

102. See Stump, *Aquinas*, 42–44. Pasnau is also concerned that the "thin" account of substance that Aquinas provides "offers little more than a glorified appeal to our intuitions, cloaked in theoretical terms" (Pasnau, *Thomas Aquinas on Human Nature*, 83).

103. For in-depth investigations into Aquinas's ontology of material objects, see C. Brown, *Aquinas and the Ship*; Brower, *Aquinas's Ontology*.

104. For the first of these differences, see *In DA*, bk. II, lect. 2; for the second, see *In Ph*, bk. II, lect. 2; and for the third, see *DPN*, ch. I, and *In DA*, bk. II, lect. 1. These differences between artifacts and natural substances may provide additional avenues toward formulating a principled distinction between substantial and accidental change.

105. For Aquinas's remarks that an accidental form adds "being" (*esse*) to the universe, without adding "*a* being" (*ens*), see *DEE*, ch. VI; *ST* I, q. 28, a. 2; *In M*, bk. VII, lect. 1, §1253, bk. XII, lect. 1, §2419.

106. Hudson, *Materialist Metaphysics*, 147.

107. Hudson, *Materialist Metaphysics*, 11.

108. Hudson, *Materialist Metaphysics*, 12.

109. Hudson, *Materialist Metaphysics*, 14.

110. See Hudson, *Materialist Metaphysics*, 47. Space does not permit me to elaborate on how the partist view yields this conclusion.

111. For further elucidation of four-dimensionalism, see Lewis, "Survival and Identity"; Lewis, *On the Plurality*; Heller, *Ontology of Physical Objects*; Sider, *Four-Dimensionalism*; Hawley, *How Things Persist*. For an overall critique of four-dimensionalism from the perspective of Scholastic metaphysics, see Feser, *Scholastic Metaphysics*, 201–8.

112. See Hudson, *Materialist Metaphysics*, ch. 2. Since I will be treating only Hudson's four-dimensionalist account of human personhood, I will simply refer to it as representing "four-dimensionalism" with the *partist* modifier understood.

113. Hudson, *Materialist Metaphysics*, 126.

114. For unspecified reasons, Hudson does not consider a human organism's life to begin at conception; thus he adds another object, "Hopeful," that exists from conception until some point in the decomposition process after death.

115. See Hudson, *Materialist Metaphysics*, 122–28. For a critique of Hudson's restriction of personhood to just Thinker and not extending it to encompass Vital, see Hershenov, "Embryos, Four-Dimensionalism"; Hershenov, "Four-Dimensional Animalism."

116. Hudson, "I Am Not an Animal!," 218. The bracketed insertion is mine and is justified by Hudson intending this principle to be applicable regardless of whether one adopts a three-dimensionalist or four-dimensionalist ontology.

117. See Hudson, "I Am Not an Animal!," 228.

118. For some representative critiques of four-dimensionalism, see Rea, "Temporal Parts Unmotivated"; Peter van Inwagen, "Four-Dimensional Objects"; Thomson, "Parthood and Identity."

119. For the requirement of "significant overlap" of the spatial regions composed by a candidate set of simples to count as parts of Legion, see Hudson, *Materialist Metaphysics*, 50. Olson charges Hudson with adopting an unmotivated ad hoc principle to avoid his theory resulting in an object being identical to two discretely located objects, as in the classical "Ship of Theseus" case; see Olson, review of *A Materialist Metaphysics*.

120. Goetz, review of *A Materialist Metaphysics*, 106. W. R. Carter suggests that although the 4DPartist might reject the implicit assumption in Goetz's complaint that persons or other material objects *inherit* the regions of space occupied by the various spacetime regions that compose them, the claim that a person can be multiply located in distinct, though overlapping, spacetime regions without inheriting the spatial contours of those regions amounts to treating persons like *universals*: Legion is multiply located in the spacetime regions respectively occupied by Tweedledee and Tweedledum, just as a novel may be multiply located in the spacetime regions occupied by various paper books and e-readers. This would require "a truly draconian revision of our concept of what a person is"; Carter, "'Partist' Resistance," 716.

121. Goetz, review of *A Materialist Metaphysics*, 107.

122. For elucidation and defense of a general hylomorphic metaphysics of material objects, see Koslicki, *Structure of Objects*, ch. 7; Johnston, "Hylomorphism"; C. Brown, *Aquinas and the Ship*; Brower, *Aquinas's Ontology*.

123. See van Inwagen, *Material Beings*.

124. See Toner, "Emergent Substance," 283. Although hylomorphism is compatible with a general ontology of emergence, I point out significant differences between the hylomorphic and emergent dualist view of persons in chapter 3.

125. This is my reconstruction of Jim Stone's argument from Stone, "Persons Are Not Made." For a different complaint concerning how a four-dimensionalist metaphysics of persons leads to issues with "I" references, see Nida-Rümelin, "Argument from Transtemporal Identity," 209–10.

126. Pruss, "I Was Once a Fetus," 25. See also Merricks, *Objects and Persons*, 136.

127. See C. Brown, *Aquinas and the Ship*, 15n19; Cross, "Four-Dimensionalism and Identity."

128. *ST* I, q. 10, a. 5.

129. Aquinas is following Aristotle's definition of time as "the measure of change"; see Aristotle, *Physics*, bk. IV, chs. 10–14.

130. *In Ph*, bk. III, lect. 10; emphasis mine.

131. *In M*, bk. VII, lect. 12, §1563.

132. David Oderberg provides what he takes to be reliable quotations from Aquinas supporting a *temporal* element in the dimensive quantities that individuate a substance, one of which clearly affirms endurantism insofar as it is asserted that a substance's "determination to certain portions of time and space" individuates it because of "its property to be substantially existing here and now"; trans. Harper, *Metaphysics of the School*, as quoted in Oderberg, "Hylomorphism and Individuation," 133. Unfortunately, sometime in the ensuing century of textual scholarship after Harper's volume was published, the allegedly Thomistic works from which these quotations are cited—two brief *opusculae*: *De natura materiae et dimensionibus interminatis* and *De principio individuationis*—have been shown to have been falsely attributed to Aquinas, with the first having an unknown author and the second being allegedly attributed to Thomas of Sutton; see Alarcón, *Corpus Thomisticum.*

133. See McCall and Lowe, "3D/4D Controversy"; Thomson, "Parthood and Identity," 218n10.

134. See Cross, "Four-Dimensionalism and Identity," 403n43. The question of whether substances may have temporal parts is the fulcrum of the debate between Aquinas's contemporaries Bonaventure, who affirms that at least some types of substances, and perhaps all created substances, have temporal parts in some sense, and Henry of Ghent, who accepts a four-dimensionalist ontology only for successive *processes*.

135. See McMahan, *Ethics of Killing*, ch. 1.

136. See McMahan, *Ethics of Killing*, 39.

137. McMahan, *Ethics of Killing*, 67.

138. McMahan, *Ethics of Killing*, 88.

139. McMahan, *Ethics of Killing*, 68. See the discussion of cases of "branching" identity in the next subsection.

140. McMahan, *Ethics of Killing*, 68–69.

141. See McMahan, *Ethics of Killing*, 88.

142. On time-relative interests, see McMahan, *Ethics of Killing*, 165–74. I will explicate McMahan's view of the beginning and end of human life in chapters 5 and 6. For critiques of McMahan's overall view and its ethical implications, see Agar, review of *The Ethics of Killing*; DeGrazia, "Identity, Killing"; Marquis, review of *The Ethics of Killing*; Mulgan, "Critical Notice"; Athanassoulis, review of *The Ethics of Killing*; Kittay, "At the Margins"; McKerlie, review of *The Ethics of Killing*; Hanser, "Where's the Harm"; Persson and Savulescu, "McMahan on the Withdrawal"; Wasserman, "Prenatal Harm"; Kamm, review of *The Ethics of Killing*; Kumar, "Permissible Killling"; Oyowe, "Physical Continuity."

143. See McMahan, *Ethics of Killing*, 55–59.

144. See Marquis, review of *The Ethics of Killing*, 439.

145. Kamm, review of *The Ethics of Killing*, 274–75.

146. DeGrazia, "Identity, Killing," 420.

147. For a contemporary defense of property dualism, see Chalmers, *Conscious Mind*.

148. In a Humean account of human nature, mental properties exist as "bundles" that have no underlying substantial foundation, and a person's identity is defined by the persistence of a particular bundle; see Hume, *Treatise of Human Nature*, bk. I, pt. 4, §6.

149. DeGrazia, "Identity, Killing," 421.

150. David Hume's "bundle theory" of personhood and personal identity (see note 148 above) is similar to Locke's view insofar as it also entails a psychological continuity criterion for personal identity. Lockeanism is a more directly relevant foil to Thomistic hylomorphism, however, insofar as Hume denies any *substantial* foundation for one's psychological continuity.

151. Locke, *Essay Concerning Human Understanding*, bk. II, ch. 27, §9. For a general critique of Locke's account in defense of animalism, see Snowdon, *Persons, Animals, Ourselves*, 55–61.

152. Locke, *Essay Concerning Human Understanding*, bk. II, ch. 27, §9.

153. Locke, *Essay Concerning Human Understanding*, bk. II, ch. 27, §10.

154. See Parfit, *Reasons and Persons*, pt. III.

155. McMahan, *Ethics of Killing*, 59.

Summative Excursus

1. For discussion of the wide variety of views of postmortem existence held in both Eastern and Western religious and philosophical traditions, see Hick, *Death and Eternal Life*.

2. See Kavanaugh, "What Is It Like"; Kavanaugh, *Who Count as Persons?*; Taliaferro, "Virtues of Embodiment"; Merleau-Ponty, *Phenomenology of Perception*.

3. See van Inwagen, *Material Beings*.

4. See Searle, *Rediscovery of the Mind*; Chalmers, *Conscious Mind*.

5. See S. Shoemaker, "Self, Body, and Coincidence"; S. Shoemaker, "Persons, Animals, and Identity"; Parfit, "We Are Not Human Beings."

6. *SCG*, bk. II, ch. 30. Given Aquinas's views concerning the possibility of a human being's postmortem existence as composed of her soul alone, it seems odd that he would refer to the "absolute necessity" of her having "each of the elements and humors and principal organs." It is not evident, however, that Aquinas intends a strict notion of "necessity" here that would preclude a human being's existence without the above material constituents. Rather, I take Aquinas here to be referring to the necessity of a body to have such constituents if it is to have a rational soul as its substantial form and thereby to compose a human being. Thus it is "absolutely necessary" for a human being, *if she is to be embodied*, to have her soul informing a body with the requisite material constituents.

7. See Fine, "Things and Their Parts."

8. See *ST* I, q. 75, aa. 2, 5; *SCG*, bk. II, ch. 49; *In Sent*, bk. II, d. 19, q. 1. a. 1; *In LDC*, prop. XV.

9. See *ST* III, q. 16, a. 12 *ad* 1.

10. *ST* I, q. 29, a. 1.

11. *ST* I, q. 29, a. 3. Cf. *ST* I, q. 29, a. 3 *ad* 2, where Aquinas refers to persons being distinct by reason of *dignity*.

12. Baker, "When Does a Person Begin?," 40.

13. See Baker, "Persons in the Natural Order," 267–68; Baker, "Difference That Self-Consciousness Makes."

Chapter Five. Starting Out

1. From here on, the modifier *human* will be understood.

2. See Singer, "Embryo Experimentation"; Kuhse and Singer, *Should the Baby Live?*; Tooley, "In Defense of Abortion"; Tooley, *Abortion and Infanticide*; Warren, "On the Moral and Legal Status." These thinkers are not unanimous in their understanding of what the essential activities of persons are or of what

is biologically required to assert that a human being exemplifies such activities; nor do they agree on whether or under what conditions infanticide may be morally permissible. These distinctions, however, do not undermine the general conclusion agreed to by these thinkers that a human being is a person only insofar as she exemplifies the *activities* definitive of personhood.

3. See Singer, "Embryo Experimentation," 84; Tooley, *Abortion and Infanticide*, 146; Warren, "On the Moral and Legal Status," 55.

4. See Kaczor, *Ethics of Abortion* [2011], 19–20. Kaczor notes that, for practical reasons, Tooley and Singer limit the moral permissibility of infanticide to either one week or one month postpartum, respectively.

5. Perhaps these points of fetal development would have some metaphysical cachet if a fetus were considered a *proper part* of a pregnant woman. There are good reasons, however, not to consider a fetus as such; see Kaczor, *Ethics of Abortion* [2011], 73–74.

6. See Swinburne, *Evolution of the Soul*. For a fuller presentation and critique of both substance dualism and emergentism, see chapter 3.

7. See Plato, *Meno*, 85e–86b.

8. See Swinburne, *Christian God*, 29.

9. The term *zygote* refers to an ovum that has been fertilized by a sperm cell. A zygote is the immediate product of conception and is thus also referred to as the "conceptus."

10. Swinburne, *Evolution of the Soul*, 179. John Foster—another substance dualist—finds the first view "quite plausible, though, in the nature of things, it would be difficult to prove"; Foster, *Immaterial Self*, 226, cf. 262. To sharpen Swinburne's time line, the formation of the *neocortex*, at around twenty-four weeks gestation, could be differentiated from that of the *allocortex*—which underwrites functions such as emotions and memory—at around the thirteenth week of gestation. The latter arguably marks the first appearance of specifically "human" neural structures and thus serves "as a reasonable time to demarcate the beginning of personhood" and the infusion of an "immortal soul" (Irmak, "Beginning," 238).

11. See Hasker, *Emergent Self*, 190–91.

12. See D. G. Jones, "Emergence of Persons," 25.

13. See Kaczor, *Ethics of Abortion* [2015], ch. 5.

14. O'Connor and Jacobs, "Emergent Individuals," 549.

15. See Olson, *Human Animal*. For a fuller presentation and critique of the materialist accounts discussed here, see chapter 4.

16. See Olson, *Human Animal*, 73.

17. See Olson, *Human Animal*, 89–91; Ford, *When Did I Begin?*

18. See Baker, *Persons and Bodies*. Although Kevin Corcoran also advocates constitutionalism, he employs a "theology of embodiment" to support the value

of a human organism even prior to its coming to constitute a person; see Corcoran, *Rethinking Human Nature*, ch. 4; Corcoran, "Material Persons, Immaterial Souls," 218–28. For reasons similar to Ford's, Corcoran concludes that a human organism comes into existence between thirteen and twenty-six days after fertilization (Corcoran, *Rethinking Human Nature*, 102).

19. Baker, "When Does a Person Begin?," 33. Baker's appeal to a version of *kind-essentialism* avoids a criticism from Hasker that her earlier presented view, which stipulates that a capacity for a first-person perspective requires being in an environment "conducive to the development and maintenance of a first-person perspective" (Baker, *Persons and Bodies*, 92), would lead to the problematic conclusion that a human being abandoned by its mother and raised by nonhuman animals would not be a person; see Hasker, "Constitution View of Persons," 29.

20. See Baker, "When Does a Person Begin?," 34–35. Baker's employment of the "capacity in hand" concept effectively rebuts the "newborn problem" raised against her earlier presentation of the constitution view by DeGrazia, "Are We Essentially Persons?," 109–10.

21. See Baker, "Replies," 634. On the same page, Baker claims, "The moment at which a human organism comes to constitute a person (if there is such a moment) is indiscernible." She thus offers "pegging" a person's beginning at *birth* since that event is "a reasonable time to suppose that a human organism has the capacity for a first-person perspective in the intended sense" and "the traditional time for thinking of a person's beginning." Later, Baker is a bit more agnostic about when a developing human organism comes to constitute a person, stating that it is "near birth" (Baker, "When Does a Person Begin?," 36).

22. Hudson, *Materialist Metaphysics*, 126.

23. For unspecified reasons, Hudson does not consider a human organism's life to begin at conception and thus adds another object, "Hopeful," that exists from conception until some point in the decomposition process after death.

24. See Hudson, *Materialist Metaphysics*, 151–58; Hudson, "Temporal Parts," 299–316.

25. Hudson admits that this is a problem only for his "preferred metaphysics" and acknowledges that a three-dimensionalist or four-dimensionalist who rejects unrestricted composition may rely on the argument from potential; see Hudson, *Materialist Metaphysics*, 125–26, 152–53.

26. Hershenov, "Embryos, Four-Dimensionalism," 132.

27. See Hershenov, "Embryos, Four-Dimensionalism," 134–40; Hershenov, "Four-Dimensional Animalism."

28. See McMahan, *Ethics of Killing*, 267.

29. See McMahan, *Ethics of Killing*, 277.

30. See McMahan, *Ethics of Killing*, ch. 4.

31. See McMahan, "Killing Embryos," 170–89.

32. See McMahan, *Ethics of Killing*, 338–45; McMahan, "Infanticide"; McMahan, "Infanticide and Moral Consistency."

33. Kamm, review of *The Ethics of Killing*, 274.

34. This section is a revised and updated version of Eberl, "Thomism and the Beginning." See also Eberl, "Aquinas's Account of Human Embryogenesis"; Eberl, *Thomistic Principles and Bioethics*, ch. 2.

35. *ST* I, q. 29, a. 1.

36. See *ST* III, q. 16, a. 12 *ad* 1.

37. Since Aquinas holds that all human beings count as persons, I will use these terms interchangeably from here on. However, as noted below (note 45), there may be entities, such as certain types of anencephalic infants, who are biologically members of the species *Homo sapiens* but are not human beings/persons ontologically speaking.

38. For an in-depth historical and critical overview of the various views discussed in this chapter, see D. A. Jones, "Aquinas as an Advocate."

39. See *SCG*, bk. II, ch. 59.

40. See *QDP*, q. 3, a. 12.

41. *ST* I, q. 76, a. 5.

42. Aquinas, following Aristotle, understands conception to involve male semen acting upon female menstrual blood to form an embryo. Neither of them has knowledge of sperm, ova, or DNA. See *ST* I, q. 118, a. 1 *ad* 4; Aristotle, *De generatione animalium*, bk. II, ch. 3, 736a24–737b6.

43. Since Aquinas holds that rational operations do not require the use of a bodily organ—see *QDA*, q. un., a. 2—the requisite "organic complexity" here is that which supports the operations of sensation that allow for the mind to abstract intelligible forms. For elucidation of Aquinas's account of sensory and intellective cognition, see Stump, *Aquinas*, ch. 8.

44. See *QDA*, q. un., a. 11 *ad* 1; *QDP*, q. 3, a. 9 *ad* 9; *ST* I, q. 76, a. 3 *ad* 3, q. 118, a. 2 *ad* 2; *SCG*, bk. II, ch. 89; *CT*, bk. I, ch. 92; *QDSC*, q. un., a. 3 *ad* 13.

45. This allows for the possibility that not all members of the biological species *Homo sapiens* are "human beings" as Aquinas defines the term; for there may be entities that are biologically "human" but are not rationally ensouled. A relevant example may be some anencephalic infants whose anencephaly results from a genetic anomaly present from conception that precludes their possessing the intrinsic capacity to develop a cerebrum supportive of sensation and rational operations. While all the potential causes of anencephaly have not yet been identified, one typical cause is folic acid deficiency in the mother's diet; see Copp and Greene, "Neural Tube Defects." Anencephaly caused by a lack of folic acid would not preclude an embryo possessing at conception an intrinsic capacity for rational thought; rather, this extrinsic deficiency negatively affects the embryo's *actualization* of this intrinsic capacity to form a functioning cerebrum.

46. Aquinas contends, following Aristotle, that rational ensoulment occurs at the time of "quickening," which occurs forty days after conception for males and ninety days after conception for females; see *In Sent*, bk. III, dist. 3, q. 5, a. 2; Aristotle, *Historia animalium*, bk. VII, ch. 3, 583b3–5. This, of course, is one of Aquinas's "empirical" conclusions that we may happily jettison while maintaining the validity of his overall metaphysical viewpoint.

47. See Donceel, "Immediate Animation," 101; Pasnau, *Thomas Aquinas on Human Nature*, 111. From here on, I will utilize the terms *rational thought* or *rationality* to stand for "self-conscious rational thought and autonomous volition." Jeff McMahan interprets hylomorphism, utilizing similar reasoning as Donceel and Pasnau, as implying that ensoulment does not occur until a human infant—several months after birth—is first able to actually engage in a form of rational cognition distinct from that of nonhuman animals, thereby rendering hylomorphism a form of "performance theory"; see McMahan, *Ethics of Killing*, 9–14.

48. See *ST* I, q. 48, a. 5, q. 76, a. 4 *ad* 1; *QDP*, q. 1, a. 1; *QDV*, q. 5, a. 8 *ad* 10; *In DA*, bk. II, lect. 2.

49. I derive the concept of a "design environment" from Alvin Plantinga's concept of something fulfilling its *proper function*, according to its *design plan*, in an *appropriate environment*; see Plantinga, *Warrant and Proper Function*, ch. 2. This concept coheres with hylomorphic ontology insofar as the way in which Aristotle defines a substance's essential nature makes reference to how the substance is *teleologically oriented* to actualize its definitive set of proper potentialities in an environment that is suited for the actualization of such potentialities.

50. For further elucidation of this basic distinction in types of potentiality, see Perrett, "Taking Life," 192; Reichlin, "Argument from Potential," 13–17; Lee, *Abortion*, 24–26; Larmer, "Abortion, Personhood," 243–44.

51. Aristotle, *De anima*, bk. II, ch. 5, 417a22–28 (trans. Barnes, 1:664). Note that Aristotle is referring to two ways in which something may *be* a knower, not ways in which something may *become* a knower. For an analysis of the various types of actuality and potentiality defined by Aristotle, see Witt, "Hylomorphism in Aristotle," 146–54.

52. See Pasnau, *Thomas Aquinas on Human Nature*, 115.

53. See Kretzmann, *Metaphysics of Creation*, 39.

54. See Chomsky, *Language and Mind*; Pinker, *Language Instinct*.

55. For further elucidation of this distinction in types of active potentiality, also construed as "proximate" versus "remote," see Lee and George, *Body-Self Dualism*, 136–38; Lee, *Abortion*, 28n33; Gómez-Lobo, "On Potentiality and Respect," 109; Schwarz, "Personhood Begins at Conception," 265–66; Reichlin, "Argument from Potential," 15; Joyce, "Personhood," 99–100; Wade, "Potentiality," 249.

56. By "specific and numerical identity," I mean that something ceases to be not only the same *individual* but also the same *kind* of thing—for example, something changes from being a nonperson to being a person.

57. See Witt, "Powers and Possibilities," 264.

58. See DiSilvestro, "Not Every Cell," 149; Marquis, "Korcz's Objections," 57; Perrett, "Taking Life," 189; Hershenov, "Problem of Potentiality," 265; Reichlin, "Argument from Potential," 4; Burke, "Sortal Essentialism," 26–28; Covey, "Physical Possibility and Potentiality," 239; van Inwagen, *Material Beings*, 151–52; Buckle, "Arguing from Potential," 233–38; Ford, *When Did I Begin?*, 84–85, 109–10; Stone, "Why Potentiality Matters," 816–18.

59. Lockwood, "Warnock versus Powell," 197. See also Warren, *Moral Status*, 206–7; Bigelow and Pargetter, "Morality, Potential Persons," 177. Lockwood's assertion would stand if one holds mereological composition to be "unrestricted," as Hudson does—see above. Hylomorphic metaphysics includes a restricted notion of composition premised on the Aristotelian view that there are natural ontological kinds, such as "animal," that cannot exist as "scattered objects."

60. McMahan also draws an explicit distinction between "identity-preserving" and "nonidentity" potential, applying the latter to the case of a sperm or ovum. He further denies, on the basis of his embodied-mind account, identity-preserving potential to an embryo or early-term fetus that has yet to develop a cerebrum capable of at least some degree of consciousness; see McMahan, *Ethics of Killing*, 304–5.

61. See *ST* I, q. 118, a. 1 *ad* 4; *QDA*, q. un., a. 13; Kretzmann, *Metaphysics of Creation*, 379n27.

62. *In M*, bk. IX, lect. 6, §1837.

63. Aristotle, *De generatione animalium*, bk. V. ch. 1, 778b2–6.

64. Aristotle defines four causes of any being; see *Physics*, bk. II, ch. 3, 194b24–195a3. The "material cause" is the matter that composes it, that out of which it is produced. The "formal cause" is the substantial or accidental form that defines it as the type of thing it is. The "efficient cause" is the agent or activity that instantiates the form in the matter, that which produces the thing. The "final cause" is the end or purpose for which the thing is produced.

65. See Wade, "Potentiality," 242; Lee, *Abortion*, 25; Reichlin, "Argument from Potential," 12; Oderberg, "Modal Properties," 287–89.

66. See Kaczor, *Ethics of Abortion* [2011], 104.

67. A couple clarifications are in order regarding the term *conception*. First, in reference to the typical process of *fertilization*, there is some debate concerning when in this twenty-four-hour-long process the beginning of an embryo's existence—in the form of the monocellular zygote—should be pinpointed. Lee Silver claims that fertilization is not complete until after the first mitotic

division; see Silver, *Remaking Eden*, 45. Ronald Hamel and Michael Panicola, on the contrary, assert that *syngamy*—when the twenty-three maternal chromosomes line up with the twenty-three paternal chromosomes—would be the best candidate insofar as that is when the zygote first exists as a single totipotent cell with a diploid human genome; see Hamel and Panicola, "Emergency Contraception Revisited," 238. This view is challenged, however, in M. Condic, "When Does Human Life Begin?," 141–43. For further elucidation of the fertilization process relative to the question of when a human person begins to exist, see R. George and Tollefsen, *Embryo*, 36–42. Second, there are at least three alternative ways through which an embryo may be brought into existence that do not involve the fusion of sperm and ovum: parthenogenesis, monozygotic twinning, and cloning through somatic cell nuclear transfer. I will thus adopt a conceptually expansive definition of *conception* following David Oderberg: "Conception is that event, typically involving the union of sperm and egg, which consists in a change in the intrinsic nature of a cell or group of cells, where that change confers on the cell (or its descendants in the case of division) the intrinsic potential to develop, given the right extrinsic factors, into a mature human being" (Oderberg, "Modal Properties," 293). *Parthenotes*, for example, are embryos produced through induced mitosis of an unfertilized ovum with concomitant doubling of its twenty-three chromosomes—by injecting the nucleus of another ovum with its own set of twenty-three chromosomes—to produce a diploid genome without any contribution from the male gamete. For arguments that at least certain types of parthenotes should count as persons because of their intrinsic developmental potential, see Huarte and Suarez, "On the Status of Parthenotes," 755–70.

68. See Lee and George, *Body-Self Dualism*, 122.

69. For further discussion of Pasnau's view, see Haldane and Lee, "Aquinas on Human Ensoulment," 255–78, and the subsequent responses: Pasnau, "Souls," 521–31; Haldane and Lee, "Rational Souls," 532–40.

70. See *ST* I, q. 76, a. 3.

71. An "epigenetic primordium" is that from which a particular tissue, organ, or organ system will naturally develop if unimpeded. The tissue, organ, or organ system exists not actually, but virtually, in its epigenetic primordium insofar as a developmental continuity can be traced from one to the other; see Haldane and Lee, "Rational Souls," 537.

72. *Incomplete* twinning may still occur postimplantation, yielding various types of conjoined twins or cases of "foetus-in-foetu," in which a fetus grows for a time inside another, eventually perishing; see Oderberg, "Metaphysical Status," 266.

73. The cells in this conglomeration would be individual living substances, each informed by a vegetative soul; see Eberl, "Beginning of Personhood," 151–52.

74. *Totipotentiality* refers to a preimplantation embryo's cells each having the intrinsic capacity to divide and form any tissue or organ of a human body, although this capacity may be extrinsically restricted *ab initio* by each cell's location among the other cells composing the blastocyst; see Oderberg, "Metaphysical Status," 270–72.

75. See Ford, *Prenatal Person*, 65; Ford, "Human Embryo as Person," 160; Ford, *When Did I Begin?*, 117.

76. See Ford, *When Did I Begin?*, 133–35. See also McMahan, "Infanticide," 178–79. McMahan compares the unified biological functioning of a preimplantation embryo to that of a whole-brain-dead individual (chapter 6), contending that we should arrive at symmetrical conclusions concerning when a human organism's existence begins and when it ends (180–81). There is a relevant asymmetry, however, insofar as an embryo possesses a *developmental trajectory* that the body of a whole-brain-dead individual lacks; see Eberl and Brown, "Brain Life."

77. See Ford, *When Did I Begin?*, 171–72.

78. For additional arguments supportive of Ford's conclusion from a Thomistic perspective, see Kenny, "Beginning"; Eberl, "Beginning of Personhood"; Wallace, "St. Thomas"; Bole, "Zygotes, Souls"; Anscombe, "Were You a Zygote?"; P. Smith, "Beginning of Personhood"; Diamond, "Abortion, Animation." For arguments supportive of Ford's conclusion, but not from an explicitly Thomistic perspective, see DeGrazia, *Creation Ethics*, 20–24; DeGrazia, *Human Identity and Bioethics*, 247–52; B. Smith and Brogaard, "Sixteen Days"; Olson, *Human Animal*, 89–93; Shannon, "Delayed Hominization"; Lockwood, "Human Identity," 45; Porter, "Individuality, Personal Identity"; McCormick, "Who or What"; van Inwagen, *Material Beings*, 152–54; Shannon and Wolter, "Reflections," 603–26; Grobstein, *Science and the Unborn*.

79. See *QDA*, q. un., a. 10; *SCG*, bk. II, ch. 57; *In DGC*, bk. I, lect. 15, §108.

80. See Pasnau, *Thomas Aquinas on Human Nature*, 88; Frey, "Organic Unity."

81. Pasnau, *Thomas Aquinas on Human Nature*, 93.

82. See *QDA*, q. un., a. 10 *ad* 15; *SCG*, bk. II, ch. 57; van Inwagen, *Material Beings*, 81–97.

83. Of course, the molecules and atoms that compose the eye would persist unchanged when the eye was functionally disconnected; but the object they composed—the *eye* itself—would have ceased to exist, since it would no longer fulfill its definitive function as a proper part of an organism.

84. See Panicola, "Three Views," 80–81; Serra and Colombo, "Identity and Status," 172; Lee, *Abortion*, 94–95; Flaman, "When Did I Begin?," 41.

85. See Deckers, "Why Eberl Is Wrong," 274–75.

86. See R. George, "Human Cloning," 14–15; Tollefsen, "Embryos, Individuals, and Persons," 72; Lee, *Abortion*, 102; Grisez, "When Do People Begin?," 37.

87. Meyer, "Embryonic Personhood," 213. Meyer cites embryological evidence from Pearson, "Your Destiny," and Beddington and Robertson, "Axis Development." See also President's Council on Bioethics, *Monitoring Stem Cell Research*, app. A; Gómez-Lobo, "Sortals and Human Beginnings"; Vial Correa and Dabike, "Embryo as an Organism," 317–28; Serra and Colombo, "Identity and the Status"; Flaman, "When Did I Begin?," 46; Fisher, "'When Did I Begin?' Revisited," 66.

88. Ford, *When Did I Begin?*, 155n37.

89. Ford, *When Did I Begin?*, 155.

90. Grisez, "When Do People Begin?," 38. See also Tollefsen, "Embryos, Individuals," 72.

91. Deckers, "Why Eberl Is Wrong," 275.

92. Ashley, "Critique of the Theory," 123. Cf. Ashley and Moraczewski, "Cloning, Aquinas," 197; R. George, "Human Cloning," 14.

93. See Gardner, "Early Blastocyst"; Gardner, "Specification of Embryonic Axes"; Gardner, "Thoughts and Observations"; Piotrowska and Zernicka-Goetz, "Role for Sperm"; Piotrowska et al., "Blastomeres Arising"; Beddington and Robertson, "Axis Development."

94. Aquinas argues that a rational soul, unlike the vegetative soul of, say, a flatworm, which may be divisible if the worm's body is divided into two distinct living worms (see *QDP*, q. 3, a. 12 *ad* 5; *QDSC*, q. un., a. 4 *ad* 19; *In M*, bk. VII, lect. 16, §1635; *In DA*, bk. II, lect. 4), is indivisible, simple, and one (see *QDP*, q. 5, a. 10 *ad* 6; *QDSC*, q. un., a. 4 *ad* 9; *QDA*, q. un., a. 10 *ad* 15; *SCG*, bk. II, ch. 86).

95. See Klubertanz, *Philosophy of Human Nature*, 410–11.

96. This construal makes it the case that the proximate progenitor of one of the twins, *B* or *C*, is *A*, whereas the proximate progenitor of *A* and the other twin is *A*'s mother and father. This conclusion may be technically true but is unproblematic because, for all practical purposes and because of the epistemic uncertainty regarding which of the twins is identical to *A*, *A*' s mother and father can be considered as the parents of both *B* and *C*.

97. See Panicola, "Three Views," 80–81; Finnis, "Abortion," 18; Crosby, "Personhood," 410–11; May, "Moral Status," 80–81; Fisher, "'When Did I Begin?' Revisited," 61, 67; Flaman, "When Did I Begin?," 50; Suarez, "Hydatidiform Moles," 631. Kevin Flannery offers a different proposal, in which the first ensouled embryo goes out of existence when twinning occurs and thus both of the resulting twins are numerically distinct human beings from the original; see Flannery, "Applying Aristotle," 277. This proposal, though, is ontologically onerous compared to the view presented here.

98. See Howsepian, "Four Queries," 143–46.

99. See Napier, "Vulnerable Embryos," 808–9. Since the quidditative property does not require any further qualitative differences to be possessed by

the resulting twin, it does not matter if the division is *asymmetrical* or not. McMahan contends that only asymmetrical division could result in one of the twins, whichever is the larger, being identical to the original embryo, while symmetrical division results in the original embryo going out of existence; see McMahan, "Infanticide," 177–78.

100. See Merricks, "There Are No Criteria," 106–24. I do not endorse Merricks's noncriterialist view, but it remains an arguable strategy.

101. See Ashley and Moraczewski, "Cloning, Aquinas," 195–98.

102. See Piontelli, *Twins*, 19; Oderberg, "Metaphysical Status," 267–68; Ford, *When Did I Begin?*, 119.

103. This conclusion may apply only in cases in which an embryo is genetically programmed to twin; if an embryo is not so programmed, then it would be an individual substance at conception. Alternatively, an embryo that is programmed to twin may compose *two* individual human beings at conception who are later separated from each other when twinning occurs. See Deckers, "Why Eberl Is Wrong," 279; Koch, "Conjoined Twins," 365; Koch-Hershenov, "Totipotency, Twinning, and Ensoulment," 157–60. This view is problematic, however, from a Thomistic hylomorphic perspective; see Eberl, "Thomistic Perspective on the Beginning," 286–87. For opposing arguments concerning whether two substances of the same kind can be spatially coincident, see Oderberg, "Coincidence under a Sortal"; Hershenov, "Can There Be."

104. *In M*, bk. V, lect. 8, §884.

105. See O'Rourke, "Embryo as Person," 248.

106. See Haldane and Lee, "Aquinas on Human Ensoulment," 267.

107. See *ST* I, q. 119, a. 2; *QDA*, q. un., a. 11 *ad* 9.

108. See Ashley, "Critique of the Theory," 123; Ashley and Moraczewski, "Cloning, Aquinas," 197.

109. Mouracade, "Aristotelian Hylomorphism," 175.

110. Robert, *Embryology, Epigenesis and Evolution*, 50.

111. See *QDA*, q. un., a. 9 *ad* 13; *QDA*, q. un., a. 10 *ad* 4 & 11; *QDA*, q. un., a. 11 *ad* 16; *In Sent*, bk. I, dist. 8, q. 5, a. 3 *ad* 3. The concept of the soul operating through a primary organ will be discussed further in chapter 7.

112. See Ashley, "Critique of the Theory," 124. It may be problematic to refer to the zygotic nucleus as an "organ"—see Shannon, "Delayed Hominization," 732—and so the term *control center* or *primary organizer*—the latter is Ashley's term—is probably more appropriate. Nicanor Austriaco disagrees with Ashley's assertion that the zygotic nucleus functions as the primary organ for a developing embryo but agrees that rational ensoulment occurs at conception because of the *systemic* functioning of the embryo as a whole guiding its own epigenetic development; see Austriaco, "Immediate Hominization," 735–36.

113. See Ashley and Moraczewski, "Cloning, Aquinas," 199–200. Juan Vélez contends that it is preferable to consider the rational soul as informing

the matter of the conjoined *gametes* in order to bring a zygote into existence, rather than informing the already formed *zygote*; see Vélez, "Immediate Animation," 21. To clarify the issue at hand, a rational soul immediately informs what Aquinas terms "prime matter" to compose a human being. Such matter, as Vélez notes, previously composed the gametes; but the gametes cease to exist as individual substances at the completion of the fertilization process when *syngamy*—the fusion of the gametes' chromosomes—occurs. At this point, a new substance—the zygote—comes into existence. Rational ensoulment thus occurs in the moment of *transition* when the gametes cease to exist and the zygote begins to exist.

114. A hydatidiform mole is a mass of placental tissue with the same genetic identity as an embryo. What separates a hydatidiform mole and a developing embryo is that the former can never, despite its intrinsic genetic structure and even if placed in a supportive uterine environment, develop into an organism with a functioning cerebrum; the latter can. For discussion of the importance of hydatidiform moles to the question of whether a human embryo possesses the intrinsic biological factors sufficient for it to be a human being, see Bedate and Cefalo, "Zygote"; Suarez, "Hydatidiform Moles."

115. See M. Condic, "Biological Definition," 211–35; S. Condic and Condic, *Human Embryos, Human Beings*. One may wonder here about the status of a severely cognitively disabled human being who apparently will never actually think in a rational manner; I discuss this type of case in response to McMahan below. A zygote's "epigenetic development" into a mature human being refers to its occurrence in a supportive environment—first the fallopian tube and then the uterus—with no external impeding factors. For further discussion of the "very particular environment" required for human embryonic development—providing the proper epigenetic factors for appropriate gene expression to occur—see Robert, *Embryology, Epigenesis and Evolution*, 66–67.

116. A relevant "abnormal" case would be some anencephalic infants whose anencephaly results from a genetic anomaly present *from conception* that precludes their possessing the intrinsic capacity to develop a cerebrum supportive of sensation and rational operations. Such entities, despite appearing quite human, would evidently not be informed by a rational soul; see note 45 above.

117. Stone, "Why Potentiality Still Matters," 291. See also Corcoran, *Rethinking Human Nature*, 99n20; Persson, "Two Claims," 510; B. Smith and Brogaard, "Sixteen Days," 59.

118. R. George and Tollefsen, *Embryo*, 152. Cf. Tollefsen, "No Problem," 589–90; Tollefsen, "Some Questions," 454–55. Construing the *zona* as a proper part of the zygote and embryo would also preclude individual totipotent cells that compose an embryo at the four-cell stage from each being a distinct human individual—or even as *potential* human individuals in terms of active

potentiality—insofar as they would each be a proper part of the four-cell embryo bounded by the *zona*; only once separated from the other cells within the *zona* could one of the totipotent cells become a distinct human individual with the relevant active potentiality to develop into a fully actualized person. For the contrary argument, see Kuhse and Singer, "Individuals, Humans and Personhood," 67–68. David DeGrazia notes that totipotent cells from a developing embryo are routinely removed for the sake of preimplantation genetic testing and, if provided with an artificial *zona*, would be capable of developing into a mature human being, yet the destruction of such cells in the genetic testing process is not at all considered to be morally objectionable; see DeGrazia, *Human Identity and Bioethics*, 252. The key point here, however, is the requirement that a cell removed from the rest of the embryo be provided with an artificial *zona* in order for it to develop. This requirement renders such a cell ontologically akin to a somatic cell from which a clone may be produced or a whole-brain-dead individual, as will be discussed in chapter 6; all of these are living entities with human DNA, but they require external technological intervention not merely to support their biological development but to *endow* them with the developmental potential to become a mature human being.

119. For similar arguments for this conclusion, see Koch-Hershenov, "Totipotency, Twinning, and Ensoulment"; Bracken, "Is the Early Embryo"; Mirkes, "NBAC and Embryo Ethics"; De Koninck, "Persons and Things"; M. Johnson, "Delayed Hominization"; Heaney, "Aquinas on the Presence"; Wade, "Beginning"; Pastrana, "Personhood and the Beginning"; Gerber, "When Is the Human Soul Infused?"

120. See Kripke, *Naming and Necessity*, 112.

121. This section is derived from Eberl, "Persons with Potential," and Eberl and Brown, "Brain Life." For an overview of how the concept of potentiality has featured in debates concerning various bioethical issues, see Stier, "Potentiality in Bioethics."

122. See Feinberg, "Abortion," 267; Benn, "Abortion, Infanticide," 143. For counter-responses, see DiSilvestro, *Human Capacities*, 129–39; Manninen, "Why Fetal Potential Matters."

123. This argument differs also from the argument based on *probability* found in J. Noonan, "Almost Absolute Value."

124. By *fully actualized person*, I am not referring to a *perfect* person who has no unactualized potentialities, for no person fits that criterion. Rather, I mean an individual who has actualized the definitive potentialities associated with self-conscious rational thought and autonomous volition such that she unquestionably counts as a person.

125. Gómez-Lobo, "Does Respect for Embryos," 205. See also Schwarz, "Personhood Begins at Conception," 271.

126. See Finnis, "Abortion," 18; Lee, "Pro-life Argument," 262; Oderberg, "Modal Properties," 263.

127. The qualification that an embryo or fetus preserve its *numerical identity* as it develops is crucial insofar as I understand personhood to be a *substance sortal*, meaning that an entity is a person *essentially* and thus cannot become or cease to be a person without becoming a numerically distinct entity. The contrary view is that personhood is a *phase sortal*: a mode of existence that an entity can begin or cease while remaining the numerically same entity, like being a parent or a professor. See the discussion above and in chapter 4 of Olson's animalist view.

128. Two other challenges to this claim are addressed in Eberl and Brown, "Brain Life," and Eberl, "Persons with Potential."

129. See McMahan, *Ethics of Killing*, 312–13.

130. See McMahan, *Ethics of Killing*, 310. For an in-depth critique of McMahan's treatment of human beings with cognitive deficiencies, see Kittay, "At the Margins."

131. See McMahan, *Ethics of Killing*, 311.

132. Such potentiality would be equated to Kretzmann's "natural potentiality" as opposed to Pasnau's "capacity in hand," since neither child possesses the capability to see in a *proximate* sense without the benefit of the operation.

133. McMahan, *Ethics of Killing*, 311.

134. See D. Davis, *Genetic Dilemmas*, ch. 3.

135. See Lizza, "Potentiality and Human Embryos."

136. See McMahan, *Ethics of Killing*, 312–15.

137. See McMahan, *Ethics of Killing*, 315.

138. Aristotle, *Metaphysics*, bk. 9, ch. 1, 1046a31–35 (trans. Barnes, 2: 1652; typo "of" after "general" corrected to "or").

139. Gorman, "Personhood, Potentiality, and Normativity," 489. See also Kumar, "Permissible Killing," 76–78.

140. See Beckwith, "Human Being," 69; Kaczor, *Ethics of Abortion* [2011], 93–102; Kavanaugh, *Who Count as Persons?*, ch. 4.

141. I refer here to a congenital "deficit" in order to imply that one would expect such a fetus—generated through procreative activity involving human beings—to have the requisite genetic constitution to possess an active potentiality for self-conscious rational thought. I do not mean to imply, however, that such a fetus should be considered as a "human person with deficits," as that would beg the question at hand. Perhaps I am begging the question in the other direction, however, and thereby remain open to counterarguments that give positive reasons to consider such fetuses as "human persons with deficits" as opposed to "nonpersons" altogether—hence, the qualification *may* at the beginning of this sentence in the body text. One argumentative strategy would be

based on such fetuses sharing "kind membership" with their human progenitors, combined with a concept of "species-typical normal functioning" that would lead to the conclusion that such fetuses are cognitively deficient members of the human species—defined essentially in terms of rational animality or personhood—instead of being construed as nonmembers of the human species. I tend to agree with Michael Gorman, however, that though an embryo may be *biologically* identified as a member of the species *Homo sapiens*, it does not follow from that fact alone that the embryo is *itself* of the ontological kind "rational animal" or "person"; see Gorman, "Personhood, Potentiality," 485.

142. As noted above (note 45), the type of case to which I am referring here would involve an anencephalic fetus where the anencephaly results from an *internal* genetic or other biological defect that precludes the fetus being capable of developing a functioning cerebrum; it does not involve typical cases of anencephaly that result from an *external* deficiency—namely, a lack of folic acid in the mother's diet.

143. For discussion of a similar case of ontological change wrought through the creation of animal-human chimeras, see Eberl and Ballard, "Metaphysical and Ethical Perspectives." On this point, I differ from Todd Bindig, who claims that membership in the *human* species indicates that such fetuses possess an intrinsic potentiality to develop the traits definitive of personhood even if they are congenitally impeded from actualizing such potential; see Bindig, *Identity, Potential and Design*, 88–90. Hence, the argument presented in this chapter, despite concluding in the end that nearly every conceived human embryo counts as a rational animal/person, is not subject to Peter Singer's classic charge of "speciesism"; see Singer, *Animal Liberation*. For a counterpoint concerning the ontological and moral status of a "nonperson human being," see B. Brown, "*Ergon* and the Embryo."

144. This conclusion coheres with those who are against the destruction of human embryos to derive stem cells but who advocate the creation of embryos utilizing a technique known as "altered nuclear transfer with oocyte-assisted reprogramming" (ANT-OAR) in order to create embryos with human DNA so that stem cell lines may be derived that are viable but that lack the active potentiality to develop a brain capable of supporting self-conscious rational thought and autonomous volition. For contrasting views of the ontological and moral implications of this technique, see Hurlbut, "Altered Nuclear Transfer"; Peduzzi-Nelson, "Criticism," 226; Hoehner, "'Altered Nuclear Transfer,'" 267n27; Byrnes, "Why Human 'Altered Nuclear Transfer'"; Joint Statement with Signatories, "Production"; Austriaco, "Are Teratomas Embryos"; Hurlbut, George, and Grompe, "Seeking Consensus"; Petri, "Altered Nuclear Transfer."

145. Perhaps a more stringent moral duty to alter such congenitally deficient fetuses may be based on the shared "kind membership" between them and

us as members of the same biological species and as having been procreated through sexual activity between two human beings; at the very least, there may be a more stringent duty to alter such fetuses than there would be to alter McMahan's dogs.

146. See Stone, "Why Potentiality Matters," 822–23. An impediment being *internal* does not suffice for it to preclude a fetus's possessing an intrinsic potentiality for self-conscious rational thought, because the internal impediment may have come about at some point during the fetus's development, indicating that at one time it did possess the relevant potentiality but can no longer actualize it because of the impediment accruing. On the other hand, a *congenital* impediment indicates that a fetus never possessed an intrinsic potentiality for self-conscious rational thought. This distinction underlies the debate concerning the moral permissibility of ANT-OAR noted above.

147. Parallel questions of moral regard also arise with respect to our duties to cryopreserved embryos created, but not utilized, for in vitro fertilization, or an embryo located in an inhospitable womb that could be transferred to a willing surrogate for gestation. John Lizza raises such questions to support the claim that, even if an embryo is recognized to possess an active potentiality to develop into a mature human being, this metaphysical conclusion would not be morally relevant in defining how embryos ought to be treated. For instance, if we have no positive obligation to "rescue" endangered or abandoned embryos, as we do for born human beings or even well-developed fetuses, then we may not have a negative obligation not to utilize embryos in destructive research for third-party therapeutic purposes—for example, disaggregating embryos to derive pluripotent stem cells. See Lizza, "On the Ethical Relevance," 26–27. It is widely recognized, however, that our positive obligations, even to unquestionably human persons, are never as strict as are the negative obligations. Furthermore, it is arguable that we do have some, hitherto unacknowledged, positive obligations toward endangered or abandoned embryos; see B. Brown and Eberl, "Ethical Considerations in Defense."

148. See McMahan, *Ethics of Killing*, 316, 319.

149. The requirement of external intervention for such canines differs from the requirement of external intervention to implant in vitro human embryos insofar as the latter intervention would be *restoring* the embryos to their natural design environment—namely, a uterus—as opposed to generating new, nonnatural environmental conditions. Of course, this point turns on how the natural design environment of canines with this latent potentiality is defined.

150. See Stretton, "Essential Properties," 280–81. For his response to Stretton, see Lee, "Substantial Identity."

151. See Chisholm, *Person and Object*.

152. See Burke, "Preserving the Principle." Burke argues that "Tib"—a proper part of Tibbles the cat that includes all of Tibbles except his tail—ceases

to exist when Tibbles loses of his tail—Tibbles being essentially a cat who can survive the loss of his tail. This is Burke's strategy for avoiding the spatial coincidence of Tibbles and Tib.

153. See Olson, *Human Animal*, 120–21.

Chapter Six. End of Line

1. Throughout this chapter, the terms *human being*, *person*, and *human person* will be taken synonymously.

2. Originally, this concept of death was linked with the cessation of cardiopulmonary functioning, though such functioning can now be artificially stimulated or replaced. The metaphysical implications of utilizing such forms of artificial life support will be discussed later in this chapter.

3. See Ad Hoc Committee, "Definition of Irreversible Coma."

4. The whole-brain criterion has received legislative approval in several nations, including the US Uniform Determination of Death Act. See President's Commission, *Defining Death*. In addition, it has received moral approval from various religious institutions, such as the Roman Catholic Church. See John Paul II, "Address"; R. White, Angstwurm, and Carrasco de Paula, *Working Group*.

5. See Green and Wikler, "Brain Death"; Veatch, "Whole-Brain, Neocortical"; Veatch, "Impending Collapse"; Veatch, "Death of Whole-Brain Death"; Veatch and Ross, *Defining Death*, ch. 5; Devettere, "Neocortical Death"; Truog and Fackler, "Rethinking Brain Death"; Truog, "Is It Time"; Lizza, *Persons, Humanity*. For seminal critiques of the higher-brain concept of death, see Lamb, *Death, Brain Death*; DeGrazia, "Persons, Organisms, and Death"; President's Council on Bioethics, *Controversies*. For an outline of the medical conditions associated with being in a persistent vegetative state, see Multi-Society Task Force on PVS, "Medical Aspects."

6. I do not intend the term *somatic survival* to imply that a whole-brain dead body is a *living* body in the sense that it composes a human being/person or organism.

7. See also the writings of Paul Byrne and colleagues: Byrne and Weaver, "'Brain Death'"; Potts, Byrne, and Nilges, *Beyond Brain Death*; Byrne and Rinkowski, "'Brain Death' Is False"; Byrne et al., "Life, Life Support"; Byrne and Nilges, "Brain Stem"; Byrne, O'Reilly, and Quay, "Brain Death." For additional arguments supportive of Shewmon's view from within a Thomistic hylomorphic framework, see Spencer, "Reexamination"; Seifert, "On 'Brain Death'"; Seifert, "Brain Death and Euthanasia"; Seifert, "Is 'Brain Death' Actually Death"; Seifert, "Is 'Brain Death' Actually Death?"

8. This section includes material from Eberl, "Dualist and Animalist Perspectives." For a fuller presentation and critique of the accounts discussed here, see chapters 3 and 4.

9. See Swinburne, *Christian God*, 25.

10. Swinburne, *Christian God*, 31.

11. For his account of "animal souls," see Swinburne, *Evolution of the Soul*, 180–83.

12. 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.

13. 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."

14. 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.

15. See Hasker, *Emergent Self*, 232–35; O'Connor and Jacobs, "Emergent Individuals."

16. See Hasker, *Emergent Self*, 190–91.

17. Hasker, "Reply," 205.

18. Hasker, *Emergent Self*, 188.

19. Hasker, *Emergent Self*, 234.

20. See Olson, *Human Animal*, 17.

21. See Olson, *Human Animal*, 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 Mackie, "Personal Identity."

22. See Olson, *Human Animal*, 140. While the US, with the Uniform Determination of Death Act, adopted the whole-brain criterion, some other countries, such as the UK, have adopted the brainstem criterion. See Pallis and Harley, *ABC of Brainstem Death*.

23. See E. Smith and Delargy, "Locked-In Syndrome"; Laureys et al., "Locked-In Syndrome"; Bernat, "How Much of the Brain."

24. If a cerebrum alone is even sufficient for a person to exist; perhaps all that exists is consciousness without a subject.

25. Olson, *Human Animal*, 68–70. For his account of personal survival without numerical identity, see Parfit, *Reasons and Persons*, pt. 3, and the discussion in chapter 4 above.

26. Olson, *Human Animal*, 142. For an additional critique of Olson's brainstem criterion of death, see Hershenov, "Olson's Embryo Problem."

27. See S. Shoemaker, review of *The Human Animal*, 503; Crocker, review of *The Human Animal*, 163.

28. See Baker, *Persons and Bodies*; Corcoran, "Persons, Bodies"; Corcoran, *Rethinking Human Nature*.

29. See Baker, "Replies," 635; Baker, *Persons and Bodies*, 116.

30. See Corcoran, "Biology or Psychology?," 70. Corcoran, however, also considers both philosophically and theologically based moral reasons that may prohibit the killing of PVS patients; see Corcoran, "Material Persons, Immaterial Souls."

31. Hudson, *Materialist Metaphysics*, 126.

32. Hudson, for unspecified reasons, does not consider a human organism's life to begin at conception and thus adds another object, "Hopeful," that exists from conception until some point in the decomposition process after death.

33. Hudson, *Materialist Metaphysics*, 159.

34. Hudson, *Materialist Metaphysics*, 158–59.

35. Hudson, *Materialist Metaphysics*, 160.

36. See Hudson, *Materialist Metaphysics*, 161.

37. This conclusion also follows from Hudson's application of his "elimination principle" in favor of identifying a person with the entity with the least number of parts that are superfluous by not contributing directly to the production of self-conscious intentional states. Hudson thus identifies Thinker with a functional brain or, more precisely, a cerebrum; see Hudson, "I Am Not an Animal!"

38. See McMahan, *Ethics of Killing*, ch. 1.

39. McMahan, *Ethics of Killing*, 429–33; McMahan, "Alternative to Brain Death."

40. See McMahan, *Ethics of Killing*, 423–24.

41. See McMahan, *Ethics of Killing*, 439.

42. See McMahan, *Ethics of Killing*, 443–50.

43. *SCG*, bk. II, ch. 58. This section and the following are derived from Eberl, "Thomistic Understanding of Human Death"; cf. Eberl, *Thomistic Principles and Bioethics*, ch. 3.

44. See *QDA*, q. un., a. 9 *ad* 13; *QDA*, q. un., a. 10 *ad* 4 & 11; *QDA*, q. un., a. 11 *ad* 16; *In Sent*, bk. I, dist. 8, q. 5, a. 3 *ad* 3. For elucidation of Aristotle's claim that the heart functions as the body's primary organ, see Spencer, "Reexamination," 860–62.

45. *QDV*, q. 13, a. 4 *ad* 2.

46. See *QDV*, q. 25, a. 6.

47. See *QDA*, q. un., a. 8 *ad* 9, a. 9 *ad* 16, a. 14 *ad* 13 and *ad* 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* Supp., q. 75, a. 1 *ad* 5.

48. See *ST* I, q. 76, a. 7 *ad* 2.

49. Glannon, *Bioethics and the Brain*, 166–67.

50. Veatch, "Whole-Brain, Neocortical," 173. Cf. Veatch and Ross, *Defining Death*, ch. 5.

51. See Shewmon, "Metaphysics of Brain Death"; Kluge, "St. Thomas, Abortion"; Wallace, "St. Thomas on the Beginning"; Pasnau, *Thomas Aquinas on Human Nature*, 124; Glannon, *Bioethics and the Brain*, 165; Van Dyke, "End of (Human Life)."

52. The loss of higher-brain functioning does not preclude a rational soul continuing to engage in rational activity but would require the soul to have separated from its body and thus for death to have occurred; see Eberl, "Extraordinary Care."

53. See *ST* I, q. 76, aa. 3–4; *In DA*, bk. II, lect. 5; *DUI*, ch. I.

54. DeGrazia, "Persons, Organisms, and Death," 428.

55. Higher-brain death advocates Veatch and Ross (*Defining Death*, 100) admit this epistemic issue. See Canavero, Massa-Micon, and Montanaro, "Bifocal Extradural Cortical Stimulation-Induced Recovery"; Sarà et al., "Unexpected Recovery"; Claus and Nel, "Drug Induced Arousal"; Andrews et al., "Misdiagnosis"; Childs, Mercer, and Childs, "Accuracy of Diagnosis"; Steinbock, "Recovery."

56. The story of Patricia White Bull was reported by the Associated Press and appeared in, among other publications, the *St. Louis Post Dispatch*, A4; see Kavanaugh, *Who Count as Persons?*, 68n25.

57. See *ST* I, q. 87, a. 1; Pasnau, *Thomas Aquinas on Human Nature*, 336–41.

58. See President's Council on Bioethics, *Controversies*, 42–44.

59. See DeYoung, McCluskey, and Van Dyke, *Aquinas's Ethics*, 44–45; Moreland and Rae, *Body and Soul*, 316–37; Moreland and Wallace, "Aquinas versus Locke"; Moreland, "Humanness, Personhood"; P. Smith, "Personhood"; P. Smith, "Transient Natures"; P. Smith, "Brain Death."

60. For further argument that PVS patients possess an "unactualized potential" for rational thought, see Eberl, "Unactualized Potential."

61. Shewmon, "'Brainstem Death,'" 136; cf. Shewmon, "Chronic 'Brain Death,'" 1543; Repertinger et al., "Long Survival." This section is a revised version of Eberl, "Ontological Status."

62. See *QDA*, q. un., a. 10 *ad* 4; *DMC*. This does not mean that the primary organ is the *efficient cause* of the activity of the body's other organs, aside from voluntary muscle movement. First of all, such a relationship has been disproved in modern medicine, as well as in the time of both Aquinas and his predecessor Aristotle; see the quotation from Aristotle's *De motu animalium* included in the objection to which Aquinas is replying in the citation here from *QDA*. Furthermore, Aristotle's description of the primary organ as the body's ruler—and the political analogy he employs—do not imply "micromanagement" of the body's functions but rather the primary organ providing the *means*—oxygenated blood—by which the body's other parts may function.

63. See *QDA*, q. un., a. 11 *ad* 16.

64. Augustine also recognizes the intimate relationship between a human person's soul and brain and concludes that when the brain's functions "fail totally" the soul "takes its departure, as having no reason why it should linger" (*De Genesis ad litteram*, trans. Hill, VII.19, 336).

65. Accad, "Of Wholes and Parts," 231.

66. See Tonhajzerova et al., "Heart Rate Variability"; Novitzky, Wicomb, and Cooper, "Pathophysiology of Brain Death."

67. Note that this conclusion applies only to the *developed* human body with a functioning brain integrating its vital functions. It does not preclude rational ensoulment *prior* to the brain's development in a human fetus, as concluded in chapter 5, insofar as integration of the developmentally immature human embryo and early-term fetus can be affected by non-brain-mediated causal mechanisms. Once the brain develops and begins to regulate circulatory/respiratory activity, it *then* becomes the vital material component instrumentally facilitating the soul's integration of its body. For further discussion of this asymmetry in the material requirements for rational ensoulment, see Eberl and Brown, "Brain Life."

68. R. White, "Pontifical Academy of Sciences," 294. See also Furton, "Brain Death, the Soul," 467, 470. The central problem with Furton's argument is that it "would allow too much because it is unable to distinguish those individuals suffering from either whole-brain death, cortical-brain [higher-brain] death or the persistent vegetative state (PVS)" (Austriaco, "Is the Brain-Dead Patient *Really* Dead?," 279; cf. Spaemann, "Is Brain Death the Death"). As I have argued above, the higher-brain concept of death is inconsistent with the Thomistic hylomorphic view of human personhood.

69. See *ST* I, q. 76. a. 8.

70. Joseph Verheijde and Michael Potts thus misconstrue the hylomorphic metaphysic underlying support of the whole-brain criterion when claiming that such a view identifies the brain as "the seat of the soul"; rather, the soul informs the *body as a whole*, even if it primarily moves the rest of the body through the brain. See Verheijde and Potts, "Commentary on the Concept."

71. See also P. Smith, "Personhood"; P. Smith, "Transient Natures"; P. Smith, "Brain Death"; Ashley, "Integrative Unity"; Ashley and O'Rourke, *Health Care Ethics*, 316–37.

72. Bernat, "Defense," 17. Cf. Bernat, Culver, and Gert, "On the Definition"; Bernat, "Biophilosophical Basis"; Bernat, *Ethical Issues in Neurology*, ch. 11.

73. Bernat, "Defense," 17. Cf. Bernat, "Philosophical and Ethical Aspects," 175–76; Bernat, "Refinements in the Definition."

74. Bernat, "Philosophical and Ethical Aspects," 176. For the American Academy of Neurology's recommended diagnostic criteria for establishing the occurrence of whole-brain death, see Wijdicks et al., "Determining Brain Death."

75. *ST* I, q. 29, a. 1.

76. *SCG*, bk. IV, ch. 49. Cf. *SCG*, bk. II, ch. 57; *QDA*, q. un., a. 10; *In DGC*, bk. I, lect. 15, §108.

77. See *QDA*, q. un., a. 10 *ad* 15; *SCG*, bk. II, ch. 57; van Inwagen, *Material Beings*, 81–97.

78. See Pasnau, *Thomas Aquinas on Human Nature*, 93.

79. Calixto Machado argues for consciousness alone as a human organism's "ultimate integrative function." He thus advocates the higher-brain concept of death utilizing the concept of "integrative unity" in a wholly different manner than it is understood and utilized by Bernat, Shewmon, and others in this debate. See Machado, *Brain Death*, 48–55. Without accepting Machado's overall conclusion, however, his argument for consciousness's integrative role supports Bernat's inclusion of it as one of the three critical functions the absence of which is individually necessary, and collectively sufficient, to constitute a human organism's death.

80. I do not intend the term *irreversible* to imply that a body's loss of such capacities cannot be reversed *in principle* through miraculous intervention, such as biblical accounts of the dead being raised to life or the Christian belief in bodily resurrection at the end of time (chapter 7). Rather, the body's loss of such capacities cannot be reversed *clinically*. For further discussion of the concept of "irreversibility" in this context, see Eberl, "Potentiality, Possibility."

81. As argued above, although conscious *activity* may cease prior to whole-brain death—in the case of a PVS patient—the *capacity* for conscious activity persists so long as one's rational soul continues to inform her living body as a whole.

82. See Ashley, "Integrative Unity," 7–8. Furton's analysis misconstrues this point by asserting that the "substantial union of *intellective* [rational] soul and physical body . . . takes place through the organ of intellectual cognition" (Furton, "Brain Death, the Soul," 467). Austriaco rightly notes the erroneous metaphysical picture Furton draws here; see Austriaco, "Is the Brain-Dead Patient *Really* Dead?," 300. But Furton's error does not bear on Ashley's contention, which is faithful to Thomistic anthropology, that a human being's rational soul informs her body as a whole, and that this union is not mediated by any material organ, but that the soul may nevertheless *operate* through a material organ—the brain—to "move" the body's various parts, just as the soul's various sense capacities operate through distinct organs—for example, sight through the eye and visual cortex; see *ST* I, q. 76, aa. 7–8.

83. Bernat, "Biophilosophical Basis," 334. Cf. Korein, "Problem of Brain Death."

84. Austriaco, Cole, and May, "Reply to Fr. Ashley."

85. Austriaco, "Is the Brain-Dead Patient *Really* Dead?," 305.

86. On integrative unity of lower-level organisms, see Austriaco, "Immediate Hominization"; Austriaco, "On Static Eggs." The examples Austriaco himself cites are all such types of entities: "plants, flatworms, mammalian embryos" (Austriaco, "Is the Brain-Dead Patient *Really* Dead?," 301). He then adds, "and in light of Shewmon's work, the adult human being"; but this addition would beg the question in the context of the present discussion.

87. Korein, "Problem of Brain Death," 24. Cf. Korein and Machado, "Brain Death," 2; Bernat, "Biophilosophical Basis," 335.

88. G. Brown, "Reading the Signs," 475.

89. See Bernat, "Biophilosophical Basis," 335–36.

90. Conversely, a malfunctioning or even nonfunctioning organ that remains part of a whole, living organism retains its functional identity as that particular type of organ; this leaves open the possibility of the organ being repaired and having its functionality restored or perfected. See Frey, "Organic Unity," 176–77.

91. Shewmon, "'Critical Organ,'" 38; Shewmon, "You Only Die Once"; Shewmon, "Brain and Somatic Integration"; Shewmon, "'Brainstem Death'"; Shewmon, "Recovery from 'Brain Death.'"

92. See Shewmon, "Mental Disconnect," 324–25; Shewmon, "Brain-Body Disconnection," 247–48. These two papers are virtually identical, and so I will refer to only the former hereafter.

93. Shewmon, "Brain and Somatic Integration," 460. Cf. Shewmon, "Mental Disconnect," 308.

94. Austriaco, "Is the Brain-Dead Patient *Really* Dead?," 292.

95. Shewmon, "Brain and Somatic Integration," 467–68. Shewmon provides a detailed analysis of 56 cases of whole-brain-dead individuals with prolonged survival and persistence of these apparently somatically integrative functions (see Shewmon, "Chronic 'Brain Death'"), although he actually collected 175 cases in which whole-brain-dead individuals survived at least one week (see Shewmon, "Mental Disconnect," 307). For an additional list of vegetative functions that may persist after whole-brain death, see Karakatsanis and Tsanakas, "Critique of the Concept," 129–33.

96. See D. A. Jones, "Metaphysical Misgivings," 109; Seifert, "Is 'Brain Death' Actually Death?"; Seifert, "Is 'Brain Death' Actually Death"; Seifert, "Brain Death and Euthanasia"; Seifert, "On 'Brain Death.'"

97. See Bonelli et al., "Brain Death," 503–4.

98. See Potts, "Beginning and End," 183.

99. See *In DA*, bk. II, lect. 1.

100. For further discussion of an organism's capacity to "assimilate" new biological matter, see Unger, *Identity, Consciousness, and Value*, 147–52. For discussion from the Thomistic perspective, see *ST* I, q. 119, a. 1 *ad* 5; *In Sent*, bk. II,

dist. 30, q. 2, a. 1 *ad* 4; *SCG*, bk. IV, ch. 81; *In DGC*, bk. I, lects. 15–16; *CT*, bk. I, ch. 159; *QQ*, VIII, q. 3 *ad* 2; Chandlish, "St. Thomas and the Dynamic State."

101. See van Inwagen, *Material Beings*, 94; Jaworski, *Philosophy of Mind*, 279–80; Code and Moravscik, "Explaining Various Forms," 134; Sulmasy, "Within You / Without You."

102. See Field et al., "Maternal Brain Death," 818–19.

103. The modifier *biological* here distinguishes the life of a human *organism* from the more extended metaphysical notion of "life" Aquinas predicates of immaterial beings, such as God; see *ST* I, q. 18, a. 3.

104. M. Condic, "Determination of Death," 271.

105. See Tonti-Filippini, "'Bodily Integration,'" 418; Bonelli et al., "Brain Death," 506.

106. For elucidation of this concept, see chapter 5.

107. *ST* I, q. 18, a. 1. As Shewmon points out, even a whole-brain-dead body "moves" itself in various ways—for example, physical maturation; what the body does not move itself, though, are the particular vital functions of circulation and respiration that subserve all other bodily functions. Aquinas's notion that living beings "drive themselves to movement or operation" resembles the recommendation of the President's Council on Bioethics, in light of Shewmon's challenge, of an alternative foundation for the whole-brain standard to the integrative unity rationale: "Determining whether an organism remains a *whole* depends on recognizing the persistence or cessation of the fundamental vital *work* of a living organism—the work of self-preservation, achieved through the organism's need-driven commerce with the surrounding world. When there is good reason to believe that an injury has irreversibly destroyed an organism's ability to performs its fundamental vital work, then the conclusion that the organism as a whole has died is warranted" (President's Council on Bioethics, *Controversies*, 60). This is an intriguing proposal that gives Shewmon's challenge its due while yet supporting the whole-brain standard. I am not yet convinced that Shewmon's challenge warrants this conceptual shift away from the integrative unity rationale; nevertheless, the proposal from the President's Council on Bioethics is certainly consistent with the concept of an organism's integrative unity and Aquinas's own understanding of "life" and thus provides additional, not contrary, support for the whole-brain standard. For a critique of this proposal, see Shewmon, "Brain Death."

108. *ST* I, q. 18, a. 2 *ad* 2.

109. While the essential form of artificial life support that precludes an individual having the capacity for vital functions is a mechanical ventilator or a cardiopulmonary bypass machine, additional supportive treatment may need to be provided, such as the use of vasopressive drugs and other pharmaceuticals, to maintain the homeostatic conditions of body temperature, fluid and electrolyte balance, and so on.

110. Sorondo, *Working Group*, xliii. Cf. President's Council on Bioethics, *Controversies*, 52.

111. The President's Council on Bioethics also affirms the "indispensable" requirement of spontaneous breathing to assert, on their alternative conceptual foundation, that a human organism is "doing the work that constitutes—and preserves—it as a whole" (President's Council on Bioethics, *Controversies*, 62–63). They conclude, "The simulated 'breathing' that the ventilator makes possible is not, therefore, a *vital sign*: It is not a sign that the organism is accomplishing its vital work and thus remains a living whole" (President's Council on Bioethics, *Controversies*, 64).

112. I do not intend the term *whole-brain-dead individual* to imply that such an entity is a *substance* in the sense that it composes a human being/person or organism.

113. Conrado Estol effectively demonstrates how such non-brain-mediated functions fail to qualify as "holistic"; see Sorondo, *Working Group*, xxxv–vi. José Masdeu challenges Shewmon's contention by comparing the presence of the properties he lists in both a whole-brain-dead body and an artificially maintained hand; see Sorondo, *Working Group*, xxxvi–xxxvii. David Hershenov points out that corpses also possess properties, such as bloating and rigor mortis, that are both *emergent*—that is, they are not properties of the parts—and *holistic*—that is, they apply to the body as a whole (personal correspondence).

114. For a complementary critique of the validity of Shewmon's argument, see Moschella, "Deconstructing."

115. See Reeve and Rosenblatt, *Still Me*.

116. See Shewmon, "'Critical Organ,'" 34–35; Shewmon, "Mental Disconnect," 313–14.

117. See Shewmon, "Recovery from 'Brain Death,'" 66.

118. Of course, one's head does not spontaneously respire or circulate oxygenated blood through itself, and I asserted these as necessary conditions for possessing integrative unity above. I also asserted, though, that it is not the actual *activities* of circulation and respiration that are required, but the *active potentiality* to engage in such activities. One's head, structurally severed or functionally disconnected from one's body, still retains—so long as the brainstem remains intact and functional—the active potentiality to coordinate the body's vital functions again if the head were reconnected.

119. See Korein, "Problem of Brain Death," 28.

120. Peter van Inwagen also contends that the body—from the neck down—of such a paralyzed person is not *essential* to his continued existence; see van Inwagen, *Material Beings*, 171–72.

121. Shewmon, "Spinal Shock," 320.

122. While, for Aquinas, an artificial conductor joining the brainstem to the rest of the body would not be a proper part of the patient, because it would

not be suitable for being informed by his rational soul, it nevertheless could function as a "facilitator" to bring about functional unity of the brainstem with the rest of the body. The artificial conductor would be akin to a pacemaker in that it assists integrative functioning rather than replacing it.

123. This same conclusion would follow for cases of "locked-in syndrome," in which a person is fully conscious but has suffered functional disconnection of her brain from the rest of her body; see McMahan, *Ethics of Killing*, 431–34. The person in this state would be composed of only her cerebral hemispheres, the functioning of which would be correlated with her persistent conscious, rational state. Recovery from this condition would entail the reinformation of the rest of her body by her rational soul, and thereby the recomposition of the person by her entire body.

124. Bonelli et al. concur that "in principle there is no difference between a brain-dead body and a recently decapitated person, since both parts could later be separatedly [*sic*] attached to a respirator or a pump-oxygenator" (Bonelli et al., "Brain Death," 507). The functional equivalence of decapitation to whole-brain death undercuts the argumentative force of David DeGrazia's use of this thought experiment to claim that "in principle, loss of integrated functioning can occur even though brain death has not" (DeGrazia, *Human Identity and Bioethics*, 145; cf. McMahan, *Ethics of Killing*, 429). While this claim is literally true, insofar as the brain in the thought experiment continues to live, from the perspective of the body the functional separation of the brain is no different than if the brain had died *in situ*—integrative unity is lost in both cases.

125. Shewmon, "Mental Disconnect," 304.

126. Napier, "Brain Death," 77. John Lizza gives perhaps the most succinct, yet compelling rationale contra Shewmon's thought experiment: "If anything entails one's death, decapitation certainly does, despite whatever artificial support may be given to sustain one's decapitated body as an integrated organism. Thus, if we are willing to accept decapitation as death, we should also be willing to accept physiological decapitation (total brain failure) as death" (Lizza, "And She's Not Only Merely Dead," 5).

127. See Shewmon, "Mental Disconnect," 317.

128. See Lizza, "On the Ethical Relevance," 27n4.

129. Hershenov, "Hylomorphic Account," 500.

130. McMahan, *Ethics of Killing*, 429.

131. See van Inwagen, *Material Beings*, 169–81; Olson, *Human Animal*, 44–46.

132. *In M*, bk. VII, lect. 3, §1326. While, in biological taxonomy, *animal* is typically understood as a subcategory of *organism*, I argue—in the article cited in the subsequent note—for an extended metaphysical definition of *animal* that would allow for an animal to exist without being an organism.

133. See Eberl, "Do Human Persons Persist," 197–201.

134. See Lizza, *Persons, Humanity*, 105–6.

135. As discussed in chapter 2, I agree with Hershenov when he argues, from a hylomorphic metaphysical perspective akin to Aquinas's, that a human person would be composed of her *cerebrum* if it were removed from her body and either transplanted into a different body or kept alive and functional in a classic "brain in a vat" scenario (see Hershenov, "Hylomorphic Account," 492–93), although, in this case too, the cerebrum would apparently constitute a *living body* without constituting an *organism* (see Olson, *Human Animal*, 115). But even the attribution of "living" to a separated cerebrum may not be biologically appropriate insofar as a cerebrum has no brainstem to control its activity; see Hershenov, "Death of a Person." It may, however, be considered "alive" in the extended metaphysical sense Aquinas intends when he predicates life to an immaterial being: God; see *ST* I, q. 18, a. 3.

136. Shewmon compares this option to what may metaphysically occur in cases of human embryonic twinning; see Shewmon, "Mental Disconnect," 320–22. For discussion of the metaphysical implications of twinning, which demonstrates that "a refinement of Aristotelian-Thomistic anthropology" is *not* needed to account for this phenomenon, see Eberl, *Thomistic Principles and Bioethics*, 37–40; Eberl, "Thomistic Perspective on the Beginning."

137. See Shewmon, "Mental Disconnect," 320.

138. See van Inwagen, *Material Beings*, 178–79.

139. However, I would have to agree with either the first or second option in cases where only the person's cerebrum is removed and transplanted or otherwise kept alive, as discussed by Hershenov; see note 135 above.

140. This section is derived from Eberl, "Thomistic Defense of Whole-Brain Death."

141. See Lee and Grisez, "Total Brain Death." William E. May has also defended a Thomistic argument in favor of the whole-brain criterion based on the loss of the "radical capacity for sentience"; see May, *Catholic Bioethics*, 352–53. For a critique, see Austriaco, "In Defense."

142. Accad, "Of Wholes and Parts," 227.

143. See *In Ph*, bk. I, lect. 13, §118; Wippel, *Metaphysical Thought*, 312–27.

144. Lee is aware of this implication and attempts to avoid it by pointing to the "reasonable doubt" that may exist whether a PVS patient would have been able to recover if provided appropriate treatment, as well as the potential for misdiagnosis of PVS, as discussed earlier in this chapter; see Lee, "Total Brain Death." Nevertheless, these are *practical* issues that do not rule out *in principle* the implication of his and Grisez's view that a *properly diagnosed* PVS patient, with evident irreversible dysfunction or structural deterioration of relevant critical areas of the cerebrum, would no longer be a human being.

145. Even if the anencephaly were not congenital—due to a genetic defect at the point of conception—but rather was due, as is typically the case, to an environmental deficiency—such as lack of folic acid in the mother's diet—Lee and Grisez would be compelled to conclude what was initially a human being had ceased to be so at some point during gestation. See Copp and Greene, "Neural Tube Defects."

146. Lee and Grisez, "Total Brain Death," 280.

147. The "in principle" clause allows for such radical capacities to be present even if their actualization is inhibited by certain material conditions of the body or its environment.

148. I am not claiming that patients in a minimally conscious or severely demented state *altogether* lack cerebral activity but rather that such activity may not evidentially support the presence of the specifically human activities of self-conscious rational thought and autonomous volition, even at a minimal level. For extensive discussion of the relation of cerebral activity to various disorders of consciousness, see the voluminous research by Steven Laureys and colleagues listed at "Coma Science Group: Publications," n.d., accessed December 16, 2014, www.coma.ulg.ac.be/papers/coma_vegetative_state.html. Of course, inferring the presence or absence of mental states such as self-consciousness on the basis of observable criteria is epistemically dangerous, and so Lee and Grisez are right to adhere to the stricter criterion of loss of total brain function as indicative of the loss of the radical capacity for sentience altogether. Nevertheless, such a pragmatic conclusion does not rule out *in principle* the possibility of there being individuals who suffer sufficient cerebral infarction such that they are no longer *rational* animals according to their overall thesis.

149. For elucidation of the concept of "moral (or prudential) certitude," see *ST* I-II, q. 96, a. 1 *ad* 3; *ST* II-II, q. 47, a. 9 *ad* 2; Haas, "Absolute versus Prudential Certitude."

150. Lee and Grisez, "Total Brain Death," 282.

151. See *ST* I, q. 76, aa. 3–4; *In DA*, bk. II, lect. 5; *DUI*, ch. I.

152. The qualifiers *typically* and *in most cases* are warranted to acknowledge the possibility that the whole-brain criterion may not be appropriate in pediatric cases. Michael Potts notes that "Shewmon's examples of multi-year survivors of whole brain death suffered their injuries as young children, whose systemic plasticity is greater than that of adults" (Potts, "Requiem," 489). Given the cases that Shewmon cites—the oldest patient (T.K.) being twenty-four years old and prepubescent when he suffered whole-brain death—it appears that the organic systems of young children are more "plastic" than those of more mature human beings. Shewmon notes that an "age factor" was present among the cases he analyzed (Shewmon, "Chronic 'Brain Death,'" 1543). Perhaps the integrative functions normally carried out by the brainstem can be taken on by

other neural structures in young children following trauma, although not respiration. Hence, while the concept of human death is univocally understood as the loss of somatic integrative unity in all cases, the criteria for determining when such loss has occurred may differ depending on what primary organ fulfills the requisite integrative functioning. In most cases, the whole-brain criterion is appropriate; but, in cases of young children, the circulatory/respiratory criterion may be more appropriate for a proper diagnosis of death. The American Academy of Pediatrics and other professional bodies endorse the use of the whole-brain criterion in pediatric cases, though the diagnostic criteria differ somewhat from those used in adult cases; see Nakagawa et al., "Guidelines."

Chapter Seven. Is This All That I Am?

1. For Aquinas on a human soul's persistence beyond its body's death, see *ST* I, q. 75, a. 6; *SCG*, bk. II, chs. 79–81; *QDA*, q. un., a. 1; *QDV*, q. 13, a. 4; *CT*, bk. I, ch. 84.

2. For a chronology of Aquinas's writings, see Torrell, *Saint Thomas Aquinas*, 327–29. It is a reasonable presumption that Reginald and his confreres who edited the *supplementum* were mindful that this early text was close to Aquinas's more mature views, especially given the coherence with what he says in *SCG* and *CT*.

3. Aquinas does discuss the Resurrection in two of his later works: *SCG* and *CT*. But, as will become evident, the treatment of the Resurrection in these works does not resolve all the ambiguities from his earlier account.

4. For a fuller presentation and critique of the dualist accounts discussed here, see chapter 3.

5. Swinburne, "Substance Dualism," 513. One may counter that there may be essentially immaterial souls who lack material bodies—e.g., angels, as Aquinas conceptualizes them. Swinburne could respond, however, that, while there may be such entities whose mental functioning does not require a material body, *human* persons are not that kind of entity.

6. Swinburne, "Body and Soul," 315.

7. See Swinburne, *Christian God*, 31; Swinburne, "Personal Identity," 44.

8. See Swinburne, *Christian God*, 30.

9. See Swinburne, "From Mental/Physical Identity," 164–65.

10. See Corcoran, *Rethinking Human Nature*, 88–89.

11. Swinburne's claim that a person may require her body in order to interact with other persons echoes Jaegwon Kim's objection to dualism that immaterial souls could not causally interact with each other; see Kim, "Lonely Souls." For reasons outlined in chapter 3, I do not believe this is ground that Swinburne needs to, or should, yield to Kim.

12. For arguments in support of the conceivability of disembodied souls communicating via *telepathy*, see Price, "Survival and the Idea," 286–87; Hick, *Death and Eternal Life*, 121–26.

13. See Hasker, *Emergent Self*, 190–91.

14. Hasker, *Emergent Self*, 235. Hasker conjectures that God could conceivably sustain a mind's existence and functioning without any material base whatsoever, but this would constitute "an ontologically abnormal situation"; see Hasker, "Reply," 205.

15. See Hasker, *Emergent Self*, 233–34.

16. I am assuming that this is a more plausible view for Hasker to adopt than either that God sustains the mind with no material base whatsoever or that the mind could be self-sustaining; see notes 14 above and 17 below. One consideration against this view is put forward by fellow emergentists Timothy O'Connor and Jonathan Jacobs, who claim that even God could not provide for the numerical identity of two distinct conscious fields produced by two spatiotemporally distinct—even if *qualitatively* identical—bodies. For, in agreement with Dean Zimmerman, Eric Olson, and Peter van Inwagen—see below—they hold that there must be *immanent causal connections* "at both the underlying and emergent levels" in order for the two bodies to generate the same emergent individual. See O'Connor and Jacobs, "Emergent Individuals."

17. See Hasker, "Souls of Beasts," 277; Hasker, "Souls Beastly and Human," 216. A similar view of immortality by divine fiat is proffered by John Locke; see Locke, *Essay Concerning Human Understanding*, bk. IV, ch. 3, §6. Hasker does consider the possibility that a conscious mind, once it emerges, could be self-sustaining just as, according to some scientists, the gravitational field of a black hole may sustain itself after the collapsed star that initially generated it has passed completely out of existence. For a debate on this particular point, see Peoples, "William Hasker," 402–4; Hasker, "Hasker on the Banks," 196–97; Hasker, "Emergent Dualism," 309–10.

18. For elucidation of Ockham's Razor, see chapter 1. Admittedly, Ockham himself denied such a theological application of his principle of parsimony, affirming—on the basis of his *voluntarist* theology—that God could do more than what God could do with fewer insofar as God wills it and it is thereby fitting and not futile; see Adams, *William Ockham*, 1:159. For an argument that God's direct sustaining of an individual person's existence is both necessary and sufficient for her persistent numerical identity, see S. Davis, "Resurrection, Personal Identity."

19. For a fuller presentation and critique of the materialist accounts discussed here, see chapter 4.

20. See van Inwagen, "Resurrection."

21. See van Inwagen, "Possibility of Resurrection," 119.

22. Olson, "Immanent Causation," 56. See also Zimmerman, "Immanent Causation."

23. See van Inwagen, "Possibility of Resurrection," 121.

24. Hudson, *Materialist Metaphysics*, 181. Cf. Olson, "Life after Death."

25. See *Catechism*, para. 2300.

26. See Zimmerman, "Compatibility of Materialism," 206.

27. Hershenov, "Van Inwagen, Zimmerman," 460.

28. See Hershenov, "Van Inwagen, Zimmerman," 460–63. Hershenov appeals to Peter Unger's account of part assimilation in Unger, *Identity, Consciousness, and Value*, 147–56. Unger's account is sufficiently similar in relevant respects to van Inwagen's account of how new matter becomes "caught up in the life" of an organism; see van Inwagen, *Material Beings*, 94.

29. Zimmerman, "Bodily Resurrection," 46–47.

30. Hershenov affirmed this point to me in correspondence. For further critiques of Zimmerman's materialist account of postmortem survival, see Johnston, *Surviving Death*, 101.

31. See Hudson, *Materialist Metaphysics*, 185–86. This is a version of the "duplication problem" raised by van Inwagen, "Dualism and Materialism," 486.

32. See Corcoran, "Physical Persons," 215.

33. See Hershenov, "Metaphysical Problem," 32.

34. See *ST* Supp., q. 77, a. 1; *ST* Suppl., q. 91, a. 2; *SCG*, bk. IV, chs. 96–97; *CT*, bk. I, ch. 171.

35. See *ST* Supp., q. 81, a. 4; *SCG*, bk. IV, q. 83; *CT*, bk. I, ch. 156.

36. Baker, "Need a Christian Be," 489.

37. See Baker, "Material Persons," 160. For her full account of the concept of the "first-person perspective," see Baker, "First-Person Perspective"; Baker, *Persons and Bodies*, 59–88; Baker, *Naturalism*. Baker even goes so far as to assert that a person's resurrected body *cannot* be identical to her premortem body insofar as the former is "incorruptible, 'spiritual,'" while the latter is "corruptible, organic," and hence a "substantial change" has occurred; see Baker, "Persons in the Natural Order," 277–78, and Baker, "Resurrecting Material Persons," 323–25. Although Kevin Corcoran shares the same constitutionalist metaphysic, he disagrees that *any* body supportive of one's first-person perspective suffices for personal survival insofar as he considers a human being to be "*essentially* human and *essentially* constituted by whatever body does constitute him or her" (Corcoran, "Physical Persons," 201n2)—hence his attempt to defend Zimmerman's account that preserves immanent causal continuity between the constituents of one's premortem and resurrected bodies; see Corcoran, *Rethinking Human Nature*, 127–33; Corcoran, "Persons and Bodies," 335–37.

38. See Baker, "Material Persons," 161.

39. Corcoran's version of constitutionalism provides a determinate criterion for sameness of one's first-person perspective by reference to the sameness

of one's body, insofar as Corcoran considers a person to be essentially constituted by the numerically same body; see Corcoran, *Rethinking Human Nature*, 73. This leaves Corcoran, however, in the same position as animalists, who need to account for the persistence of one's body while preserving immanent causal connections and avoidance of multiple bodies being duplicated.

40. Baker, "Persons and the Metaphysics," 345.

41. See Baker, "Resurrecting Material Persons," 322.

42. Hudson, *Materialist Metaphysics*, 147.

43. Hudson, *Materialist Metaphysics*, 187.

44. Presumably, if resurrected-Abraham is truly "eternal" in the classical understanding of that term as entailing *atemporal* existence, then resurrected-Abraham will comprise only one, indivisible temporal part. For elucidation of the classical concept of eternity, see Stump and Kretzmann, "Eternity."

45. See McMahan, *Ethics of Killing*, 98.

46. For McMahan's denial, see *Ethics of Killing*, 88.

47. See Marquis, review of *The Ethics of Killing*, 439.

48. See *ST* I, q. 75, a. 2; *ST* I, q. 76, a. 1 *ad* 1; *In DA*, bk. III, lect. 7. For further elaboration of Aquinas's arguments for the immateriality of the intellect, see chapter 2. The will's immateriality is consequent upon its being the "intellective appetite" for what is good as *universally* conceived; see *ST* I, q. 80, a. 2 *ad* 2.

49. See *ST* I, q. 76, a. 8; *In Sent*, bk. I, dist. 8, q. 5, a. 3 *ad* 3; *In DGC*, bk. I, lect. 15, §108; *QDV*, q. 25, a. 6.

50. In a human being's "perfected" state, her soul fully informs her body, such that the body is now "glorified" and thereby takes on qualities it did not have during its earthly life because of sin. Hence, there will be some significant qualitative differences between the premortem and postresurrection body. Such differences, however, will result neither in the resurrected body being unrecognizable as that of a particular human being, nor in the body being nonphysical in nature. See *SCG*, bk. IV, chs. 85–86; *ST* Supp., qq. 81–85; *In I Cor*, ch. 15, lect. 6.

51. For (1), see *ST* I, q. 89, aa. 5–6. For (2), see *SCG*, bk. II, ch. 49; *In Sent* bk. II, d. 19, q. 1. a. 1; *In LDC*, prop. XV.

52. For (3), see *ST* I, q. 89, a. 1 *ad* 3. For (4), see *ST* I, q. 82, a. 2; *ST* I-II, q. 3, a. 2.

53. See *ST* I, q. 76, a. 1 *ad* 6; *CT*, bk. I, ch. 151. The reverse is not the case, however—namely, that the decomposed elements of one's body have a natural inclination toward reunion with the same soul; see *ST* Supp., q. 78, a. 3. As will be shown below, this allows for *any* matter to compose the numerically same resurrected body.

54. See *SCG*, bk. IV, q. 79.

55. *In I Cor*, ch. 15, lect. 2, §924.

56. See *ST* Supp., q. 78, a. 3; *CT*, bk. I, ch. 154.

57. *CT*, bk. I, ch. 153. Cf. *ST* Supp., q. 79, aa. 1–2; *SCG*, bk. IV, ch. 81; *In Sent*, bk. IV, dist. 44, q. 1, a. 1, qc. 1; *QQ*, XI, q. 6. The inherent limitations of the "blueprint" analogy are highlighted in chapter 2.

58. This section is a revised and updated version of Eberl, "Metaphysics of Resurrection."

59. Kreyche, "Soul-Body Problem," 472.

60. Aquinas's near-contemporary, John Duns Scotus, viewed a human body—whether alive or dead—as composed of distinct individual substances, each with its own substantial form; these material substances were unified into one body—when alive—because of their "essential ordering" to each other. Upon death, these substances lose their essential ordering to one another but retain their numerical identity as parts composing the remaining corpse; see Ward, "Animals, Animal Parts." For Aquinas, as elucidated in chapter 2, there is only one substantial form of a living human body—the rational soul—informing the matter of the basic elements composing it. Once the body is no longer informed by a rational soul, these basic elements revert to being individual substances that compose the remaining corpse as a "heap."

61. *CT*, bk. I, ch. 153.

62. *SCG*, bk. IV, ch. 81.

63. I am grateful to an anonymous reviewer for suggesting this way of framing the issue at hand. The original question from Plato's *Euthyphro* (10a) concerns whether something is holy—that is, morally good—because the gods love it or whether the gods love something because it is holy.

64. Pasnau, *Thomas Aquinas on Human Nature*, 390. While God would not inherently have any "trouble" reassembling one's premortem body, it is nevertheless a desideratum that divine intervention be minimized in effecting a human being's resurrection.

65. *CT*, bk. I, ch. 154. Cf. *CT*, bk. I, ch. 161; *ST* Supp., q. 78, a. 2; *ST* Supp., q. 79, a. 1 *ad* 3–4; *ST* Supp., q. 79, a. 3 *ad* 2; *QDP*, q. 5, a. 10 *ad* 7. Augustine also affirms this view of "resurrection by reassembly" in Augustine, *Enchiridion on Faith*, §§88–89, and Augustine, *City of God*, bk. 22, ch. 20.

66. *CT*, bk. I, ch. 154.

67. *ST* Supp., q. 80, a. 4 *ad* 1.

68. *ST* Supp., q. 80, a. 1.

69. *SCG*, bk. IV, ch. 82.

70. *ST* Supp., q. 80, a. 5 *sed contra*; cf. *SCG*, bk. IV, ch. 81.

71. Aquinas offers this explanation in response to the concern that, because throughout life human bodies shed skin and hair, persons cut their fingernails, et cetera, if all that material came back to reconstitute a resurrected body, one

would end up with foot-long fingernails, mile-long hair, pounds and pounds of skin, and so on. Furthermore, there would be an issue concerning ownership of the matter. If the matter of skin that I shed at age ten finds its way to constituting part of your skin twenty years later, then, when each of us is resurrected, who gets the matter?

72. One may wonder at this point about certain functions proper to a human biological organism that may seem to be unnecessary or frivolous in postresurrection existence—for example, sexual reproduction or eating food for nourishment. Aquinas argues that such activities of a premortem body, which were necessary because of the body's state as a "perishable existence," will no longer be proper functions of a postresurrection body, which is perfectly informed by a soul; see *SCG*, bk. IV, ch. 83. Nevertheless, one's gendered identity would arguably persist; see Bedford and Eberl, "Is the Soul Sexed?"; Bedford and Eberl, "Actual Human Persons."

73. *CT*, bk. I, ch. 160. Cf. *ST* Supp., q. 80, a. 4 *ad* 3.

74. See Chisholm, *Person and Object*, ch. 3.

75. See Unger, *Identity, Consciousness, and Value*, 147–56; van Inwagen, *Material Beings*, 94.

76. *ST* I, q. 119, a. 1.

77. See *ST* I, q. 119, a. 1 *ad* 5. Cf. *In Sent*, bk. II, dist. 30, q. 2, a. 1 *ad* 4; *ST* Supp., q. 79, a. 3; *ST* Supp., q. 80, a. 4; *SCG*, bk. IV, q. 81; *CT*, bk. I, ch. 159; *QQ*, VIII, q. 3 *ad* 2; *In DGC*, bk. I, lects. 15–16; Chandlish, "St. Thomas and the Dynamic State."

78. Langley, "Aquinas, Resurrection," 142. For a similar view, see Edwards, "Saint Thomas Aquinas on 'The Same Man.'"

79. Stump, *Aquinas*, 46. For further elaboration, see chapter 2.

80. Stump, "Resurrection, Reassembly, and Reconstitution," 164.

81. However, it does not follow that they are necessarily not the same: one's bodily constituents could very well be the same elemental particles that composed one at death.

82. *ST* Supp., q. 80, a. 4.

83. *ST* III, q. 51, a. 3 *ad* 3; emphasis mine. Granted that the context of this passage does not concern the numerical identity of a human being's resurrected body, nevertheless Aquinas is asserting here what can reasonably be understood as a *general* principle concerning the limits—or lack thereof—of God's power in effecting resurrection.

84. I am grateful to Tom Flint for raising this point to me.

85. See references cited in note 65 above.

86. See *ST* III, q. 51, a. 3; *CT*, bk. I, ch. 234.

87. The phrase "God would have resurrected Christ" is somewhat tortured in that, according to Aquinas, Christ effected his own resurrection insofar as he

is God; nevertheless, Aquinas allows for this phrasing when the reunification of Christ's soul and body is viewed within the context of the power of created nature. See *ST* III, q. 53, a. 4.

88. See Cruz, *Incorruptibles*.

89. See *ST* III, q. 50, a. 2.

90. See *ST* III, q. 50, a. 5.

91. See *ST* III, q. 54, a. 1.

92. Pasnau, *Thomas Aquinas on Human Nature*, 393.

93. This section is a revised and updated version of Eberl, "Do Human Persons Persist."

94. See Pasnau, *Thomas Aquinas on Human Nature*, 381–89; cf. Potts, "Aquinas, Hell," 344; Fitzpatrick, *Thomas Aquinas on Bodily Identity*, 155.

95. See Toner, "Personhood and Death."

96. Van Dyke, "Not Properly a Person," 199. See also Geach, *God and the Soul*, 22–24; Pieper, *Death and Immortality*, ch. 3; Bradley, "*Ephemerides Thomisticae Analyticae*," 605–9.

97. Van Dyke, "I See Dead People," 38. Van Dyke is arguing against Pasnau's concept of a human person "partially" existing by virtue of her separated soul. I concur with Van Dyke's critique of Pasnau's view and hold that, for Aquinas, a person's existence must be an "all-or-nothing" affair. Thus the only viable candidates are Van Dyke and Toner's "corruptionist" view or Stump's "survivalist" view.

98. *In Sent*, bk. IV, dist. 43, q. 1, a. 1, qc. 1 *ad* 2.

99. See Stump, "Resurrection, Reassembly, and Reconstitution," 163; C. Brown, "Souls, Ships, and Substances"; C. Brown, *Aquinas and the Ship*, 120–24; Oderberg, *Real Essentialism*, 258–59; S. Davis, *Risen Indeed*, 96; Blaschko, "Resurrection and Hylomorphism"; Spencer, "Personhood"; Engelland, "How Must We Be." Though not a hylomorphist, Corcoran complains that the corruptionist view strangely conceives of a separated soul contemplating the divine essence without *anyone* doing the contemplating—this is only "a naked soul" (Corcoran, *Rethinking Human Nature*, 40).

100. See Stump, *Aquinas*, 52–53; *ST* Supp., q. 69, aa. 2–5, q. 70, aa. 2–3, q. 72, a. 2.

101. *ST* II-II, q. 83, a. 11, obj. 5.

102. *ST* Supp., q. 72, a. 2 *ad* 3. Cf. *In Sent*, bk. IV, dist. 45, q. 3, a. 2 *ad* 3.

103. Stump, "Resurrection, Reassembly, and Reconstitution," 158.

104. *In DA*, bk. II, lect. 1, §215.

105. *QDA*, q. un., a. 1.

106. This is especially true in the early treatise *DEE*. Aquinas sometimes uses such language even in later works, such as *SCG*, bk. II, chs. 56, 68, and *CT*, bk. I, ch. 84: "[The rational soul] is a substance subsisting in its own being."

107. See *ST* I, q. 75, a. 2 *ad* 1; *ST* I, q. 29, a. 1 *ad* 5; *QDP*, q. 9, a. 1; *QDA*, q. un., a. 1 *ad* 8–9; *QDSC*, q. un., a. 2 *ad* 16.

108. See *ST* I, q. 75, a. 2 *sed contra*.

109. *QDA*, q. un., a. 1 *ad* 1.

110. *ST* I-II, q. 4, a. 5 *ad* 2.

111. *SCG*, bk. IV, ch. 81.

112. *ST* Supp., q. 79, a. 2 *ad* 1; emphasis mine. See C. Brown, *Aquinas and the Ship*, 123–24. This passage is at odds with others in which Aquinas appears to explicitly assert that death involves *substantial corruption*; see *ST* Supp., q. 86, a. 2 *ad* 3; *QDA*, q. un., a. 1 *ad* 14. Toner appeals to these passages to support the corruptionist view; see Toner, "St. Thomas Aquinas on Death," 592. There are various ways, however, in which the survivalist may contest Toner's conclusion from such passages: (1) in the former, Aquinas may be understood as referring to the cessation, not of *being itself*, but only of a specific *form of being*—namely, biological life; (2) while death involves, technically speaking, a substantial change insofar as a person's form and matter come apart, such a change does not entail that a person ceases to exist substantially, but only that her informed material *body* ceases to exist; (3) the apparent inconsistency in Aquinas's view permits interpreters to adopt either survivalist or corruptionist views; or (4) while the latest written passage—from *QDA*—should be taken to represent Aquinas's most mature thinking on the subject, and thus to characterize him as a corruptionist, this is one point on which contemporary hylomorphists may disagree with Aquinas's explicit view—just as contemporary Thomists typically disagree with Aquinas's explicit views concerning women and, as discussed in chapter 5, his embryology—in favor of a more metaphysically and morally sound view.

113. Toner argues that Aquinas holds not only the possibility but the actual occurrence, of temporal gaps in the existence of various types of material objects, including human beings; see Toner, "St. Thomas Aquinas on Gappy Existence," and Nevitt, "Survival, Corruptionism." Without entering into a debate concerning Toner's (or Nevitt's) interpretation with respect to certain types of objects, insofar as his claim that human beings may persist through temporal gaps presupposes the success of his arguments against the survivalist view, it would beg the question in the present context to conclude that human beings can enjoy "gappy" existence. I am not accusing Toner (or Nevitt) of begging the question but merely noting that my arguments against the corruptionist view call into question whether human beings can persist through temporal gaps; of course, it would equally beg the question on my part if I presumed here that human beings *could not* persist "gappily."

114. Cooper, *Body, Soul*, 156.

115. *In I Cor*, ch. 15, lect. 2, §924. Cf. *ST* I, q. 75, a. 4. David Oderberg contends that, while this line and the passage in which it appears are typically

taken by corruptionists to deny that a person may survive death as composed of her soul alone, the overall context of the discussion does not necessarily support that conclusion:

> Immediately prior to the quoted assertion, [Aquinas] points out that the soul is a part of the man, and not the whole man (*totus homo*). So by going on to say that the man does not achieve salvation after death, he implicitly means this of the *whole* man, and this is correct, since the person after death is deprived of his body. Moreover, since he is commenting on St. Paul's claim that without the resurrection of the dead, faith is in vain, and since he explains that man has a natural desire for his salvation (*naturaliter desiderat salutem sui ipsius*), he must be taken to be pointing out that what a person desires is the salvation of his whole self, body and soul—not of himself in some reduced or impoverished way, as a mere part, namely, the soul. Hence, the sort of salvation ultimately desired, which prevents faith from being in vain, is that represented by Christ's resurrection, to wit that of the entire person, body and soul, in his fullness. (Oderberg, "Hylemorphic Dualism," 97n52)

116. *ST* I, q. 29, a. 1. Cf. Boethius, *Contra Eutychen et Nestorium*, III.

117. See *SCG*, bk. IV, ch. 38.

118. *QDP*, q. 9, a. 2.

119. *QDP*, q. 9, a. 2 *ad* 14.

120. Aquinas states at one point that a person may be defined as "subsistent in a rational nature" (*ST* I, q. 29, a. 3) but also claims that "the substance which is a *hypostasis* is more closely related to a person than subsistence" (*QDP*, q. 9, a. 2 *ad* 8).

121. See *ST* I, q. 29, a. 1 *ad* 5; *ST* I, q. 75, a. 4 *ad* 2. Aquinas thus denies that Christ's human nature can be called a "person"—such that there would be two persons in Christ due to his divine and human natures (Nestorianism)—since it is not a *hypostasis* or *suppositum*; see *ST* III, q. 2, a. 3 *ad* 2; *ST* III, q. 16, a. 12 *ad* 2; *SCG*, bk. IV, ch. 38.

122. Van Dyke ("I See Dead People") considers the possibility that a disembodied soul is *a* person but not *the same* person who died when the soul separated from its body. This leads to what she terms the "two-person problem." This problem does not arise for the survivalist view I am defending here insofar as the numerically same person persists by virtue of her disembodied soul. Van Dyke, though, as noted above, disagrees with survivalism and thus must offer an alternative solution to the two-person problem: namely, *pace* Aquinas, deny that a disembodied soul persists between death and resurrection. Cf. M. Brown, "Aquinas on the Resurrection"; Ross, "Together with the Body."

123. See Toner, "Hylemorphism, Remnant Persons"; Toner, "St. Thomas Aquinas on Punishing Souls."

124. Further doubts concerning the survivalist view as a valid interpretation of Aquinas's texts are raised by consideration of his account of the death, interim existence, and resurrection of Christ; see Nevitt, "Aquinas on the Death." Nevitt's reading of Aquinas, however, runs afoul of the Chalcedonian formula for the incarnate Christ, which construes Christ as both fully divine and fully human. Thus, when Christ descended to the dead, he did so both as the Second Person of the Trinity and as a human being, even though he was composed of only his soul alone. The passages Nevitt cites to support Aquinas's denial of Christ remaining a human being during the three days between his death and resurrection all seem to refer to the ontological status of Christ's *body* lying in the tomb; yes, Christ's material body was only equivocally human, but Christ himself retained his complete human nature during those three days when composed of his soul alone. I am grateful to Eleonore Stump for emphasizing this point to me. For further discussion of Christ's ontological status between his death and resurrection, see note 196 below; and, for further analysis of the identity relation between Christ and his body as it lay in the tomb, see Fitzpatrick, *Thomas Aquinas on Bodily Identity*, 166–69.

125. See *In M*, bk. VII, lect. 17, §1674. For further elaboration on this point, see chapter 2. Stump explicates this thesis in terms of "*constitution* without identity"; as Olson and others point out, however, there are relevant differences between how a constitutionalist—such as Baker—conceives of the relationship between an object and that which constitutes it and how Stump and I are conceiving of a person's relationship to her soul as one of her metaphysical parts that *composes* her. Olson, *What Are We?*, 170–71; Williams, "Aquinas in Dialogue," 485–86; Toner, "On Hylemorphism," 461–62; Van Dyke, "I See Dead People." Oderberg contends, however, that there is nothing "ontologically 'spooky'" about conceiving of a rational soul as serving in a "compositional role" when informing matter to compose a human person and serving in a "constitutive role" when it is separated from matter but still suffices for the human person to persist as her only proper part; see Oderberg, "Survivalism, Corruptionism, and Mereology."

126. See *QDSC*, q. un., a. 11 *ad* 20.

127. See *SCG*, bk. II, ch. 50; *QDA*, q. un., a. 6 *ad* 14.

128. *ST* I, q. 77, a. 5.

129. Stump, "Non-Cartesian Substance Dualism," 512. Cf. Davies, *Thought of Thomas Aquinas*, 213–14. See *ST* I, q. 75, a. 2 *ad* 2; *QDSC*, q. un., a. 2 *ad* 2; *CT*, bk. I, ch. 85; *DUI*, ch. IV; *In NE*, bk. X, lect. 6.

130. *ST* Supp., q. 79, a. 3 *ad* 3. Cf. *In Sent*, bk. IV, dist. 44, q. 1, a. 1, qc. 3 *ad* 3; *DUI*, ch. III.

131. *SCG*, bk. IV, ch. 79. Cf. *CT*, bk. I, ch. 157; *ST* Supp., q. 75, a. 1 *ad* 3.

132. See *SCG*, bk. IV, ch. 91; *ST* I-II, q. 1, a. 1; *QQ*, VII, q. 5, a. 1 *ad* 2–3. Toner defends the Thomistic thesis that a person's soul may be justly punished

for the sins she committed prior to her death without implying that the person herself exists as composed of her disembodied soul; see Toner, "St. Thomas Aquinas on Punishing Souls." While Toner's defense allows for the possibility of his corruptionist interpretation of the interim state between death and resurrection, it does not entail that survivalism is false. For an alternative analysis of the just punishment of separated souls in purgatory that lends support to the survivalist view, see Hershenov and Koch-Hershenov, "Personal Identity and Purgatory"; Hershenov and Koch-Hershenov, "Purgatory."

133. As Stump notes, referring to a human being's soul and body as parts requires a more extended notion of "part" than the standard conception of parts as *integral* to a substance, in the way a roof, walls, and floor are parts of a house. Such parts are composites of matter and form that exist even when they do not compose something else. Soul and body, on the other hand, can be understood as *metaphysical* parts that do not exist without composing a human being. See Stump, *Aquinas*, 42, 209–10.

134. J. P. Moreland and Scott Rae thus misrepresent Aquinas's view when they claim that "the human person is identical to its soul" in Moreland and Rae, *Body and Soul*, 205.

135. See Stump, *Aquinas*, 51–52.

136. See Stump, "Resurrection, Reassembly, and Reconstitution," 169; Stump, *Aquinas*, 53. Stump's interpretation is similar to the "non-Thomistic hylomorphic account of Purgatory" developed by Hershenov and Koch-Hershenov, "Personal Identity and Purgatory." While I agree with the metaphysical account the latter authors present, I disagree that it is "non-Thomistic."

137. Stump, *Aquinas*, 211.

138. See C. Brown, *Aquinas and the Ship*, 657–58; Oderberg, "Hylemorphic Dualism," 96–97.

139. Thomas Williams does not take account of this distinction between what is sufficient for a human being to *exist*, in terms of being fully present, versus what is sufficient for a human being to exist *completely*, in terms of having all of his proper parts composing him; see Williams, "Aquinas in Dialogue," 487.

140. Purtill, "Intelligibility of Disembodied Survival," 7. Michael Gorman also affirms that a person may persist by virtue of her soul alone, referring to the loss of one's body at death as "the ultimate physical handicap"; see Gorman, "Personhood, Potentiality, and Normativity," 498.

141. See Toner, "On Hylemorphism," 455–59; Simons, *Parts*, 26.

142. See *In M*, bk. VII, lects. 16–17; *ST* I-II, q. 28, a. 1. David Oderberg, however, challenges Toner's exegesis; see Oderberg, "Survivalism, Corruptionism, and Mereology," 6–12. Kathrin Koslicki interprets Aristotle as holding WSP as well in his mereology; see Koslicki, "Aristotle's Mereology"; Koslicki, *Structure of Objects*, 167–68. Mark Spencer responds to Toner's objection by noting that there are indeed two parts composing a human person between

death and resurrection, her soul's *essence* and its *existence*; see Spencer, "Reexamination," 852n36. Although Aquinas does distinguish a thing's essence from its existence, he explicitly denies that something's existence is properly understood as a "part" of it in the same way that form and matter are; see *SCG*, bk. II, ch. 54. Jeremy Skrzypek contends that "complex survivalism" may avoid violating WSP by viewing a disembodied human person as "temporarily composed of her substantial form, her act of existence [*a la* Spencer], and at least some of her accidental forms"; see Skrzypek, "Complex Survivalism." As his subtitle indicates, Skrzypek's solution requires biting the dual bullet that a disembodied human person is no longer a rational animal, since he takes being an animal to require material embodiment, and thus that a human person may persist without maintaining her essential nature. The account set forth in this chapter does not require such divorcing of a human person's essence from her existence *in re*.

143. For those who find it plausible, see Koslicki, *Structure of Objects*, 183. For those who find it insufficiently supported, see Donnelly, "Using Mereological Principles"; D. Smith, "Mereology without Weak Supplementation."

144. See Oderberg, "Survivalism, Corruptionism, and Mereology," 13–18.

145. See Toner, "On Hylemorphism," 457–58.

146. This contention does not deny that there is an immaterial/transcendent aspect to human nature by virtue of one's rational soul; rather, the contention is that, to be *fully human*, one must be a materially instantiated animal or at least possess the intrinsic active potentiality to instantiate the definitive animal capacities associated with life and sentience.

147. See *ST* I, q. 75, a. 5.

148. Oderberg, "Survivalism, Corruptionism, and Mereology," 8. The soul is the superior part, though, insofar as it is the locus of *esse* that is communicated to prime matter when the soul informs it to compose a living human body.

149. See Stump, *Aquinas*, 50.

150. One could question whether this claim is true insofar as it is at least conceivable that there may be organisms, perhaps on exoplanets, that are not carbon based. Consider, for example, the fictional silicon-based Horta in the original series *Star Trek* episode, "The Devil in the Dark." Nevertheless, Baker's claim may still stand that every organism, regardless of its ultimate chemical composition, is essentially corruptible.

151. Baker, "Persons and the Metaphysics," 342–43.

152. *ST* Supp., q. 82, a. 1 *ad* 1. Cf. *CT*, bk. I, ch. 155.

153. On corruptibility and the Fall, see *QDA*, q. un., a. 1 *ad* 5; *QDA*, q. un., a. 8 *ad* 9; *QDA*, q. un., a. 14 *ad* 13; *ST* Supp., q. 75, a. 1 *ad* 5; *SCG*, bk. IV, ch. 82. On corruptibility and the progression of time, see *ST* Supp., q. 86, a. 2 *ad* 1.

154. *SCG*, bk. IV, ch. 86.

155. *SCG*, bk. IV, ch. 85. Given my "blueprint" analogy describing a rational soul's essential function as the substantial form of a human body, it may seem

like the soul actually has a "double blueprint": the "true" one that is materially instantiated only in one's resurrected body, and a "defective" one that is realized in one's premortem body. This conclusion does not follow, though; rather, there is only the one true blueprint that is perfectly instantiated in the resurrected body and only imperfectly—that is, incompletely—instantiated in the premortem body. Consider the blueprint for a house that is drawn up by an architect but that is only imperfectly realized in the actually constructed house either because the builder has failed to adhere to the architect's design or because the builder has utilized shoddy materials. The intended design for the house—the formal cause as envisioned by the architect—is not perfectly instantiated because of defects either in the efficient cause—the builder—whose task is to materially realize the form, or in the material cause—the shoddy building materials. In the case of the soul, there is no defect in the efficient cause that creates it in its material body (that is, God, who creates a rational soul that is perfect in its possession of its essential natural potentialities), but there are defects in the efficient cause that creates the body in which the soul is created as its substantial form (that is, the parents who pass along the general inherent material deficiencies of the post-Fall human body as well as, potentially, particular genetic defects), thereby resulting in defects at the level of the material cause—the body—such that the soul's natural potentialities can be only imperfectly actualized. I am grateful to an anonymous reviewer for raising this objection.

156. Bynum, *Resurrection of the Body*, 260, quoted in Baker, "Persons and the Metaphysics," 343.

157. *SCG*, bk. II, ch. 80. Cf. *ST* I, q. 76, a. 2, obj. 2.

158. For Aquinas's polemical response to the Latin Averroists on this point, see *DUI*.

159. *ST* I, q. 76, a. 2 *ad* 2. Cf. *In Sent*, bk. VIII, dist. 1, q. 5, a. 2 *ad* 6; *QDA*, q. un., a. 1 *ad* 2; *QDSC*, q. un., a. 9 *ad* 3; *DEE*, ch. IV.

160. *SCG*, bk. IV, ch. 81; emphasis mine.

161. See *In LDC*, prop. V; *ST* I, q. 90, a. 2; *ST* I, q. 118, a. 2; *SCG*, bk. II, ch. 87.

162. A "material body" is an individual instance of designated matter, defined as having interminate quantitative dimensions. For further elucidation and references, see chapter 2. The fact that a rational soul must be individuated initially by virtue of being created as the substantial form of a particular hunk of appropriately organized designated matter renders its individuated nature distinct from the individuation of pure intellective substances—angels—whom Aquinas defines as distinct from each other according to *species*, since they are not individuated according to different hunks of designated matter; see *ST* I, q. 50, a. 4.

163. *QDSC*, q. un., a. 9 *ad* 4. Cf. *QDSC*, q. un., a. 9 *ad* 15; *QDA*, q. un., a. 1 *ad* 10; *ST* I, q. 76, a. 1 *ad* 6.

164. Aquinas denies that a human soul may exist temporally prior to its body, although it is *ontologically* prior to its body logically speaking; see *ST* I, q. 90, a. 4; *SCG*, bk. II, ch. 83.

165. Stump, *Aquinas*, 54. Cf. Clarke, *One and the Many*, 105; Pasnau, *Thomas Aquinas on Human Nature*, 182–85.

166. Goetz and Taliaferro, *Brief History*, 60.

167. See Geach, *God and the Soul*, 23.

168. See Hershenov, "Soulless Organisms?," 479.

169. See *ST* I, q. 80, aa. 1–2.

170. See *QDA*, q. un., a. 13.

171. See *QDA*, q. un., a. 11.

172. See *ST* I, q. 77, a. 8; *ST* Supp., q. 70, a. 1; *QDA*, q. un., a. 10 *ad* 13; *QDA*, q. un., a. 11 *ad* 13; *QDA*, q. un., a. 19.

173. See *ST* I-II, q. 56, a. 1.

174. *QDA*, q. un., a. 19 *ad* 17. Cf. *QDA*, q. un., a. 19 *ad* 7; *QDVirt*, q. 5, a. 2 *ad* 16.

175. *SCG*, bk. IV, ch. 91.

176. *CT*, bk. I, ch. 182.

177. Stump, *Aquinas*, 211. Mary Rousseau goes one step further to describe death as a "metaphysical horror" due to the diminishment of a separated soul's capacities; see Rousseau, "Elements." Antonia Fitzpatrick's critique of Stump's survivalist view thus misses the mark when claiming that such a view implies a form of substance dualism in which death is a liberation of the soul from bodily imprisonment—a view held in Aquinas's time by a heretical sect known as the Cathars; see Fitzpatrick, *Thomas Aquinas on Bodily Identity*, 153–55.

178. See Meixner, "Substance Dualism," 287.

179. Hasker, *Emergent Self*, 235. Cf. Hasker, "Emergent Dualism," 310–11.

180. As noted above, Aquinas's account also has the advantage of arguing for a human soul's "natural immortality," as opposed to the emergent dualist's requirement that "the continued existence of the person that has died is a miracle of divine power" (Hasker, "Souls Beastly and Human," 216). As a function of what could be termed a *theological* principle of parsimony—the less often a theory has to invoke miraculous divine intervention to explain putatively everyday occurrences, such as a person passing from death into immortal life, the stronger the theory—Thomistic hylomorphism scores a significant point over emergent dualism.

181. See Olson, *What Are We?*, 175.

182. I recognize that the term *immaterial animality* may strike some readers as inherently contradictory—like *square circle* or *married bachelor*. I beg such readers' indulgence, however, as I lay out the case in support of this concept. For additional defenses of this concept, see Spencer, "Personhood," 909–10; Thornton, "Disembodied Animals."

183. *In DGC*, bk. I, ch. 15, §108. Cf. *In DA*, bk. II, lect. 2.

184. *CT*, bk. I, ch. 154.

185. See *ST* I, q. 76, a. 3; *SCG*, bk. II, ch. 58; *CT*, bk. I, chs. 90, 92; *QDA*, q. un., a. 11.

186. See *ST* I, q. 77, a. 8, Supp., q. 70, aa. 1–2.

187. *ST* I, q. 77, a. 8.

188. *ST* Supp., q. 70, a. 1.

189. *ST* Supp., q. 70, a. 1 *ad* 6. The persistence of these latent capacities sufficing for the persistence of the numerically same human animal is analogous to the case of a cryopreserved human embryo, whose present material constitution does not allow for its essential vegetative, sensitive, and rational capacities to be actualized, yet who, I contend, persists in such a state as a living rational animal. See Eberl, "Metaphysical and Moral Status."

190. See Aristotle, *De anima*, bk. I, ch. 1.

191. *ST* Supp., q. 79, a. 2 *ad* 3. Cf. *SCG*, bk. IV, ch. 81; *CT*, bk. I, ch. 154; *In Sent*, bk. IV, dist. 44, q. 1, a. 1, qc. 2 *ad* 3.

192. *QDA*, q. un., a. 19 *ad* 5.

193. See J. Ross, "Together with the Body," 7. Aquinas asserts that wherever one capacity of the soul is present and active, its other capacities may also be present even if they are not apparent; see *QDA*, q. un., a. 11 *ad* 20.

194. See Toner, "Hylemorphic Animalism," 74–75.

195. *ST* I, q. 18, a. 3.

196. Discussing whether Christ was a human being during the three days between his death and resurrection, however, Aquinas appears to flatly deny this conclusion: "By death [a human being or animal] ceases to be human or animal; for the death of a human being or animal results from the separation of the soul, which is the form of an animal or human being." Yet while Aquinas concludes that Christ could not thereby be called "a human being . . . simply and unqualifiedly" during his death, "it can be said that Christ during the three days was a dead human being" (*ST* III, q. 50, a. 4). I contend that Christ persisted for three days as "a dead human being" by virtue of the persistent existence of his rational soul. Because a rational soul possesses, at least "virtually," all of a human being's definitive capacities as a living, sentient, and rational animal, a human being may exist composed of his soul alone without being identical to it. Furthermore, this relationship suffices for a postmortem human being to be an animal—albeit a *dead* animal—since the definitive capacities of an animal persist virtually in a separated rational soul. Hence, during the three days of his death, Christ was neither a human being nor an animal "simply and unqualifiedly," because his soul alone did not constitute a substance and was unable to actualize all of the definitive capacities of a living, sentient, and rational animal. Nevertheless, Christ existed as a "dead human being"—and a fortiori a "dead animal"—during those three days insofar as his soul alone possessed the actual

capacities for rational thought and autonomous volition, as well as the virtual capacities for life and sensation. This analysis is congruent with Aquinas's assertion that, by death, one "ceases to be human or animal" if he is referring to being human or animal "simply and unqualifiedly," or, in other words, if the subject of this assertion is the *substantially unified soul/body composite* that is corrupted by the soul's separation from its body at death, and not the person who persists after death. I am grateful to Chris Brown and Patrick Toner for raising this point to me. For a critique of this interpretation, see Brower, *Aquinas's Ontology*, 290.

197. For a similar argument, see C. Brown, "Souls, Ships, and Substances," 657. Toner objects that a separated soul cannot compose an animal insofar as it cannot engage in sensory activity without its body; see Toner, "Hylemorphic Animalism," 74–75. I have argued here, however, that sensory *activity* is not required for an animal to exist, but rather only the *intrinsic capacity* to sense, which is preserved in a separated soul. Hershenov and Koch-Hershenov contend that it is preferable, on a survivalist account, to consider human persons as *contingently* animal, though they admit that the hylomorphic definition of human persons as "rational animals" implies that animality is *essential* to our existence; see Hershenov and Koch-Hershenov, "Purgatory." To drive this point further, if animality were contingent to my existence and thus I could not essentially be a rational animal, what then would I essentially be? The answer cannot simply be that I would be a "person," since that's a generic category I share with the Trinity, angels, and potentially extraterrestrial aliens. Adding the qualifier *human* does not help insofar as that term implies being a rational animal, insofar as my animality is just what distinguishes me as a person from purely intellectual angels. Brower (*Aquinas's Ontology*, 300) argues for a "non-human survivalist" account, which preserves the distinctiveness of a rational soul from angelic intellects by virtue of its noncontingent disposition towards being united to matter.

198. As Trenton Merricks points out, one can survive "deep and radical changes" in terms of one's psychological and physical qualities—compare, for example, a one-year-old child or a fetus with the adult one is now; see Merricks, "Resurrection of the Body," 265–68. Hence—*pace* Uwe Meixner—while one's glorified resurrected body will surely be significantly qualitatively dissimilar to one's premortem body, Aquinas's view gives us reason to presume that there will be sufficient qualitative similarity so that numerical identity will not be threatened; see Meixner, "Indispensability of the Soul," 39.

199. Recall that, while Christ was not immediately recognizable to Mary Magdalene (John 20:14–18) or the disciples on the road to Emmaus (Luke 24:13–35) after his resurrection, he was able to be recognized by them and others once he exemplified certain familiar qualities. These appearances are prefigured in the account of Christ's transfiguration (Matt. 17:1–8; Mark 9:2–8; Luke 9:28–36).

200. See *SCG*, bk. IV, ch. 84. In contrast, Nancey Murphy contends that one's resurrected body need not be numerically identical to one's premortem body, so long as the two are sufficiently qualitatively similar that they instantiate those psychological properties, including moral character traits, that are essential to one's personal identity; see Murphy, *Bodies and Souls*, 141–42. Hershenov criticizes Murphy's view as sounding "more like reincarnation than resurrection"; see Hershenov, review of *Bodies and Souls*, 239. A. J. Ayer also expounds a view of postmortem survival requiring merely continuity of one's mental states sustained by any "generically" similar body; see Ayer, "My Death," 234.

201. See van Inwagen, "Possibility of Resurrection," 119.

202. See *ST* I, q. 48, a. 5; *ST* I, q. 76, a. 4 *ad* 1; *In DA*, bk. II, lect. 2; *QDP*, q. 1, a. 1. For further elucidation of the distinction between "first" and "second" actuality, see chapter 5.

203. This same question could be raised if the program were continued on a "cloned desktop" instantiated in a physically distinct computer that was connected to the original by a VPN connection.

204. Of course, this analogy is imperfect insofar as a hard drive is material and a soul is immaterial; but the two are relevantly similar insofar as both are configured subsistent entities—neither being a substance as well, since Aquinas denies that an artifact such as a hard drive is a substance—whose configurations include stored processes.

205. van Inwagen, "Possibility of Resurrection," 120.

206. See *ST* Supp., q. 79, a. 2 *ad* 4; *QQ*, XI, q. 6 *ad* 3; *In Sent*, bk. IV, dist. 44, q. 1, a. 1, qc. 2 *ad* 4.

207. Pasnau, *Thomas Aquinas on Human Nature*, 385. Pasnau relates this view to "theories of personal identity that appeal to some kind of continuing self or ego underlying bodily and psychological change," such as Baker's first-person perspective.

208. Purtill, "Intelligibility of Disembodied Survival," 19. I added the bracketed "in part" because, for Aquinas, the uniqueness of each person's soul is also established by its being the substantial form of a particular body.

209. This feature of Aquinas's account also allows him to address Kim's objection that dualism provides no criterion by which a particular soul is "causally paired" with a particular body; see Kim, "Lonely Souls," and the discussion in chapter 3.

210. Crosson, "Psyche and Persona," 168.

211. *In LDC*, prop. XV. Cf. *SCG*, bk. II, ch. 49; *In Sent*, bk. II, d. 19, q. 1. a. 1.

212. Merricks, "Resurrection of the Body," 284n24.

213. See Stump, "Aquinas's Metaphysics," 43.

214. This view differs from Christina Van Dyke's contention that a separated soul preserves the "necessary causal connections" between one's premortem and resurrected body while accepting that there is a gap in the body's existence; see Van Dyke, "Human Identity," 385–89.

215. Merricks, "Resurrection of the Body," 283–84.

216. For an elucidation of the concept of phenomenological *selfhood* that is grounded—though not exclusively—in Thomism, see Crosby, *Selfhood*.

Chapter Eight. Who Is My Sister or Brother?

1. *ST* I, q. 29, a. 1. This section is derived from Eberl, "Ontological and Moral Significance."

2. See *QDA*, q. un., a. 3; *SCG*, bk. II, ch. 60; *In NE*, bk. I, lect. 10 and bk. X, lect. 10.

3. See *In BDT*, q. 5, a. 3.

4. See *In M*, bk. VII, lect. 3.

5. See *ST* I, q. 29, a. 1.

6. See *ST* I, q. 29, a. 3.

7. See *ST* I, q. 83, a. 1.

8. See *SCG*, bk. III, ch. 112.

9. McLaughlin, "Men, Animals, and Personhood," 169–70; see *ST* I-II, q. 21, a. 4 *ad* 3.

10. See *ST* I, q. 81, a. 3.

11. See *ST* I, q. 79.

12. See *ST* I-II, qq. 1–5.

13. See Eberl, "Ontological Kinds."

14. For a defense of "moderate" forms of human enhancement from a Thomistic perspective, see Eberl, "Thomistic Appraisal"; Eberl, "Philosophical Anthropology, Ethics"; and Eberl, "Can Prudence Be Enhanced?"

15. See *ST* I-II, q. 18, a. 5; q. 49, a. 2; q. 71, a. 1. For further elucidation, see Eberl, Kinney, and Williams, "Foundation."

16. See *ST* I, q. 4, a. 1 *ad* 1.

17. See *ST* I, q. 5, a. 1.

18. See *ST* I-II, q. 94, a. 2.

19. I elucidate how contemporary Thomistic and Aristotelian moral theorists, such as John Finnis—in Finnis, *Natural Law*—and Martha Nussbaum—in Nussbaum, *Creating Capabilities*—provide further specification of the goods that constitute human flourishing in Eberl, "Thomistic Appraisal."

20. Note that this conclusion does not entail that pain and suffering constitute an *ultimate evil* that must be avoided at all costs. For a defense of the potential instrumental value of pain and suffering, see Eberl, "Religious and Secular Perspectives."

21. See Lee and George, *Body-Self Dualism*, ch. 3.

22. See Barad, "Aquinas's Inconsistency"; Drum, "Aquinas and the Moral Status"; Tardiff, "Catholic Case for Vegetarianism"; and Camosy, *For Love of Animals*.

23. See Kavanaugh, *Who Count as Persons?*, ch. 4.

24. For more extensive treatment of the issues discussed in this section, see Eberl, *Thomistic Principles and Bioethics*, chs. 4–5.

25. See *ST* I-II, q. 94, a. 2; Finnis, *Natural Law*, 86–87.

26. *ST* II-II, q. 64, a. 6; cf. Kavanaugh, *Who Count as Persons?*, 125–32.

27. *ST* II-II, q. 64, a. 8 *ad* 2; cf. *CDP*, VII.

28. *ST* I-II, q. 64, a. 7; cf. *ST* I-II, q. 73, a. 8. For further elucidation of the PDE, see Cavanaugh, "Aquinas's Account of Double Effect"; Cavanaugh, *Double-Effect Reasoning*; Sullivan, "Doctrine of Double Effect"; Woodward, *Doctrine of Double Effect*.

29. The original case about which Aquinas formulates the PDE involves causing the death of an *unjust aggressor* who is threatening one's life. For an argument supporting the applicability of the PDE to causing the death of an *innocent threat* to one's life—namely, a fetus whose presence endangers a pregnant woman by causing, for example, severe pulmonary hypertension—see Camosy, *Beyond the Abortion Wars*, 63–66.

30. For further discussion of how lack of social support, particularly absent paternal responsibility, may affect a woman's decision whether or not to abort, see Eberl, "Cultivating the Virtue."

31. For a more thorough discussion of Aquinas's views on euthanasia and care for dying persons, see Eberl, "Aquinas on Euthanasia."

32. See Jennett and Plum, "Persistent Vegetative State."

33. See Mappes, "Persistent Vegetative State," 122–25.

34. Gillett, "Consciousness, the Brain," 196.

35. May, "Criteria," 81.

36. May et al., "Feeding and Hydrating," 210.

37. *In II Thes*, III.2.

38. *ST* II-II, q. 126, a. 1.

39. See May et al., "Feeding and Hydrating," 209.

40. See *ST* I-II. q. 1, a. 1.

41. See *ST* I-II, q. 5, a. 1.

42. O'Rourke and Norris, "Care of PVS Patients," 210; cf. Eberl, "Extraordinary Care."

43. The judgment that some forms of treatment may not be morally mandated because they are "disproportionately burdensome" is based on the distinction between "ordinary" and "extraordinary" care developed by Roman Catholic moral theologians beginning in the sixteenth century; see Cronin, "Moral Law."

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