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Matter and Form: Towards an Animalist Conception of Personal Identity

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Philosophy
in Philosophy

by

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ABSTRACT

Matter and Form: Towards an Animalist Conception of Personal Identity

by

Keith A. Hess

In this dissertation, I defend an answer to the following question in the diachronic personal identity debate: what are the necessary and sufficient conditions for our persistence over time? Two popular approaches to answering this question are the psychological and the somatic approach. On the former approach, we persist in virtue of some sort of psychological continuity. So, some proponents of the psychological approach think that we cease to exist if we lose certain features of our psychology such as our memories, beliefs, and rationality. On the latter approach, we persist in virtue of some sort of physical continuity. Eric Olson defends a version of the somatic approach called animalism. On his view, we are numerically identical to biological organisms and we persist if and only if the organisms we are persist. Although Olson's animalism has some benefits, it also faces some challenges. For example, many people would say that we go wherever our brains go (if we go anywhere at all) because our brains (more specifically, our cerebra) realize the aspects of our psychology traditionally associated with persons, such as memories, beliefs, rationality, and self-awareness. But on Olson's animalism, our psychology has nothing to do with our persistence and we go wherever our bodies go rather than our cerebra. Following Aristotle and Aquinas, I lay out an animalist view of

our persistence called hylomorphic animalism. On this view, we are numerically identical to rational animals, which are living bodies composed of prime matter and a rational soul. Furthermore, we persist if and only if the composite of matter and rational soul persists. I claim that hylomorphic animalism makes better sense of certain contemporary personal identity thought experiments than Olson's animalism. For example, contra Olson, I argue that our psychology does have something to do with our persistence and that we go wherever our brains go.

TABLE OF CONTENTS

Introduction.....	1
Chapter 1: Animalism....	22
Chapter 2: Hylomorphic Animalism	69
Chapter 3: Hylomorphic Animalism Retains the Benefits of Animalism	101
Chapter 4: Hylomorphic Animalism and Transfer Problems	132
Chapter 5: Hylomorphic Animalism and Multiplication Problems.....	154
References.....	188

INTRODUCTION

The diachronic personal identity debate in philosophy centers on finding necessary and sufficient conditions for our persistence over time. The notion of identity involved is numerical identity rather than qualitative identity. The latter notion concerns similarity between objects. Object X and Object Y can be more or less similar and they are exactly similar if and only if every property that one object possesses the other possesses. Numerical identity concerns numerical sameness. Object X and Object Y are numerically identical if and only if they are one and the same object. Applied to persons, person₁ is numerically identical to person₂ if and only if person₁ and person₂ are one and the same person.¹ If the personal identity debate centers around our persistence conditions, what is meant by *our* persistence? Simply put, the debate concerns human persons like you and me and Donald Trump.² In specifying the debate in this way, I do not intend to say that it only concerns our persistence qua persons. That is, the central question of the diachronic personal identity debate is not the following:

(1) If a [human] person x exists at one time and a [human] person y exists at another time, under what possible circumstances is it the case that x is y?³

¹ Throughout this dissertation, unless specified otherwise, when I speak of identity, I mean numerical identity.

² Eric Olson, *What Are We? A Study in Personal Ontology* (Oxford: Oxford University Press, 2007), 8. But what is a human person? See Jens Johansson, "What Is Animalism?," *Ratio* 20, no. 2 (2007), 202 – 204 for discussion. In addition, some philosophers distinguish between animals and organisms. See Mark Johnston, "'Human Beings' Revisited: My Body Is Not an Animal," in *Oxford Studies in Metaphysics*, ed. Dean Zimmerman, vol. 3 (Oxford: Oxford University Press, 2007), pgs 55-56 and Sydney Shoemaker, "On What We Are," in *The Oxford Handbook to the Self*, ed. S. Gallagher (Oxford: Oxford University Press, 2011), 352–71, pg. 353.

³ Eric Olson, "Personal Identity," ed. Edward Zalta, *The Stanford Encyclopedia of Philosophy*, Winter 2016, <https://plato.stanford.edu/archives/win2016/entries/identity-personal/>.

While (1) is a legitimate question and worthy of investigation, it is not the persistence question of the personal identity debate if the debate concerns *our* persistence. After all, it rules out any view of our persistence that denies *person essentialism*, the view that persons are persons essentially. For example, on Eric Olson's version of animalism – a view much discussed in this dissertation – we start out as nonpersons, become persons in the process of normal development, and might one day cease to be persons while continuing to exist. We should not exclude Olson's view of our persistence from the debate simply in virtue of the way we formulate the debate's main question. Given this, we should formulate the question so that it is neutral on whether or not we could cease to be persons. A better formulation of the central question of the personal identity debate is this:

(2) If a [human] person *x* exists at one time and something *y* exists at another time, under what possible circumstances is it the case that *x* is *y*?⁴

Other questions of personal identity are related to but distinct from (2).⁵ For example, one might wonder how we can know whether person₁ is identical to person₂.⁶ Being able to tell that one person is numerically identical to another or that they are distinct is different from what *makes* them identical or distinct. Though the evidential question will arise in this dissertation, the focus will be on what numerical identity over time consists in.

⁴ Ibid.

⁵ Ibid.

⁶ Derek Parfit, *Reasons and Persons* (Oxford: Clarendon Press, 1984), 203.

The question of our persistence is not the same as the question of what we are.⁷ Thomson calls this a distinction between *personal identity* and *personal ontology*: the former concerns our persistence while the latter concerns our metaphysical makeup.⁸ A central question regarding our personal ontology is this: are we solely material beings, solely immaterial, or some composite of the two? An incomplete but informative way of answering this question is to identify our actual metaphysical makeup. This does not identify what we essentially are, but what we actually are (whether this is makeup is contingent or not). An answer to the question of what we actually are does not entail an answer to what we essentially are. For example, perhaps we are identical to organisms and organisms are essentially organic but it is possible for us to survive the replacement, over time, of all of our organic parts with inorganic ones. This view of what we are does not entail that identity is contingent (where contingent identity is as follows: it is not the case that if x is identical to y, then necessarily, x is identical to y). Rather, this view entails that being an organism is a phase in our existence much like being a teenager is. At one time we are identical to teenagers (or organisms), but we can exist without being teenagers (or organisms). To give a full answer to the question of what we are, one must say what we are essentially. If we are essentially organisms, then we cannot exist without being organisms. Therefore, an answer to the question of what we are essentially will entail an answer to the question of our persistence. That is, the claim that we are essentially organisms entails the claim that we persist if and only if the organisms we are

⁷ Eric Olson, *What Are We?* 17.

⁸ J. J. Thomson, "People and Their Bodies," in *Reading Parfit*, ed. J. Dancy (Oxford: Blackwell, 1997), 204-205.

persist. Given this, Olson and Thomson recommend approaching the personal identity debate by first giving an account of what we are essentially and then using that to determine our persistence conditions.

Nevertheless, note that an answer to the persistence question does not entail an answer to the question of what we are essentially. Suppose one answers the persistence question by claiming that we persist if and only if certain aspects of our psychology such as our memories, beliefs, desires, etc. persist. (This answer to the persistence question qualifies as a *psychological approach* to the diachronic personal identity debate, an approach which is discussed below in more detail.) This says nothing of whether these aspects of our psychology are realized in a material substance, an immaterial substance, or no substance at all. That is, it says nothing about our metaphysical makeup (essential or otherwise). John Locke held to a psychological approach to personal identity, but remained neutral on whether the psychology was in a material substance, an immaterial substance, or different substances at different times:

It is plain consciousness, as far as ever it can be extended, should it be to ages past, unites existences and actions, very remote in time, into the same person, as well as it does the existences and actions of the immediately preceding moment; so that whatever has the consciousness of present and past actions, is the same person to whom they both belong. Had I the same consciousness that I saw the ark and Noah's flood, as that I saw an overflowing of the Thames last winter, or as that I write now; I could no more doubt that I who write this now, that saw the Thames overflowed last winter, and that viewed the flood at the general deluge, was the same self, place that self in what substance you please, than that I who write this am the same myself now whilst I write (whether I consist of all the same substance, material or immaterial, or no) that I was yesterday. For as to this point of being the same self, it matters not whether this present self be made up of the same or other substances; I being as much concerned, and as justly accountable for any action that was done a thousand years

since, appropriated to me now by this self-awareness, as I am for what I did the last moment.⁹

The question of what we are and the question of our persistence are both distinct from another traditional question in the personal identity literature – *the personhood question*, that of “what it is to be a person, as opposed to a nonperson.”¹⁰ Answering the personhood question does not tell us whether we are essentially persons or whether we can cease to be persons and continue to exist.¹¹ Thus, without knowing beforehand whether we are essentially persons, it will not inform us of our nature or persistence. However, if we are essentially persons, then answering the personhood question will inform us of our nature and will help us determine what sorts of scenarios we can survive. For example, John Locke defined 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.”¹² If this is right and if we are essentially persons defined as thinking, intelligent and reflective beings, then we cannot survive without thinking possessing intelligence and capacities for reflection.¹³

⁹ John Locke, *An Essay Concerning Human Understanding*, ed. Alexander Fraser Campbell (New York: Dover, 1959), chapter 27.

¹⁰ Olson, *What Are We?* 16.

¹¹ Note, though, that an answer to the personhood question entails an answer to (1).

¹² John Locke, *An Essay Concerning Human Understanding*, chapter 27. Note that he distinguished between a person and a man. Men do not have the same nature as persons and have different persistence conditions.

¹³ Note that some are skeptical about attempts to define “person” and claim that “our conception of persons is indeterminate.” For example, see Matti Eklund, “Personal Identity and Conceptual Incoherence,” *Noûs* 36, no. 3 (2002): 465–85; Matti Eklund, “Personal Identity, Concerns, and Indeterminacy,” *The Monist* 87, no. 4 (2004): 489–511; Mark Johnston, “Relativism and the Self,” in *Relativism: Interpretation and Confrontation*, ed. M. Krausz (Notre Dame University Press, 1989); Nicholas

The psychological approach and the *somatic approach* are two prominent approaches to the diachronic personal identity debate.¹⁴ On the psychological approach, “some psychological relation is necessary or sufficient (or both) for one to persist.”¹⁵ For example, John Locke believed that persons persist in virtue of the persistence of the same consciousness:

In this alone consists personal identity, i.e. the sameness of a rational being: 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 it is by the same self with this present one that now reflects on it, that that action was done.

Further:

It is plain consciousness, as far as ever it can be extended, should it be to ages past, unites existences and actions, very remote in time, into the same person, as well as it does the existences and actions of the immediately preceding moment; so that whatever has the consciousness of present and past actions, is the same person to whom they both belong.¹⁶

Measor, “Persons, Indeterminacy and Responsibility,” *The Philosophical Review* 87, no. 3 (1978): 414–22; Ingmar Persson, “The Indeterminacy and Insignificance of Personal Identity,” *Inquiry* 35, no. 2 (June 1, 1992): 271–83; Theodore Sider, “Criteria of Personal Identity and the Limits of Conceptual Analysis,” *Philosophical Perspectives* 15 (2001): 189–209. Quotation from Eklund, “Personal Identity, Concerns, and Indeterminacy,” 491.

¹⁴ Other approaches include the *soul approach* (where sameness of person consists in sameness of soul), the *bodily approach* (where sameness of person consists in sameness of body) (discussed below), and the *anticriterial approach* (also called the *simple view*). Regarding anticriterialism, it says that “No sort of continuity is absolutely necessary or absolutely sufficient for you to survive. The only correct answer to the Persistence Question is that a person here now is identical with a past or future being if and only if they are identical. There are no informative, non-trivial persistence conditions for people.” Eric Olson, “Personal Identity,” in *The Blackwell Guide to Philosophy of Mind*, ed. Stephen Stich and Ted Warfield (Malden, MA: Blackwell Publishing LTD, 2003), 358–59.

¹⁵ Olson, “Personal Identity,” *The Stanford Encyclopedia of Philosophy*. Proponents include John Locke; Lynne Rudder Baker, Harold Noonan, Derek Parfit, and Sydney Shoemaker: Lynne Rudder Baker, *Persons and Bodies: A Constitution View* (Cambridge University Press, 2000); John Locke, *An Essay Concerning Human Understanding*; Harold Noonan, “Animalism Versus Lockeanism: A Current Controversy,” *Philosophical Quarterly* 48, no. 192 (1998): 302–18; Parfit, *Reasons and Persons*; Sydney Shoemaker, “Personal Identity: A Materialist’s Account,” in *Personal Identity*, by Richard Swinburne and Sydney Shoemaker (Oxford: Blackwell, 1984), 67–132; 139–152.

¹⁶ John Locke, *An Essay Concerning Human Understanding*, chapter 27.

Memory played an important role in his account of consciousness and some even say that Locke believed that “a person, x, existing at one time, t1, and a person, y, existing at a later time, t2, y is identical with x if and only if y remembers experiences had by x.”¹⁷ Call this account of personal identity (whether or not Locke actually subscribed to it) the *Lockean account*.

The Lockean account has a certain benefit. To see this, consider a case of brain transplant involving Brown and Johnson.¹⁸ Brown and Johnson are identical twins who have their brains removed and Brown’s brain is placed into Johnson’s body. The person who results from the transplant—that is, the person who results from the combination of Brown’s brain and Johnson’s body—possesses the same memories as pre-operation Brown. Since humans go wherever their memory goes, the Lockean account says that the person who results from the transplant is numerically identical to the pre-operation Brown. This goes for all brain transplants—the person who “donates” his brain will go along with his brain during the transplant and will find himself in a new body post-operation. This result of the Lockean account concerning brain transplants seems to fit our intuitions about what happens in such cases. That is, many people would say that we go wherever our brains go (if we go anywhere at all) because our brains (more specifically, our cerebra) realize the aspects of our psychology traditionally associated with persons, such as memories, beliefs, rationality, and self-awareness. In the personal

¹⁷ Stephan Blatti, “Animalism,” ed. Edward Zalta, *The Stanford Encyclopedia of Philosophy*, Summer 2014, <http://plato.stanford.edu/archives/sum2014/entries/animalism/>.

¹⁸ This case is made famous by Sydney Shoemaker, *Self-knowledge and self-identity* (Ithaca, NY: Cornell University Press, 1963), 23-24. Carter, Johnston, and Olson also discuss it; Carter, “How to Change Your Mind,” 11; Johnston, “Human Beings.”

identity literature, this intuition is called the *transplant intuition*.¹⁹ Here is a simple way to put it: you go wherever your psychology goes (that is, the aspects of your psychology mentioned above).

But there are certain classic difficulties for the Lockean account. To avoid these difficulties, contemporary proponents of the psychological approach revise the Lockean account in certain typical ways.²⁰ In laying out these revisions, I rely on Parfit's explication of the psychological approach in *Reasons and Persons*.²¹ First, Bishop Butler pointed out that the memory criterion for personal identity is circular.²² This is because it is arguably a feature of the meaning of "remembers" that a person cannot remember doing or perceiving or imagining something she did not do, perceive or imagine. So, some have argued that our common concept of memory presupposes personal identity, and thus, that we cannot use our concept of memory to analyze personal identity in a fully non-circular way.²³ In response, certain proponents of the psychological approach invoke the concept of *quasi-memory*, where, according to Sydney Shoemaker, a "person quasi-remembers a past experience or action if he has a memory experience that is caused

¹⁹ Eric Olson, *The Human Animal: Personal Identity Without Psychology* (New York: Oxford University Press, 1997), 42. An empirical study by Bruno and Nichols found that the transplant intuition is commonly held. M. Bruno and S. Nichols, "Intuitions about Personal Identity: An Empirical Study," *Philosophical Psychology* 23 (2010): 293–312. Furthermore, neuroscience seems to show that the cerebrum does realize these aspects of our psychology: "Brain Anatomy, Anatomy of the Human Brain;" "Brain Basics: Know Your Brain," National Institute of Neurological Disorders and Stroke, accessed May 18, 2017, <https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Know-Your-Brain>; Rogers, *The Brain and the Nervous System*, 12-13, 20, 23.

²⁰ Olson, "Personal Identity," *The Stanford Encyclopedia of Philosophy*.

²¹ Parfit, *Reasons and Persons*, chapters 10-11. See also, Sydney Shoemaker, "Personal Identity: A Materialist's Account," 80-88.

²² Shoemaker, "Personal Identity: A Materialist's Account," 88.

²³ I owe my formulation of the circularity objection to Aaron Zimmerman.

in some appropriate way by that past action or experience.”²⁴ He further comments that it “may be theoretically possible for a person to quasi-remember past experiences or actions—i.e., to have the experience of remembering them as his own—even though they are not in fact his own.”²⁵ Invoking quasi-memory avoids Butler’s circularity objection because my quasi-remembering an experience does not presuppose (or analytically entail) that I had that experience.

Second, since the Lockean account makes memory a necessary condition of personal identity, it follows that a person cannot lose her memory yet continue to exist. However, it seems intuitively that losing your memory isn’t fatal. To avoid this absurd result, some proponents of the psychological approach appeal to other types of psychological connections in addition to memory to ground identity over time, including beliefs, desires, tastes, talents, character, and the connection between an intention and the act that carries out the intention.²⁶ Other proponents of the psychological approach say

²⁴ Sydney Shoemaker, “Personal Identity,” *Encyclopedia Britannica*, accessed July 5, 2017, <https://www.britannica.com/topic/personal-identity>. Shoemaker is the first to introduce the concept of quasi-memory. “Persons and Their Pasts,” *American Philosophical Quarterly* 7, no. 4 (1970), 271: “I shall say that remembering a past event involves there being a correspondence between the rememberer’s present cognitive state and a past cognitive and sensory state that was ‘of’ the event. In actual memory this past cognitive and sensory state is always a past state of the rememberer himself. What we need to consider is whether there could be a kind of knowledge of past events such that someone’s having this sort of knowledge of an event does involve there being a correspondence between his present cognitive state and a past cognitive and sensory state that was of the event, but such that this correspondence, although otherwise just like that which exists in memory, does not necessarily involve that past state’s having been a state of the very same person who subsequently has the knowledge. Let us speak of such knowledge, supposing for the moment that it is possible, as ‘quasi-memory knowledge,’ and let us say that a person who has this sort of knowledge of a past event ‘quasi-remembers’ that past event.”

²⁵ Sydney Shoemaker, “Personal Identity,” *Encyclopedia Britannica*.

²⁶ Parfit, *Reasons and Persons*, 205; Shoemaker holds to such a view. He identifies us with persons and thinks that we cannot persist unless we retain certain aspects of our psychology such as “interests, tastes, talents, and traits of personality and character;” “Personal Identity,” 89-91. Shoemaker also suggests a couple of other ways to avoid the implication of the Lockean account that one cannot lose one’s memories and continue to exist. First, he suggests that even if one cannot retrieve a memory on

that it is not continuity of mental content such as memories, beliefs, etc. that matter, but continuity of mental capacities such as self-consciousness and reasoning (but not necessarily the exercise of those capacities).²⁷ The reason Lockeans appeal to these other psychological connections in grounding identity over time is this: even if a person loses her memory, if she retains certain other aspects of her psychology, she will continue to exist. Thus, we can identify two versions of the psychological approach based on this distinction: a version that claims that continuity of mental content such as memories, beliefs, etc. matters for our identity and another that claims that continuity of mental capacities such as self-consciousness and reasoning matter for our identity.

Third, the Lockean account grounds identity over time in *direct psychological connections*. So, for example, if person₁ remembers doing something that person₂ did, then person₁ is directly psychologically connected to person₂. But grounding personal identity in such connections is problematic. As Reid pointed out, the personal identity

one's own, one might still retain the memory in latent form (where memories in such a form cannot be retrieved except through some special process such as hypnosis) and latent memories might ground personal identity (81). Second, he is skeptical that one could lose one's memory beyond all possibility of retrieval and yet retain other aspects of one's psychology such as personality, character, tastes, interests, etc. (86-88).

²⁷ Olson identifies Unger and Nagel as proponents of this view; *The Human Animal*, 75. For Unger, the capacities relevant to the persistence of a person over time are the capacities for conscious experience, reasoning, and the forming of simple intentions; Peter Unger, *Identity, Consciousness, and Value* (Oxford: Oxford University Press, 1990), 68, 109. For Nagel, it is the person's capacity for experiences and "the capacity to identify and reidentify himself and his mental states, in memory, experience, and thought, without relying on the sort of observational evidence that others must use to understand him;" Thomas Nagel, *The View from Nowhere*, 41. Baker also holds to the capacities view and requires, for our persistence, "the capacity for a first-person perspective." She addresses the fetus problem specifically and claims: "I did not exist before having the capacity for a first-person perspective. The fetus that came to constitute me existed before it had the capacity for a first-person perspective (and thus before it came to constitute me). Therefore, I was never (identical to) that fetus"; *Persons and Bodies*, 204-205. See also, "When Does a Person Begin?" *Social Philosophy and Policy* 22, no. 2 (2005), 35-36.

relation is transitive and the direct psychological connectedness relation is not: if person₁ is directly psychologically connected to person₂ and person₂ is directly psychologically connected to person₃, it does not follow that person₁ is directly psychologically connected to person₃.²⁸ After all, if person₁ remembers something person₂ did and person₂ remembers something person₃ did, it does not follow that person₁ remembers something that person₃ did. In response to this, Parfit recommends that the psychological theorist rely on *psychological continuity* instead of direct psychological connections. Person₁ and person₂ are psychologically continuous if and only if overlapping chains of *strong* connectedness hold between them (and person₁ and person₂ are strongly connected “if the number of direct connections, over any day, is at least half the number that hold, over every day, in the lives of nearly every actual person.”)²⁹ Psychological connectedness is transitive: if person₁ is psychologically continuous with person₂ and person₂ is psychologically continuous with person₃, it follows that person₁ is psychologically continuous with person₃.

Fourth, versions of the updated Lockean account vary according to the sort of cause of psychological continuity that is necessary for personal identity: the *narrow version*, the *wide version*, and the *widest version*.³⁰ On the narrow approach, the cause of psychological continuity must be the continued existence of the brain, what Parfit calls

²⁸ Thomas Reid, “On Mr. Locke’s Account of Personal Identity,” in *Essays on the Intellectual Powers of Man*, ed. Knud Haakonssen, vol. 6, The Edinburgh Edition of Thomas Reid (Edinburgh: Edinburgh University Press, 2002), 275-279.

²⁹ Parfit, *Reasons and Persons*, 205-206.

³⁰ Parfit, *Reasons and Persons*, 207-208.

the *normal* cause. The wide version requires a reliable cause and the widest version simply requires *a* cause (any cause whatsoever).

Finally, even given the above revisions to the Lockean account, it is possible for one person to be psychologically continuous with two people. Consider three different cases: Parfit's My Division, teletransportation, and Shoemaker's brain-state transfer:³¹

First, consider My Division:

My body is fatally injured, as are the brains of my two [twin] brothers. My brain is divided, and each half is successfully transplanted into the body of one of my brothers. Each of the resulting people believes that he is me, seems to remember living my life, has my character, and is in every other way psychologically continuous with me. And he has a body that is very like mine.

Presumably, the people resulting from the surgery – call them person₂ and person₃, the two individuals who each have one of my (call me person₁) cerebral hemispheres – will be psychologically continuous with person₁. This is a problem on the psychological approach since the identity relation is transitive, but transitivity fails in our example: person₃ is identical to person₁, person₁ is identical to person₂, but person₃ is not identical to person₂. The same goes for certain cases of teletransportation. In teletransportation, a person's brain and body is scanned and copied, his brain and body are destroyed, and the teletransporter builds a physical duplicate of his brain and body in another location. The copy has the memories, beliefs, character, capacities, etc. as the original person. Is the copy the original? On the normal cause, no (supposing that, for the continued existence of the brain, physical continuity is required). On the wide and widest version of the updated

³¹ Parfit, *Reasons and Persons*, 199-201, 254; Shoemaker, "Personal Identity: A Materialist's Account," section 10. My Division is first described in David Wiggins, *Identity and Spatio-Temporal Continuity* (Oxford: Basil Blackwell, 1967), 53.

Lockean account, yes (since the cause of the continuity between the original person and the copy is reliable). Now consider a revised teletransportation scenario on which the teletransporter is programmed to make two copies of the original person. Which copy is identical to the original? Both are, according to these views. But, again, identity is transitive yet transitivity fails in our example: copy₁ is identical to the original person, the original person is identical to copy₂, but copy₁ is not identical to copy₂. Finally, the same goes for Shoemaker's brain-state transfer. On such a scenario, a machine scans and copies person₁'s brain state, wipes clear person₂'s brain of all mental content, configures person₂'s brain so that it matches the brain state of person₁, then destroys person₁. Now consider a revised brain-state-transfer scenario on which the machine configures the brains of person₂ and a third person, person₃, so that their brain states each match the brain state of person₁. Which copy is identical to the original? Again, on the wide and widest versions of the updated Lockean account, both copies are. But transitivity fails in this example as well. Note further that My Division, the revised teletransportation case, and the revised brain-state transfer case each show that the transplant intuition is not a failsafe guide for what happens to us in the various personal identity thought experiments. For example, in My Division, the transplant intuition tells us that I am identical with each of the persons that result from the surgery. And this contradicts a perhaps more deep-seated intuition that I cannot exist at two distinct locations at the same time having the experiences generated by two distinctly embedded nervous systems.

The possible responses to My Division, the revised teletransportation case, and the revised brain-state-transfer case by the proponent of the psychological approach are

various. Olson identifies two prominent responses.³² On one response, the proponent of the psychological approach adds a non-branching condition to their account of personal identity.³³ That is, they say that person₁ is numerically identical to some past or future being only if there is no other being that is psychologically continuous with person₁. Thus, My Division causes person₁ to cease to exist. On another response, the proponent of the psychological approach claims that if a person branches into two persons, the original person prior to the split was actually two people occupying the same space.³⁴

So much for the psychological approach. On the somatic approach, our persistence consists in “some sort of brute physical continuity.”³⁵ On one version of the somatic approach – call it the *bodily continuity view*, – we persist if and only if our body persists. Thomson holds this view.³⁶ Animalism is another view of our identity. It says that we are numerically identical to human organisms. As for our persistence conditions, animalism is silent on whether or not we are organisms essentially, that is, on whether or not we could one day cease to be organisms. However, most animalists accept that we persist in virtue of the persistence of our organisms: we persist if and only if our

³² Olson, “Personal Identity,” *The Stanford Encyclopedia of Philosophy*.

³³ Parfit, *Reasons and Persons*, 207; Shoemaker, “Personal Identity: A Materialist’s Account,” 85.

³⁴ David Lewis held this view. David Lewis, “Survival and Identity,” in *The Identities of Persons*, ed. Amelie Oksenberg Rorty (Berkeley: University of California Press, 1976), 17-40.

³⁵ Olson, “Personal Identity,” *The Stanford Encyclopedia of Philosophy*.

³⁶ “People and Their Bodies.” Thomson also says that we are identical to our bodies.

organisms persist. If organisms persist in virtue of some sort of physical continuity, then animalism qualifies as a somatic approach.³⁷

Animalism is distinct from the bodily continuity view. This is because animalism does not entail that organisms are identical to bodies and that the persistence conditions of organisms are equivalent to the persistence conditions of bodies. For example, it is open to the animalist to hold that organisms cease to exist when they die and open to the bodily continuity theorist to say that bodies continue to exist after the death of the organism. Both viewpoints are consistent with their respective theories.³⁸ But if such viewpoints are consistent with their respective theories, then the theories cannot be equivalent. As another example, it is open to the animalist to hold that organisms are essentially organic and it is open to the bodily continuity theorist to hold that bodies can survive the replacement, over time, of all of their organic parts with inorganic ones. If so, then animalism and the bodily continuity theory cannot be equivalent.

³⁷ Certain self-described animalists deny that organisms persist in virtue of some sort of physical continuity because they think that organisms can exist in a disembodied state. See Christopher Brown, *Aquinas and the Ship of Theseus: Solving Puzzles about Material Objects* (London: Continuum, 2005); Jason Eberl, "Do Human Beings Persist Between Death and Resurrection?" in *Metaphysics and God: Essays in Honor of Eleonore Stump*, ed. K. Timpe, Routledge Studies in the Philosophy of Religion 7 (New York: Routledge, 2009); Eleonore Stump, "Resurrection, Reassembly, and Reconstitution," in *Die Menschliche Seele: Brauchen Wir Den Dualismus*, by B. Niederberger and E. Runggaldier (Frankfurt: Ontos Verlag, 2006), 151–72.

³⁸ Eric Olson and Peter van Inwagen think that organisms persist if and only if the vital functions of organisms persist (such as metabolism, respiration, circulation, etc.): Eric Olson, *The Human Animal*, 135–140; Peter van Inwagen, *Material Beings* (Ithaca, NY: Cornell University Press, 1990). Others animalists, including David Mackie, think that organisms persist only if "(enough of) the organisation of parts that is the product of their natural biological development, and that makes them apt for life" persists. Given that (typically) the organization that makes an organism apt for life continues even after the vital functions cease, organisms continue to exist after they die (and thus, so do we). "Personal Identity and Dead People," *Philosophical Studies* 95 (1999): 236. Thomson (a bodily theorist) thinks that we (typically) persist after death because our bodies persist after death: Thomson, "People and Their Bodies," 202. I will say more on the different views of organism persistence later.

Eric Olson holds to a version of animalism on which aspects of our psychology – mental content such as memories, beliefs, etc. and capacities such as reasoning and consciousness – have nothing to do with our persistence and on which we are contingently persons. Our psychology is not necessary for our persistence because we organisms (according to Olson) start out as fetuses lacking the mental capacities and content abovementioned and we organisms can survive in a persistent vegetative state (PVS). Our psychology is not sufficient for our persistence because it is possible for our organism and our psychology to part ways. For example, suppose (as it is presumed in the personal identity literature and seems to be confirmed by neuroscience), that these aspects of our psychologies – our various mental capacities such as rationality and self-awareness and content such as personality, character, memories, beliefs, and desires – are realized in our cerebra. If a person's cerebrum is removed from his skull, these aspects of his psychology will still be realized in his cerebrum, but the organism he was (if it survives) will stay behind as a cerebrum-less entity. Olson thinks that we are contingently persons because he thinks it is necessary for being a person that one has the capacity for "conscious experience, self-awareness, and rationality."³⁹

Finally, what is at stake in the diachronic personal identity debate? Why is it important to seek to discover our persistence conditions? Though the debate has wider implications than what I mention here, I will point out an implication that the debate has for abortion. If we do not begin until, say, mid-gestation, then any abortion that occurs before mid-gestation does not kill one of us. (Even so, whether or not such an abortion is

³⁹ Eric Olson, "Was I Ever a Fetus?" *Philosophy and Phenomenological Research* 57, no. 1 (1997), 97; Olson, *The Human Animal*, 17, 77.

permissible is another issue.) But if we begin at conception or shortly thereafter, this means that a higher percentage of abortions kill one of us than if we begin at mid-gestation.⁴⁰ (Whether or not an abortion that kills one of us is permissible is another issue.) Further, the question of whether or not we can exist as non-persons is relevant to the morality of abortion. Suppose that person essentialism is false and that we can exist as non-persons. If so, then perhaps the point at (or period of time during) which we begin is earlier than the point at (or period of time during) which we become persons. If persons have more moral worth than non-persons, then perhaps there are more types of cases in which it is permissible to abort one of us before we become persons than types of cases in which it is permissible to abort one of us once we become persons. But if person essentialism is true and we are persons, then we begin when human persons begin. When do human persons begin? If, as Olson thinks, it is necessary for being a person that one has the capacity for rationality or self-awareness, then perhaps we do not begin to exist until late in fetal development or even after birth. If we do not begin to exist until after birth, then no abortion kills one of us. Or perhaps we are essentially persons and Thomson is right in identifying people with their bodies.⁴¹ If this is so, then we begin much earlier than on Olson's view of persons and some abortions kill one of us. Again, whether an abortion that kills one of us is permissible is another issue

⁴⁰ Most abortions, at least in the United States, occur during the first trimester: "Abortion after the First Trimester in the United States," Parenthood, accessed August 10, 2016, https://www.plannedparenthood.org/files/5113/9611/5527/Abortion_After_first_trimester.pdf.

⁴¹ Thomson, "People and Their Bodies," 202-203.

In this dissertation, I follow Thomson's and Olson's approach to the personal identity debate in that I first give an account of what we are essentially and then I apply that account to the diachronic personal identity debate. I defend a version of *hylomorphic animalism* (which is itself a version of animalism) by comparing and contrasting it with Olson's animalism – the most prominent version of animalism defended today. I claim that hylomorphic animalism retains the advantages and avoids the disadvantages of Olson's animalism. On the view I lay out, all human persons are composed of *prime matter* and a *rational soul* (notions defined below). Further, I build into hylomorphic animalism the claim that all human persons are numerically identical to organisms of a specific type: rational animals. Rational animals are by nature living substances that have the capacity for sensation and rationality. Thus, hylomorphic animalism (as I lay it out) is the view that we are numerically identical to rational animals which are living substances composed of prime matter and a rational soul. As for our persistence, I claim that we persist so long as the substance that we are persists.

In Chapter 1, I describe animalism in general as well as Olson's version of animalism in particular. I then lay out three advantages for animalism and discuss certain objections to it. One advantage lies in its claim that human persons are identical to organisms. Proponents of the psychological approach such as Sydney Shoemaker and Lynne Rudder Baker claim that the organism and the person – though they are co-located – have different persistence conditions and so are not identical.⁴² They say that the relationship of constitution holds between the organism and the person. But this gives rise

⁴² Baker, *Persons and Bodies*; Sydney Shoemaker, "Persons, Animals, and Identity," *Synthese* 162 (2008): 313–24; Shoemaker, "Personal Identity: A Materialist's Account."

to various too-many-thinkers problems that are discussed throughout the dissertation. For example, if human organisms are co-located but not identical to human persons, and human persons can think, why cannot human organisms think as well? But if human organisms can think, then there are two thinkers where we thought there was only one – the person and the organism. Animalism avoids these problems by identifying the person and the organism. Second, animalism has the advantage of saying that we were once early fetuses without much of a psychology, for example, before we had the capacity for consciousness. This is an advantage because it fits the common intuition that we started out as early fetuses (“See the little baby in the ultrasound photo? That’s you!”). Finally, it carries the advantage of being able to say that we can persist in a persistent vegetative state. But animalism seems to carry some disadvantages with it. For one thing, it seems to fall prey to certain *transfer problems* – scenarios in which you seem to diverge from and exist independently of your organism. For example, suppose your cerebrum is removed from your skull. If your psychological capacities such as the capacity for rationality and consciousness and your mental content such as your memories, beliefs, desires, etc. are realized in your cerebrum, then these capacities and content go with your cerebrum.⁴³ Suppose further that there is a living, breathing, cerebrum-less entity that qualifies as an organism left behind on the operating table. If this entity is you, then you stay behind as a

⁴³ Proponents of embodied cognition would deny that the cerebrum can think without the rest of the body. The article on embodied cognition identifies the “working hypothesis of embodied cognitive science” as the Embodiment Thesis: “Many features of cognition are embodied in that they are deeply dependent upon characteristics of the physical body of an agent, such that the agent's beyond-the-brain body plays a significant causal role, or a physically constitutive role, in that agent's cognitive processing.” For more information on embodied cognition, see Alva Noë, *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness*, 1st edition (New York: Hill and Wang, 2010); Robert A. Wilson and Lucia Foglia, “Embodied Cognition,” ed. Edward N. Zalta, *The Stanford Encyclopedia of Philosophy*, Spring 2017, <https://plato.stanford.edu/archives/spr2017/entries/embodied-cognition/>.

cerebrum-less entity devoid of the capacities and content just mentioned. But many people have the intuition that we go wherever our mental capacities and content go. Animalism also seems to fall prey to certain *multiplication objections* – objections on which (i) there is more than one entity thinking your thoughts or (ii) the number of human organisms and the number of human persons that exist in certain cases does not correspond to the number of human organisms and the number of human persons that animalism says there *should* be. As an example of (i), on Olson’s animalism, organisms are not numerically identical to their brains. But if brains exist, they seem to be just as good a candidate for thought as the organism. But if brains can think and organisms can think, then there are two thinkers when we thought there was only one. As an example of (ii), I consider actual and hypothetical cases of conjoined twinning in which there seem to be two different people that are proper parts of one organism, or one person who is a proper part of two different organisms. But if animalism says that we are identical to organisms, then these cases serve as counterexamples to animalism.

In Chapter 2, I lay out my hylomorphic view of human persons following Aristotle and Aquinas and then lay out the conceptual tools needed for later chapters. In Chapters 3 through 5, I claim that hylomorphic animalism has the same advantages as Olson’s animalism, but can avoid the disadvantages. In Chapter 3, I argue that hylomorphic animalism retains the advantages of Olson’s animalism. First, I claim that the thinking-organism argument applies just as well to hylomorphic animalism as it does to hylomorphic animalism. Second, I consider the hylomorphic view of when we begin and claim that it is open to the hylomorphic animalist to claim that we were once early fetuses devoid of (immediately operable) capacities for rationality and consciousness and

devoid of mental content such as memory, beliefs, and desires. In Chapter 4, I consider transfer objections as they relate to hylomorphic animalism. I claim, for example, that the hylomorphic animalist can satisfy the transplant intuition by contending that the organism “goes with” its cerebrum in cerebrum-transplant scenarios.⁴⁴ Finally, in Chapter 5, I consider various multiplication objections as they apply to hylomorphic animalism. I claim that hylomorphic animalism has the conceptual resources to respond to these objections or at least to mitigate their counterintuitive consequences.

Even if one agrees with me about the advantages that hylomorphic animalism brings to the diachronic personal identity debate, one might think that these advantages are outweighed by the costs of accepting the view. In particular, one might think that hylomorphism is an antiquated metaphysics that we rightly gave up long ago and that it does not matter what other advantages it has. That is fine. I do not presume to defend the claim that hylomorphic animalism is true. Although it is important to consider whether or not hylomorphic animalism is true, it is beyond the scope of this dissertation. Rather, I simply wish to show that hylomorphic animalism fits many of the intuitions we have about what we can survive and avoids certain complications that plague the psychological approach and other versions of animalism. It is unclear what a view of persons would have to do beyond this to establish its truth. Hylomorphic animalism is coherent and intuitive and on these grounds an attractive account of our persistence over time.

⁴⁴ I spell out the exact relationship between the organism and the cerebrum later.

CHAPTER 1: ANIMALISM

In this chapter, I identify the core elements of animalism, the view that we are identical to organisms of a certain species (*homo sapiens*), the main current proponent of which is Eric Olson.⁴⁵ Then, I discuss three benefits of animalism – that it is supported by the thinking-organism argument as well as the fetus argument, and it allows us to say that we can continue to exist in a persistent vegetative state. Finally, I discuss various objections to animalism.

What Is Animalism?

Animalism is the view that we are numerically identical to biological organisms of a certain kind. Let me give some qualifications of this view. First, Animalism says that we are numerically identical to organisms, so it is distinct from any view that says that we are “intimately related,” but not identical to, organisms.⁴⁶ For example, substance

⁴⁵ Eric Olson, *The Human Animal*, 16-21. Other animalists (as identified by Blatti, “Animalism”) include M. R. Ayers, *Locke*, vol. 2 (London: Routledge, 1991); Stephan Blatti, “A New Argument for Animalism,” *Analysis* 72 (2012): 685–90; W. R. Carter, “Why Personal Identity Is Animal Identity,” *Logos* 11 (1990): 71–81; D. DeGrazia, *Human Identity and Bioethics* (Cambridge: Cambridge University Press, 2005); P. M. S. Hacker, *Human Nature: The Categorical Framework* (Oxford: Blackwell, 2007); David Hershenov, “Do Dead Bodies Pose a Problem for Biological Approaches to Personal Identity,” *Mind* 114 (2005): 31–59; J. Hoffman and G. Rosenkrantz, *Substance: Its Nature and Existence* (London: Routledge, 1997); David Mackie, “Animalism Versus Lockeanism: A Current Controversy”; John McDowell, “Reductionism and the First Person,” in *Reading Parfit*, ed. Jonathan Dancy (Oxford: Blackwell, 1997), 230-50; Trenton Merricks, *Objects and Persons* (Oxford: Oxford University Press, 2001); P. F. Snowdon, “Persons, Animals, and Ourselves,” in *The Person and the Human Mind: Issues in Ancient and Modern Philosophy*, ed. C. Gill (Oxford: Clarendon Press, 1990), 83–107; Peter van Inwagen, *Material Beings*; D. Wiggins, *Sameness and Substance* (Oxford: Basil Blackwell, 1980); R. Wolheim, *The Thread of Life* (Cambridge: Cambridge University Press, 1984). Critics of animalism (as identified by Stephan Blatti, “Animalism”) include Lynne Rudder Baker, *Persons and Bodies*; Mark Johnston, “‘Human Beings’ Revisited”; Jeff McMahan, *The Ethics of Killing: Problems at the Margins of Life* (Oxford: Oxford University Press, 2002); Harold W. Noonan, “Animalism Versus Lockeanism: A Current Controversy”; Derek Parfit, “We Are Not Human Beings,” *Philosophy* 87 (2012): 5–28; Sydney Shoemaker, “Persons, Animals, and Identity.”

⁴⁶ Olson, *What Are We?* 24; Olson, *The Human Animal*, 96-97.

dualists believe that the soul (or mind) and the body are two different substances, and that either we are the soul and are somehow related to the body or we are a combination of soul and body.⁴⁷ Either way, this view is distinct from animalism since animalism posits the existence of a single substance – the organism – with which we are identical. Animalism is also distinct from the constitution view of human persons that is held by Shoemaker and Baker. On this view, persons are co-located with and constituted by, but not identical to organisms, much like (on the same view) statues are co-located with but not identical to the clay which constitutes them. On the Cartesian and constitution views, persons are not identical to organisms since persons and organisms have different persistence conditions.

Second, Stephan Blatti in the Stanford Encyclopedia of Philosophy treats the phrase ‘we are organisms’ in animalism as a universal statement:

⁴⁷ Proponents of substance dualism include Plato, *Phaedo* (“The lovers of knowledge are conscious that their souls, when philosophy receives them, are simply fastened and glued to their bodies: the soul is only able to view existence through the bars of a prison, and not in her own nature”); Rene Descartes, Meditation VI (“on the one hand I have a clear and distinct idea of myself, in so far as I am simply a thinking, non-extended thing; and on the other hand I have a distinct idea of body, in so far as this is simply an extended, non-thinking thing. And accordingly, it is certain that I am really distinct from my body, and can exist without it.”); Alvin Plantinga, “Against Materialism,” *Faith and Philosophy* 23, no. 1 (January 2006): 3-32, 3; Howard M. Robinson, “A Dualist Account of Embodiment,” in *The Case for Dualism*, ed. J. R. Smythies and J. Beloff (Charlottesville: University Press of Virginia, 1989), 43–57; Richard Swinburne, *The Evolution of the Soul* (Oxford: Oxford University Press, 1986); Dean Zimmerman, “From Property Dualism to Substance Dualism,” *Aristotelian Society Supplementary Volume* 84, no. 1 (2010): 119–50. Regarding the relationship between body and soul, Plato, Plantinga, and perhaps Descartes think that we are identical to souls. Swinburne thinks that we are a combination of body and soul (which are both substances in their own right): *Evolution of the Soul*, 10. The latter view is sometimes called *compound dualism*. It is unclear whether Descartes himself thinks that we are our souls or whether he thinks that we are a combination of body and soul. In Meditation VI, he says “Also, the fact that some of the perceptions are agreeable to me while others are disagreeable makes it quite certain that my body, or rather my whole self, in so far as *I am a combination of body and mind*, can be affected by the various beneficial or harmful bodies which surround it” (italics mine). For more on Descartes’ view, see Gert-Jan Lokhorst, “Descartes and the Pineal Gland,” ed. Edward Zalta, *The Stanford Encyclopedia of Philosophy*, Summer 2016, <<http://plato.stanford.edu/archives/sum2016/entries/pineal-gland/>>.

Necessarily, for all x, if x is a human person, then there is some y such that x=y and y is an organism.⁴⁸

Olson seems to agree with this.⁴⁹ But as Andrew Bailey points out, a view that treats ‘we are organisms’ as a *generic* still seems to qualify as a version of animalism.⁵⁰ Generics are statements that make no claim to universality, so an exception to such statements does not make them false. Bailey gives the following examples of generics: ‘Buddhists are way into meditation,’ ‘mosquitos carry dengue fever,’ and ‘ducks lay eggs.’ Finding a Buddhist who is not “way into meditation” does not falsify the generic statement about Buddhists. In the same way, if the ‘we are organisms’ of animalism is taken as a generic, animalism would still be true even if we find a human person who is not an organism. In order to include generic animalism within the family of views called animalism, I do not define animalism in the universal sense.

Third, even given Blatti’s definition, animalism does not include the claim that we are organisms essentially. Thus, it is open to the animalist to hold that we are only organisms contingently.⁵¹ At least two different considerations might serve as a

⁴⁸ Jens Johansson, “What Is Animalism?”; Stephan Blatti, “Animalism.”

⁴⁹ Eric Olson, *What Are We?* 24;

⁵⁰ Andrew Bailey, “Animalism,” *Philosophy Compass* 10, no. 12 (2015): 867–93.

⁵¹ This is not to say that identity is contingent, but that being an organism is a phase in our existence (or alternatively, that being an organism is a property we possess contingently), much like being a teenager or a professor is a phase in our existence. Proponents of the view that we are organisms contingently include John McDowell, “Reductionism and the First Person”; Trenton Merricks, *Objects and Persons*; David Wiggins, “Reply to Paul Snowdon,” in *Essays for David Wiggins*, ed. Sabina Lovibond and S. G. Williams (Cambridge: Blackwell, 1996), 244 – 248. David Hershenov also presents this view and gives reasons why someone might hold this view, but he does not himself hold to it: “A Hylomorphic Account of Personal Identity Thought Experiments,” *American Catholic Philosophical Quarterly* 82, no. 3 (June 2008): 481–502.

motivation for such a position.⁵² First, suppose that *being an organism* is a contingent property, that nothing inorganic can possess this property, and that it is possible for us to survive the replacement, over time, of all of our organic parts with inorganic ones. When our organic parts are replaced with inorganic parts, perhaps we cease to be organisms (that is, we lose the contingent property *being an organism*) but continue to exist.

Second, certain Christian thinkers might follow Aristotle and Aquinas in holding to a sort of animalism.⁵³ However, such thinkers will also want to say that we can survive our deaths in a bodiless state. On such a view, we continue to exist in the afterlife while, perhaps, ceasing to be organisms. Of course, if all human persons are organisms, in cases where we survive without being organisms, we will cease to be human or cease to be persons. Admittedly, cases in which we cease to be both humans and persons do not bear on the question of personal identity. Each person might be numerically identical with a human animal even if there are conditions under which *we* cease to be the person/animal we once were. For this reason, the question of our identity, nature and persistence is not correctly described as the question of personal identity. The question of *our* identity can only be correctly labeled the question of personal identity if, contra Olson, we are *essentially* people. Moreover, there is at least one problem with saying that we are organisms, but not essentially: in doing so, one has not given a full answer to the “what are we” question. It does not specify what we are fundamentally, so long as we

⁵² Such considerations come from Hershenov’s “A Hylomorphic Account of Personal Identity Thought Experiments.”

⁵³ For example, Jeffrey Brower, *Aquinas’s Ontology of the Material World: Change, Hylomorphism, and Material Objects* (Oxford: Oxford University Press, 2014); Brown, *Aquinas and the Ship of Theseus*; David Oderberg, “Hylemorphic Dualism,” *Social Philosophy and Policy* 22, no. 2 (2005): 70–99, and Patrick Toner, “Hylemorphic Animalism,” *Philosophical Studies* 155 (2011), 65–81.

understand “fundamental” to denote a thing’s essential properties: i.e. the properties it cannot lose without ceasing to exist.

A fourth qualification is that animalism does not entail that all persons are organisms.⁵⁴ It says that *human* persons are organisms, but it leaves open the possibility that there are other types of persons that are not organisms, such as gods, angels, androids, or extra-terrestrials should any of these exist. This is important to note because animalism is not an attempt to answer the personhood question, that of “what it is to be a person, as opposed to a nonperson.”⁵⁵ Rather, it is an attempt to identify the metaphysical nature and persistence conditions of human beings.

Fifth, animalism does not entail that all human organisms are persons. While, according to Blatti’s definition, all human persons are organisms, it does not say that all human organisms are persons. More to the point, it does not claim that *we* are persons essentially. As I indicated above, Eric Olson, in his article, “Was I Ever a Fetus?” holds that we all start out as organisms lacking personhood. On his view of what it is to be a person – that persons must possess certain psychological capacities like rationality and self-awareness – since the early fetus lacks these capacities, it fails to be a person. Additionally, suppose that a human organism survives in a persistent vegetative state. On a similar view of personhood, since the organism in that state lacks the requisite psychological capacities, it fails to be a person. So if human fetuses or humans in a

⁵⁴ Olson, *What Are We?* 24.

⁵⁵ Olson, *What Are We?* 16.

persistent vegetative state are organisms but not persons, there can be human organisms that are not persons, something animalism allows.

Sixth, although animalists say that we are identical to organisms, they disagree over the persistence conditions of organisms.⁵⁶ Some, like Eric Olson, say that organisms persist if and only if their vital processes continue (such as metabolism, respiration, circulation, etc.).⁵⁷ This view – *organicism* – entails that none of us ever becomes a corpse. That is, on this view, we die when our organism ceases to function (whenever that is). On another view – *somaticism* – life is not necessary for the persistence of an organism. Instead, the persistence conditions of organisms are as follows:

Given a human animal, x, existing at one time, t₁, and something, y, existing at a later time, t₂, y is identical with x if and only if y retains a sufficient degree of the life-apt structure of constituent parts previously exhibited by x.⁵⁸

Given that (typically) the organization that makes an organism apt for life continues even after the vital functions (such as metabolism, respiration, circulation, etc.) cease, organisms continue to exist after they die (and thus, so do we).⁵⁹ So, on this view, we continue to exist even as a corpse. On each of these views, some sort of brute physical continuity is necessary for our persistence.

⁵⁶ Blatti, "Animalism."

⁵⁷ Eric Olson, *The Human Animal*, 135-140; Peter van Inwagen, *Material Beings*.

⁵⁸ Blatti, "Animalism." Somaticists include David Mackie, "Personal Identity and Dead People," M. R. Ayers, *Locke*, vol. 2, 224 and W. R. Carter, "Will I Be A Dead Person?" *Philosophy and Phenomenological Research* 59 (1999): 167–72.

⁵⁹ Death by explosion is a case in which the organization that makes an organism apt for life does not continue after the vital functions of the organism cease.

Seventh, the definition given above does not rule out the sort of animalist who holds that animalism is compatible with the psychological approach.⁶⁰ Perhaps we are identical to organisms and the persistence conditions for the kind of organism we turn out to be are in fact psychological in nature. This depends on the trajectory of psychology, biology and the attempt to unite these sciences by elaborating a cognitive neuroscience.⁶¹

Olson's Animalism

Since I am comparing and contrasting hylomorphic animalism with Olson's version of animalism in this dissertation, it will be helpful to note some key features of the latter view. First, Olson thinks (along with all other animalists) that we are identical to organisms. Second, he thinks we are organisms essentially.⁶² Third, he thinks (along with most other animalists) that we persist if and only if the organisms we are persist.⁶³ Fourth, Olson is an organicist since he thinks that organisms are essentially alive and that they continue to be alive if and only if their vital functions (such as metabolism, respiration, circulation, etc.) continue.⁶⁴ Or as Olson puts it:

⁶⁰ Thomas Nagel and David Wiggins hold that the psychological approach is compatible with the claim that we are identical to organisms. Thomas Nagel, *The View From Nowhere* (New York: Oxford University Press, 1986), 40 – 42; D. Wiggins, *Sameness and Substance*. See also, Andrew Bailey, "Animalism."

⁶¹ Jens Johansson, "What is Animalism?" 194.

⁶² Olson, *The Human Animal*, 17, 136.

⁶³ Ibid, 16; An exception to the animalist who thinks we have the persistence conditions of organisms are those animalists who think that we are only organisms contingently.

⁶⁴ Ibid, 16, 134-136.

If x is an organism at t and y exists at t^* , $x = y$ if and only if the vital functions that y has at t^* are causally continuous in the appropriate way with those that x has at t .

Fifth, Olson thinks that we are only contingently persons.⁶⁵ That is, he thinks that being a person is a phase in our existence much like being a teenager is a phase in our existence. This is because – as mentioned above – it is necessary for being a person, according to Olson, that one possess certain special psychological capacities such as rationality and self-awareness.⁶⁶ Sixth, he thinks that our psychology (specified in terms of mental content such as memories, beliefs, etc. and capacities such as reasoning and consciousness) is neither necessary nor sufficient for our persistence.⁶⁷

Olson on Organisms, Animals, and Persons

Eric Olson tends to conflate the distinction between animals and organisms and use the terms ‘animal’ and ‘organism’ interchangeably.⁶⁸ He does this knowingly.

Consider his statement on the matter:

I mean by ‘animal’ what biologists mean by it: animals are biological organisms, along with plants, bacteria, protists, and fungi. Animals are what zoologists study. Someone might say that ‘animal’ in the ordinary sense of the word means nothing more than ‘animate being’—a thing that can move and perceive—and that whether animals in this sense must be biological organisms is an open question. If that is the case, then my use of the word ‘animal’ is not the ordinary one, and I ought to have used the term ‘organisms’ or ‘animal in the biological sense’ instead.⁶⁹

⁶⁵ Olson, “Was I Ever a Fetus,” 106.

⁶⁶ Eric Olson, “Was I Ever a Fetus?” 97; Olson, *The Human Animal*, 17, 77.

⁶⁷ Olson, *The Human Animal*, 16.

⁶⁸ There are certainly animalists who do not conflate this distinction. For example, Patrick Toner defines organisms as living things and animals as sensing things: “Hylemorphic Animalism,” 60.

⁶⁹ Olson, *What Are We?* 27.

Furthermore, he defines our persistence conditions in terms characteristic of organisms rather than animals. It is characteristic of animals that they have the capacity for sensation, voluntary movement (such as the flapping of a wing) and locomotion (moving from one place to another) and of organisms that they are living. But Olson does not think that motion and sensation have anything to do with our persistence. Instead, living is the crucial condition for our persistence. In this dissertation, I distinguish between organisms and animals according to their respective functions, which functions are determined by the sort of soul they possess – organic (what I call *vegetative*) or animal (what I call *sensitive*).⁷⁰ Organisms are characterized by possessing vital (or vegetative) functions such as metabolism, circulation and respiration. Animals are a type of organism, so possess the vital functions of organisms, but are distinct from mere organisms in possessing the ability to move through the world and gain information about it through sensation. In this dissertation, I refer to us as organisms except for contexts in which I am discussing our nature as animals.

What are persons? First, for Olson, *human* persons are those that are numerically identical to human organisms. And it is necessary for being a person (in general – whether an angel or Martian or primate) that one has the capacity for rationality and self-awareness. He is not alone in his view on the conditions for personhood. For one, as has already been discussed, John Locke thinks that being a person involves a certain type of mental life given his 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.” As for a contemporary example, Michael Tooley takes this position.

⁷⁰ See chapter 2.

He distinguishes two different uses for the term ‘person.’ The first refers to members of the species *homo sapiens*, so that one qualifies as a person in this sense simply by being a human being.⁷¹ On the second sense, one qualifies as a person only if one possesses “the type of mental life that characterizes normal adult human beings.” Tooley prefers this latter sense of the term. He thinks that something is a person “only if it possesses the concept of a self as a continuing subject of experiences and other mental states, and believes that it is itself such a continuing entity.”⁷² For Tooley, being a person is necessary for your persistence over time so that the destruction of your mental life brings about your destruction.⁷³ While Olson and Tooley disagree about our nature and persistence, they agree that being a person requires a special sort of mental life. An exception to this definition of personhood is Thomson’s view.⁷⁴ She recognizes that some philosophers use the term ‘person’ in Olson’s and Tooley’s sense, but she still identifies people with their bodies and claims that people persist just in case their bodies persist. On her view, mental content such as beliefs and desires and mental capacities such as rationality and self-awareness do not matter for our survival.

I follow Boethius in defining a person as an individual substance of a rational nature.⁷⁵ On this view, if an individual is a person, she is a person essentially. This is

⁷¹ Michael Tooley, “A Companion to Bioethics,” in *A Companion to Bioethics*, ed. Helga Kuhse and Peter Singer, 2nd ed. (West Sussex, UK: Wiley-Blackwell, 2007), 129-133.

⁷² Michael Tooley, “Abortion and Infanticide,” *Philosophy and Public Affairs* 2, no. 1 (1972), 44. Parfit, *Reasons and Persons*, 202, seems to hold this view. Or, at least he says that this is the simplest answer to the question “What is the nature of a person?”: “to be a person, a being must be self-conscious, aware of its identity and continued existence over time.”

⁷³ Tooley, “Personhood,” 130.

⁷⁴ Thomson, “People and Their Bodies,” 202-203.

distinct from Olson's conception of persons as phases of individuals. It is also distinct from Locke's, Olson's, and Tooley's view that something is a person only if it possesses a certain sort of mental life. Rather, on my view, something is a person if it possesses the *natural potential* for rationality (a notion discussed in detail in Chapter 2) even if it lacks the sort of mental life that Locke, etc. require. Thus, the early fetus who lacks the capacity for rationality and self-awareness is a person if it possesses the natural potential for rationality.

Benefits of Animalism

There are some benefits to animalism. Here I discuss three benefits that Olson identifies. The first benefit involves the thinking-organism argument. This argument begins by noting that there is a thinking organism located where each thinking human person is. Then it claims that since the human person is a thinking thing and there is not more than one thinking thing located where each person is, human persons are organisms. Second, on one version of the psychological approach, continuity of mental states such as

⁷⁵ Boethius, *Patrologia Latina* 64.1342. On form determining the nature of the thing (because matter is not specific), see: Aristotle, *Metaphysics* 7.17, 1041b7-8: Since we must know the existence of the thing and it must be given, clearly the question is *why* the matter is some individual thing, e.g. why are these materials a house? Because that which was the essence of a house is present. And why is this individual thing, or this body in this state, a man? Therefore what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing."; Aquinas, *Commentary on the Metaphysics of Aristotle*, trans. J. P. Rowan (Chicago: Henry Regnery Co., 1962), 8.17.1668: "Hence in such questions it is evident that we are asking about "the cause of the matter," i.e., why it is made to be of this nature. Now the thing under investigation which is the cause of the matter is "the specifying principle," namely, the form by which something is"; "As Aquinas understand Aristotle, then, the question What is a human being? Should be analyzed as the question of what makes this material stuff be human. The general line of reply that Aristotle proposes (and Aquinas accepts) is that it is form, in the ultimate analysis, that makes the matter be what it is. Form is "the cause of the matter"; it is "on account of" form that the matter "realizes the nature" of what it is": Robert Pasnau, *Thomas Aquinas on Human Nature*, 34-35.

memories, beliefs, personality and character traits, etc. must obtain between you and x for you to be identical to x.⁷⁶ On another version, it is not continuity of mental content that is required, but continuity of mental capacities such as self-consciousness and reasoning (but not necessarily the exercise of those capacities).⁷⁷ But if either of these views are correct, none of us were ever early fetuses devoid of mental content or capacities. On animalism, though, we did exist as early fetuses. Thus, animalism can, and its main rival cannot, accommodate the intuition that we were once early fetuses.⁷⁸ I will consider the thinking-organism argument first.

⁷⁶ Olson, *The Human Animal*, 13. Shoemaker holds to such a view. He identifies us with persons and thinks that we cannot persist unless we retain certain aspects of our psychology such as “interests, tastes, talents, and traits of personality and character; “Personal Identity,” 89-91.

⁷⁷ Olson identifies Unger and Nagel as proponents of this view; *The Human Animal*, 75. For Unger, the capacities relevant to the persistence of a person over time are the capacities for conscious experience, reasoning, and the forming of simple intentions; Peter Unger, *Identity, Consciousness, and Value* (Oxford: Oxford University Press, 1990), 68, 109. For Nagel, it is the person’s capacity for experiences and “the capacity to identify and reidentify himself and his mental states, in memory, experience, and thought, without relying on the sort of observational evidence that others must use to understand him;” Thomas Nagel, *The View from Nowhere*, 41. Baker also holds to the capacities view and requires, for our persistence, “the capacity for a first-person perspective.” She addresses the fetus problem specifically and claims: “I did not exist before having the capacity for a first-person perspective. The fetus that came to constitute me existed before it had the capacity for a first-person perspective (and thus before it came to constitute me). Therefore, I was never (identical to) that fetus”; *Persons and Bodies*, 204-205. See also, “When Does a Person Begin?” *Social Philosophy and Policy* 22, no. 2 (2005), 35-36.

⁷⁸ There are other views of personal identity, like Cartesian Dualism and the hylomorphism of Aristotle and Aquinas, which can accommodate the view that we were once early fetuses. Proponents of either view might say that our persistence is grounded in the persistence of our souls rather than in some sort of psychological relation. Though Cartesian Dualism is not a form of animalism, I argue in this dissertation that the hylomorphic view is. Given that it is consistent with Cartesian Dualism that we were once early fetuses, this argument for animalism would be better termed as an argument against its most popular rival – the Psychological approach.

The Thinking-Organism Argument

This argument first appears in the contemporary literature in W. R. Carter's "How to Change Your Mind":

If X and Y have the same brain, whose physiological functions are psychological functions, then X and Y are equally psychological beings - individuals with minds. Since Fats [the human organism that coexists with Carter] and I have the same brain, we 'both' have minds. Since it is false that two psychological beings presently are located where I am located, Fats and I are one.⁷⁹

The argument has since been popularized by Eric Olson. Olson's version goes as follows:

- (1) There is a human organism sitting in your chair;
- (2) The human organism sitting in your chair is thinking;
- (3) The one and only thinking being sitting in your chair is none other than you;
- (4) You are the thinking organism sitting in your chair.

Formally, Olson presents the argument as follows:⁸⁰

- (1) $\exists x(x \text{ is a human organism} \ \& \ x \text{ is sitting in your chair})$;
- (2) $\forall x((x \text{ is a human organism} \ \& \ x \text{ is sitting in your chair}) \rightarrow x \text{ is thinking})$
- (3) $\forall x((x \text{ is thinking} \ \& \ x \text{ is sitting in your chair}) \rightarrow x = \text{you})$
- (4) $\exists x(x \text{ is a human organism} \ \& \ x = \text{you})$

The first premise is straightforward. Intuitively, there is a human organism, that goes wherever you go, that is currently sitting in your chair (assuming you are sitting in your chair) and reading this dissertation. As for premise two, the organism located where you are has the same brain as you. On Carter's argument, all psychological functions are

⁷⁹ Carter, W. R. "How to Change Your Mind." *Canadian Journal of Philosophy* 19 (1989): 1–14, 10. Other early developers (per Stephan Blatti, "Animalism") of the argument include M. R. Ayers, *Locke*, vol. 2, 283; John McDowell, "Reductionism and the First Person," 237; P. F. Snowdon, "Persons, Animals, and Ourselves," 91.

⁸⁰ Eric Olson, "An Argument for Animalism," in *Personal Identity*, ed. R. Martin and J. Barresi (Blackwell, 2003).

physiological – for Carter, minds are brains. So it follows from the fact that the organism has a brain that the organism has a mind and is a psychological being. But a weaker claim will work as well, that psychological properties supervene on physiological properties (where supervenience is the principle that, according to Donald Davidson, “there cannot be two events alike in all physical respects but differing in some mental respect, or that an object cannot alter in some mental respect without altering in some physical respect”).⁸¹ Since the organism and the person share the same brain, if the person possesses psychological properties, so does the organism. If you are currently thinking, the organism you are (or the organism on which you supervene) should currently be thinking. As for the third premise, intuitively it seems that there are not two thinking things but only one located where every human person is. If this is so, then the organism is identical to you.⁸² The same argument could be made for any human person, not just you. It follows from these arguments that every human person is identical to a human organism.

What options does one have for avoiding the conclusion of this argument? First, one might contend that there are no human organisms, which would be a denial of premise (1). It follows from this that there is no human organism located where you are (or where I am or where any other human being is). One could reject the existence of organisms if one held to three-dimensionalism (that objects are “wholly present at a time”) and to mereological essentialism (that “if a compound thing W has a certain part

⁸¹ Donald Davidson, “Mental Events,” in *Experience and Theory*, ed. L. Foster and J. W. Swanson (London: Duckworth Publishers, 1970), 214.

⁸² Eric Olson, *What Are We?* 29.

P, then W cannot exist without having P as a part”).⁸³ . Instead of changing, the object in question would cease to exist and a similar one would take its place in the temporal sequence. But organisms are things that are supposed to continue to exist even though they undergo changes of parts over time. If three-dimensionalism and mereological essentialism are true, then there are no organisms and premise (1) of the thinking-organism argument is false.

Second, one might contend that organisms cannot think.⁸⁴ This would be to deny premise (2), that the thinking organism sitting in your chair is thinking. Olson identifies three options for saying that organisms cannot think.⁸⁵ First, if one embraces eliminative materialism—the view that mental states such as beliefs, thoughts, desires, etc. do not exist—then there is no thinking going on.⁸⁶ If there is no such thing as thinking, organisms do not think. Thus, premise (2) is false—there might be an organism sitting in your chair but it does not think. However, this response also entails that we do not think

⁸³ Richard Feldman and Fred Feldman, “Roderick Chisholm,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Winter 2016 (Metaphysics Research Lab, Stanford University, 2016), <https://plato.stanford.edu/archives/win2016/entries/chisholm/>; Katherine Hawley, “Temporal Parts,” in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Winter 2015 (Metaphysics Research Lab, Stanford University, 2015), <https://plato.stanford.edu/archives/win2015/entries/temporal-parts/>. The definition of three-dimensionalism comes from the article on temporal parts while the definition for mereological essentialism comes from the article on Roderick Chisholm. The idea for this response to the thinking-organism argument comes from Eric Olson, “An Argument for Animalism.”

⁸⁴ Instead of denying that organisms can think, one might only deny that *human* organisms can think or are psychological beings at all. But this would be an odd view. As Carter points out, it would be strange if cats and dogs are psychological beings but human organisms are not; “How to Change Your Mind,” 9.

⁸⁵ Eric Olson, *What Are We?* 31-35.

⁸⁶ William Ramsey, “Eliminative Materialism,” ed. Edward Zalta, *The Stanford Encyclopedia of Philosophy*, Summer 2013, <http://plato.stanford.edu/archives/sum2013/entries/materialism-eliminative/>.

so it will not appeal to those of us who wish to retain the idea the states referred to by such commonsense notions as thoughts and beliefs actually do exist.⁸⁷

Alternatively, one might deny premise (2) by claiming that no material entities can think. One might do so by claiming that human persons can think but are not material entities and organisms cannot think because they are material entities and no material entities can think. Substance dualists might make this claim, since they typically think that no material object can think (though this claim is not entailed by Cartesian dualism). Materialist Sydney Shoemaker gives another approach for denying that organisms can think. Though he thinks that there are material objects that can think, he argues that organisms cannot think; that is, that they “cannot have the mental states distinctive of persons.”⁸⁸ On Shoemaker’s view, only things with psychological persistence conditions

⁸⁷ One does not even need to suppose that they are immaterial to retain them. Rather than eliminate such notions as thoughts and beliefs, one might retain them, but claim that they are somehow material.

⁸⁸ Shoemaker, “Persons, Animals, and Identity”; Shoemaker denies that organisms think precisely to avoid the too-many-thinkers problem. He contends that persons and organisms are coincident but not identical and that only persons have mental properties. This allows him to say that the only thinker is the person: “What is important here is that it is only thick physical properties that realize mental properties, and that the thick physical properties that do this belong only to entities that have the persistence conditions of persons. The instantiation of the thin physical properties shared by a person and the coincident human organism and body do determine that there exists something having certain mental properties. But what makes the person and not the organism or body the subject of those mental properties is what makes it possible for it to instantiate the relevant thick physical properties, namely its having the persistence conditions that go with being a mental subject;” Sydney Shoemaker, “Self, Body, and Coincidence,” *Proceedings of the Aristotelian Society: Supplementary Volume* 73 (1999): 303. See also, Sydney Shoemaker, “Personal Identity: A Materialist’s Account”; Sydney Shoemaker, “Functionalism and Personal Identity?,” *Nous* 38 (2004): 525–33; Sydney Shoemaker, “On What We Are.” For responses, see S. T. Arnadottir, “Functionalism and Thinking Animals,” *Philosophical Studies* 147 (2010): 347–54; David Hershenov, “Shoemaker’s Problem of Too Many Thinkers,” *Proceedings of the American Catholic Philosophical Association* 80 (2006): 225–36; Eric Olson, “What Does Functionalism Tell Us about Personal Identity?,” *Nous* 36 (2002): 682–98.

can think; since organisms do not have psychological persistence conditions, organisms cannot think.⁸⁹

Finally, one might reject premise (3) by contending that there are two thinkers located where you are both thinking your thoughts: you (the person) and the organism.⁹⁰ Lynne Rudder Baker, for example, holds to a constitution view of human persons, according to which human persons are constituted by, but not identical to, human organisms. On this view, human persons think in a nonderivative way and human organisms think in a derivative way: both do the thinking, but the thinking is sourced in the person.⁹¹

Olson identifies three problems for Baker's response: *the overcrowding problem*, *the epistemic problem*, and *the personhood problem*.⁹² First, he claims that it posits one-too-many thinkers: common sense tells us that where each human person is, there is only

⁸⁹ Stephan Blatti, "Animalism."

⁹⁰ Lynne Rudder Baker, *Persons and Bodies*; Mark Johnston, "Human Beings," *The Journal of Philosophy* 84, no. 2 (1987); David Lewis, "Survival and Identity." Those who think that there are two thinkers for every human person might say either that the thoughts of the two thinkers are numerically identical or they might say that they are numerically distinct but qualitatively identical.

⁹¹ Lynne Rudder Baker, "Animalism vs. Constitutionalism," in *Essays on Animalism: Persons, Animals, and Identity*, ed. Stephan Blatti and Paul Snowdon (Oxford: Oxford University Press, forthcoming), 51–63. As Baker says (52), "If x constitutes y at t, then some of x's properties at t have their source (so to speak) in y, and some of y's properties at t have their source in x." Harold Noonan also contends that the person and the organism are not identical and that they both think: "The Thinking Animal Problem and Personal Pronoun Revisionism," *Analysis* 70, no. 1 (January 1, 2010), 93.

⁹² Eric Olson, *What Are We?* 37–39. Carter discusses the overcrowding problem in "How to Change Your Mind," 9: If we deny that Fats [the organism that constitutes Carter] and I are one individual (that is, identical), then we appear to be committed to saying that two psychological beings (Fats and I) presently are located in one place. This leaves us with one psychological being too many. If ever Occam's razor is called for, it is called for here."

one thinker, not two. This is the overcrowding problem. Second, since the organism associated with a given person is physically indiscernible from the person, by the supervenience of the mental on the physical, the organism is psychologically indistinguishable from the person. Since you and the organism in question are psychologically indistinguishable, it follows that you have no more evidence to think that you are a person than the organism in question does. Given this, your justification for thinking that you are a person and that the organism in question is not a person is undermined. This is the epistemic problem. Finally, the proponent of the view that the person and the organism are both thinkers needs to give an account of whether or not the organism qualifies as a person. Since it is psychologically indistinguishable from a person (namely, you), should it not count as a person? If it does count as a person, then there are two people, not just two thinkers, where there seemed to be only one. This is the personhood problem.⁹³

One might respond to the personhood problem by claiming that even though the organism is psychologically indistinguishable from the person, the organism does not qualify as a person. But this response is inadequate. The organism would have all the psychological characteristics of a person without qualifying as a person. What is it that the person has but the organism lacks that makes the former a person and the latter a nonperson? It will not be something psychological since the person and the organism in question are indistinguishable. But the thing that separates persons from nonpersons is supposed to be something psychological. Furthermore, Olson points out that if the

⁹³ This, in itself, is problematic, but it gives rise to other troubling consequences, as Eric Olson points out; *What Are We?* 37.

organism is not a person, even though it is psychologically indistinguishable from the person, it has every reason to think it is a person that the person does and the person has no additional reason to think it is a person rather than an organism that is not itself a person.⁹⁴

The Fetus Argument

Olson identifies another reason for thinking that animalism is true. Regarding our origins, Olson says that “[b]oth folk wisdom and biological science tell us that each of us spent several months inside our mother's womb before we were born.”⁹⁵ That is, we all started out as fetuses and developed into mature human adults. (Whether or not we were persons when we were fetuses is another matter.) On some versions of the psychological approach to personal identity, continuity of mental content such as memory, beliefs, personality, character, etc. between you and some object x is necessary for you to be identical to x. If this is right, then a person cannot be identical to something without entering mental states of this kind. But the early fetus has none of these mental states (since the fetus does not even have a brain during the early stages of its development), so there is no way for anyone to be psychologically continuous (in the abovementioned respect) with the early fetus with which they are biologically continuous. Since a person and his early fetus lack this psychological continuity, they are not identical, according to

⁹⁴ Olson, *What Are We?* 37.

⁹⁵ Eric Olson, “Was I Ever A Fetus?” 95.

this version of the psychological approach. Thus, this version implies that no human person was ever an early fetus.

On another version of the psychological approach, it is not continuity of mental content that is required, but continuity of mental capacities such as self-consciousness and reasoning (rather than the exercise of those capacities). The capacity for reasoning does not develop until after birth and the capacity for consciousness is not developed until twenty-five to thirty-two weeks after conception.⁹⁶ But, again, the organism begins to exist before that. Thus, on this latter version of the psychological approach, no person was ever an early fetus. If intuition and biological science are right in their claim that we were all once fetuses, this is a problem for these versions of the psychological approach. But it is not a problem for animalism because our organism began to exist before it acquired states with mental content and the (immediately exercisable) capacities mentioned above. According to Olson, the human organism begins to exist around two weeks after conception, when the primitive streak is formed, “the ancestor of the spinal cord.”⁹⁷ Olson claims: “only at this point do we have a multicellular organism and not merely a mass of living cells stuck together.”⁹⁸

⁹⁶ Olson, *The Human Animal*, 75. At least, it lacks them in that it does not possess the capacity in hand for consciousness and rationality (even if it possesses the natural potential for these things). It is clear that Unger and Nagel are referring to the capacity in hand rather than the natural potential. A proponent of the psychological approach might claim that the continuity of the natural potential for (e.g.) rationality is necessary and sufficient for the survival of the person. I’m not sure of anyone who holds to this view and claims to be a psychological continuity theorist. I discuss in more detail the distinction between a capacity in hand and a natural potential later in this dissertation.

⁹⁷ The organism may not yet be an animal at this point in development.

⁹⁸ Olson, *The Human Animal*, 91.

Another problem for these views that is related to the fetus problem is the question of what happened to the fetus once the person came into existence. Proponents of said views might say one of two things.⁹⁹ First, they might say that the fetus ceases to exist and is replaced by a person once the person comes into existence. Second, they might say that the fetus continues to exist alongside of (that is, in the same location as) the person, but is not identical to the person. Neither option is attractive. Regarding the first option, why should a fetus cease to exist simply because it develops the psychological capacities necessary for personhood? This does not seem like the kind of thing that would bring an organism to an end. This leaves the second option, which says that a human organism and human person exist in the same location but are not identical. But this leads to the overcrowding problem, the epistemic problem, and the personhood problem mentioned above.

Animalism can easily make sense of the intuitive claim that we started out as fetuses and it has an attractively simple account of the relationship between the fetus (the human organism) and the person. The fetus, on animalism, does not go away once the human person comes to be. Neither does the fetus exist as a being that is co-located with a person once the person develops. Instead, the fetus is the person. The fetus started out as a nonperson and developed into a person. Being a person is a phase in the existence of human organisms just as being a boy is a phase in the existence of a human being. The person does not exist as a separate entity any more than a boy or a teenager is an entity

⁹⁹ Eric Olson, *The Human Animal*, 76 – 81.

capable of existing separately from the human being that he is. So the animalists can do justice to the claim that we were once fetuses.¹⁰⁰

Persistent Vegetative States

Animalism can also say that we can survive in a persistent vegetative state. What is such a state? First,

[a] vegetative state occurs when the cerebrum (the part of the brain that controls thought and behavior) no longer functions, but the hypothalamus and brain stem (the parts of the brain that control vital functions, such as sleep cycles, body temperature, breathing, blood pressure, heart rate, and consciousness) continue to function. Thus, people open their eyes and appear awake but otherwise do not respond to stimulation in any meaningful way. They cannot speak and have no awareness of themselves or their environment.¹⁰¹

For a vegetative state to be persistent, it must last more than one month. For a vegetative state to be permanent, it must last for more than three months (for those with “nontraumatic etiologies”) and more than one year (for those with “traumatic etiologies”).¹⁰² The likelihood of recovery from a permanent vegetative state is very low. Since the cerebrum of someone in a persistent vegetative state no longer functions and since the cerebrum is responsible for such things as for intelligence, abstract thought,

¹⁰⁰ Thomson makes similar claims. On her view, we are identical to our bodies, we are persons, and we were once fetuses. What I cannot surmise from her writings is whether she thinks we (that is, our bodies) are persons from the moment we come into existence or whether we begin to exist as non-persons and subsequently develop into persons. See “A Defense of Abortion,” *Philosophy and Public Affairs* 1, no. 1 (1971): 47-48 and “People and Their Bodies,” 202-05.

¹⁰¹ “Vegetative State - Brain, Spinal Cord, and Nerve Disorders,” *Merck Manuals Consumer Version*, accessed May 22, 2017, <http://www.merckmanuals.com/home/brain,-spinal-cord,-and-nerve-disorders/coma-and-impaired-consciousness/vegetative-state>.

¹⁰² Caroline Schnakers, “What Is It Like To Be in a Disorder of Consciousness?,” in *Finding Consciousness: The Neuroscience, Ethics, and Law of Severe Brain Damage*, ed. Walter Sinnott-Armstrong (Oxford Scholarship Online, 2016), 86.

language, reasoning, self-awareness, planning, imagining, memory, and personality, it appears that someone in a vegetative state has lost her ability to exercise these functions. Since the brainstem and hypothalamus of someone in a persistent vegetative state still function and since they are largely responsible for the vital functions of human organisms such as breathing, heartbeat, blood pressure, body temperature, digestion, and circulation, these functions still carry on.¹⁰³ On Olson's animalism, one's mental content and psychological capacities such as rationality and self-awareness are neither necessary nor sufficient for one to persist. Instead, the continuation of one's vital functions are necessary and sufficient for one to survive. Thus, an individual in a persistent vegetative state continues to exist even though it appears that she has lost her mental content such as her beliefs, desires, etc. and even though it appears she has lost her capacity for rationality and self-awareness. For, even in a persistent vegetative state, she retains the vital functions mentioned above. Since Olson thinks that we persist so long as the organism persists and since he takes the continued operation of the vital functions in the organic body as sufficient evidence that the organism persists, he thinks that we can persist in a persistent vegetative state.

Problems for Animalism

Several objections have been given against animalism. Stephan Blatti identifies two types of problems with animalism – transfer problems (like brain-transplant, cerebrum-transplant, brain-state transfer, and teletransportation scenarios) and

¹⁰³ "Brain Anatomy, Anatomy of the Human Brain," accessed May 18, 2017, <http://www.mayfieldclinic.com/PE-AnatBrain.htm>; Kara Rogers, ed., *The Brain and the Nervous System* (New York, NY: Rosen Education Service, 2010), 13.

multiplication problems (like the remnant-person problem, the thinking parts problem, the corpse problem, and conjoined twinning cases).¹⁰⁴ Transfer problems rely on cases in which you and your organism diverge so that you exist independently of your organism. For example, suppose a teletransportation device dismantles your body at one location and assembles a duplicate at another location out of new materials. If such an event transports you from the first location to the second but does not transport an organism, then you are not identical to an organism. Multiplication problems rely on cases in which there is more than one entity thinking your thoughts, for example, your organism and your body. Or, they rely on cases in which the number of human organisms and the number of human persons that exist does not correspond to the number of human organisms and the number of human persons that animalism says there should be in such cases. For example, on certain types of conjoined twinning, there seem to be two human persons for one human organism; on animalism, though, if two numerically distinct human persons exist, then two numerically distinct human organisms exist. I discuss each of these objections.

Transfer Problems

I now consider the following transfer problems for animalism: brain-transplant, cerebrum-transplant, brain-state-transfer, and teletransportation scenarios. In each of these, it seems that you have diverged from your organisms, which is impossible if you are identical to your organism.

¹⁰⁴ Stephan Blatti, "Animalism."

Brain-Transfer Scenarios

Recall the brain-transplant scenario involving Brown and Johnson. Brown and Johnson are identical twins who have their brains removed and Brown's brain is placed into Johnson's body. The person who results from the transplant—that is, the person who results from the combination of Brown's brain and Johnson's body—is psychologically continuous in certain respect with the pre-operation Brown. That is, presumably, this person has Brown's memories, beliefs, desires, etc. and there is a continuity of mental capacities between him and Brown such as rationality and self-awareness. For the psychological approach, if either continuity of memories, beliefs, desires, etc. or mental capacities such as rationality and self-awareness are sufficient for our survival, then the psychological approach says that the person who results from the transplant is numerically identical to the pre-operation Brown. This result of the psychological approach concerning brain transplants fits the transplant intuition.

What do animalists say about brain-transplant scenarios? Some animalists say that we do not go along with our transplanted brain.¹⁰⁵ They would say that in brain-transplant scenarios, the organism is not transplanted along with the brain. Rather, the brain is taken out of the organism and put into another organism. Since we are organisms, we are not transplanted in such scenarios. What happens to us? Since the brainstem controls the vital functions (“breathing, circulation, digestion, and so on”) of the

¹⁰⁵ As Carter says: “I grant that a person can't be (identical with) his or her organism, if indeed it is in theory possible for the person first to coexist with one organism and later to coexist with still another organism.” Carter, “How to Change Your Mind,” 10.

organism, if our brain is removed from our organism (the body left on the operating table), the vital functions of the organism cease and the organism (and thus, we) die.¹⁰⁶

Such a view of what happens to us conflicts with the transplant intuition.

Some animalists, though, object to this description of what happens. They respond to the transplant scenario by contending that the original human organism goes along with its brain in transplant scenarios and this is precisely because the brainstem controls the vital functions of the organism.¹⁰⁷ They would say that brain-transplant scenarios are cases of whole body amputations. Until the organism is transplanted into a new body, it survives as a naked brain. Such a view does not conflict with the transplant intuition.

¹⁰⁶ Eric Olson, "Animalism and the Remnant-Person Problem," in *Philosophical Perspectives on the Self*, ed. J. Fonseca and J. Goncalves, vol. 5, Lisbon Philosophical Studies (Bern, Switzerland: Peter Lang AG, International Academic Publishers, 2015), 21–40. As another example, Carter ("How to Change Your Mind,") is an animalist who denies that we go along with our brains. He takes us to be organisms and that minds (brains) and organisms can part ways. On this view, when a brain is transplanted, a mind is transplanted and an organism is left behind. He gives an argument against those who think that persons and minds cannot part ways. If persons go along with their minds, then either one should reject physicalism (type-type identity and supervenience) and hold that persons think but organisms don't or one must hold that two psychological beings are co-located (the person and the organism). The former requires rejecting naturalism and the latter leads to an overcrowding problem. The view that he considers and rejects is Mark Johnston's constitutional view of human persons ("Human Beings").

¹⁰⁷ Eric Olson (*The Human Animal*, 44–46), Trenton Merricks (*Objects and Persons*, 52), and Peter van Inwagen (*Material Beings*, 172–181) all claim that organisms go with their brains in brain transplants. Derek Parfit ("We Are Not Human Beings") discusses an animalist view on which we go with our brains. Others argue that the brain is an organ, not an organism: P. F. Snowdon, "Persons, Animals, and Ourselves," 89.

Cerebrum-Transfer Scenarios

But there is another sort of transfer scenario that seems to be a problem for any version of animalism. In response to the possibility that organisms go with their brains, Olson switches to cerebrum-transplant scenarios.¹⁰⁸ He responds in this way because even if organisms go with their whole brains, he thinks it is implausible that they go with their cerebra. In such cases, the brainstem is left in the original organism to maintain control of the vital functions and to keep the organism alive.¹⁰⁹ The cerebrum, on the other hand, is transplanted into a cerebrum-less organism. In such cases, it is supposed that certain aspects of the psychology of the person (capacities such as rationality and self-awareness and mental content such as memory, beliefs, and desires) who had his cerebrum removed and placed into another organism goes along with the transplanted cerebrum. Since a person goes along with his psychology, according to the transplant intuition, the person went along with the cerebrum. But since this person's body is left intact and certain vital functions continue, the organism does not go along with the cerebrum but remains behind as a biologically functioning organism bereft of the psychological capacities and content mentioned above (assuming that enough of the brain stem is left behind to keep the organism alive). For example, as a result of the operation in the Brown and Johnson case, Brown doesn't go along with his cerebrum and acquire a new body, but becomes cerebrum-less. And Johnson, at one point a cerebrum-less organism, acquires a new cerebrum. The cerebrum recipient and the cerebrum donor are

¹⁰⁸ Because of this, Olson talks about cerebrum transplants and claims that no organism would go with his cerebrum: "Animalism and the Remnant-Person Problem"; *The Human Animal*, 44.

¹⁰⁹ Olson, *The Human Animal*, 11.

two separate organisms, even though the donor, pre-operation, is psychologically continuous with the recipient, post-operation. But this goes against our intuition about cases of cerebrum transplant that we go where our psychology goes.

Other Transfer Scenarios

Transfer scenarios are various and it is beyond the scope of this dissertation to deal with them all. Here I mention a few more and consider how the animalist might respond to them: Parfit's My Division, Shoemaker's brain-state-transfer scenario, and teletransportation scenarios.

Recall Parfit's My Division:

My body is fatally injured, as are the brains of my two [twin] brothers. My brain is divided, and each half is successfully transplanted into the body of one of my brothers. Each of the resulting people believes that he is me, seems to remember living my life, has my character, and is in every other way psychologically continuous with me. And he has a body that is very like mine.

The animalist might respond in various ways to My Division.¹¹⁰ The animalist who thinks that transferring my brain into another organism results in my death (since I do not go along with my brain, but die a brainless death on the operating table) has an easy response. They will simply say that My Division results in my death.

Those animalists who think that I (an organism) go along with my brain in brain-transfer scenarios will have a harder time responding to My Division. They might say that while I can survive a brain transfer, I cannot survive splitting the cerebrum and

¹¹⁰ I follow Parfit's options for responding to My Division in 254-261 of *Reasons and Persons*.

brainstem since we cannot divide brainstems without impairing their function.¹¹¹ In such a case, they might say, we destroy the organism, and thus, destroy me. Or, they might say that I do not survive My Division because a given human organism is numerically identical to some past or future being only if there is no other being that is biologically continuous with that organism. That is, they might add a non-branching condition to their account of animalism. Instead of saying that I cannot survive My Division, they might say that I survive as one or the other of the resulting organisms. But as Parfit points out, there is nothing that would make me one of the resulting organism rather than the other if each of the resulting organisms are (roughly) similar. Finally, the animalist might say that I survive as two organisms. What exactly does this mean? The statement can be read in multiple ways. On one reading, for example, it means that I survive as a divided organism so that I am at the same time in two different places and doing two different things. But don't these resulting organisms seem to be just that: two different organisms? On another reading, two organisms who were co-located before the procedure took place were then separated as a result of the procedure.¹¹² However, this leads to the too-many-thinkers problems discussed later in this dissertation.

What about a revised version of My Division:

My body and brain is completely healthy, as are the bodies and brains of my two brothers. My cerebrum is divided, and each half is successfully transplanted into the body of one of my brothers. Each of the resulting people believes that he is me, seems to remember living my life, has my character, and is in every other way psychologically continuous with me. And he has a body that is very like mine. My body and brainstem are left on the operating table with the brainstem controlling my vital functions.

¹¹¹ Derek Parfit, *Reasons and Persons*, 256.

¹¹² Recall that David Lewis in "Survival and Identity" responds to My Division in this way, except he talks of two persons who were colocated before the procedure.

Those animalists who think that no organism is transplanted in cerebrum-transplant scenarios will reply to this revised version of My Division by saying that I am not transferred anywhere but stay behind as a cerebrum-less organism when my cerebrum is removed. Those animalists who think that we go along with our cerebrums in cerebrum-transplant cases might respond in a way that is analogous to one of the responses to the original case of My Division.

Now let us consider the case of teletransportation. In such a case, a person's brain and body is scanned and copied, his brain and body are destroyed, and the teletransporter then builds a physical duplicate of his brain and body in another location. The copy has the memories, beliefs, character, capacities, etc. as the original person. What should the animalist say about what happens to us in such a case? Well, on both the organicist and somaticist versions of animalism, some sort of physical continuity is required for our persistence. But in cases of teletransportation, there is no physical continuity between the person that was scanned, copied, and destroyed, and the person that the machine built in another location. Thus, the animalist should say that teletransportation does not preserve our identity; rather, it destroys us. And this seems to conflict with the transplant intuition that we go wherever our memories, beliefs, capacities, etc. go. However, perhaps we can mitigate the sting of this consequence. First, perhaps fewer people have the intuition that we would survive teletransportation than would say that we survive a brain or cerebrum transplant. Why? Because teletransportation is lacking the normal cause for our psychology – the brain. Furthermore, since the animalist says that teletransportation does

not preserve our identity, they do not fall prey to teletransportation scenarios in which more than one copy of a person is teletransported.

Finally, consider Shoemaker's brain-state-transfer scenario. On such a scenario, a machine scans and copies person₁'s brain state, wipes clear person₂'s brain of all mental content, configures person₂'s brain so that it matches the brain state of person₁, then destroys person₁. Again, since organicists and somaticists require physical continuity for our persistence, they should say that we are not transferred in such scenarios, but are destroyed. This also conflicts with the transplant intuition. Yet, perhaps we can mitigate the sting of this consequence in the same way we attempted to mitigate the sting of the same consequence for teletransportation scenarios in which more than one copy of a person is teletransported.

Multiplication Problems

I now consider the various multiplication problems for animalism: the remnant-person problem, the thinking-parts problem, the corpse problem, and conjoined twinning cases.

The Remnant-Person Problem¹¹³

This objection to animalism stems from transplant cases. According to certain animalists, when a cerebrum transplant occurs, the organism does not go with its cerebrum, but stays behind as a cerebrum-less organism. If the cerebrum is capable of

¹¹³ Eric Olson, "Animalism and the Remnant-Person Problem."

supporting thought and consciousness during the transplant—when it is connected neither to the donor nor the recipient—then it seems to qualify as a person. On animalism, this person is not the same person that the organism was prior to the operation. On Olson’s animalism, human persons are simply phases in the existence of organisms and cannot exist independently of organisms. But the person associated with the cerebrum is not a phase of the organism since the organism is still alive and breathing on the operating table.¹¹⁴ But then where did this person—call it a *remnant person*—come from? Either it existed in the same location as, but not identical to the organism prior to the operation or it came into existence once the cerebrum was removed from the organism. Neither option is attractive. The latter option goes against a plausible principle—“that you cannot bring a person into being merely by cutting away sustaining tissues.”¹¹⁵ That is, since the remnant person did not exist until it was removed from the organism, the removal of the sustaining tissues surrounding the brain brought a person into existence. But this goes against the aforementioned principle. And the former suffers from various too-many-thinkers problems—prior to the operation, there were two thinkers (even persons) where we thought there was one (the organism and the remnant person); and how does the organism know she is the organism person rather than the cerebrum person?

¹¹⁴ Some would rather describe this situation as one in which an organism is a scattered object or that different parts of the organism are in different places. This is surely a plausible way of speaking about this situation. Olson describes the situation as above because of his view of what it takes to be part of an organism. He says that some object *x* is part of an organism only if it is caught up in the life of an organism. On this view, a severed hand is no longer part of the organism to which it was previously attached because it is no longer caught up in the life of the organism. In the same way, once the cerebrum is removed, if the organism remains on the operating table (which is plausible given the vital functions that still carry on), then the cerebrum is no longer caught up in the life of the organism. Thus, it is no longer part of the organism. Olson, *The Human Animal*, 138.

¹¹⁵ Olson, “The Remnant-Person Problem,” 6.

Furthermore, once the cerebrum is connected to the recipient's body, what happens to the remnant person? It cannot exist as an organism, according to Olson, since organisms cannot survive as detached cerebra or start out as detached cerebra then become organisms. So the remnant person and the organism are distinct. If this is the case, either the remnant person continues to exist or it ceases to exist once it's implanted. On the former option, after the transplant the cerebrum is still a person and so is the organism. But then the various too-many-thinkers problems arise. But the latter option goes against a plausible principle—"that you cannot destroy a person merely by surrounding him with sustaining tissues."¹¹⁶ In other words, if the remnant person is destroyed once the brain is transplanted, then it's possible to destroy a person merely by surrounding him with sustaining tissue.

The Corpse Problem¹¹⁷

Many animalists think that organisms cease to be when they die (that organisms are essentially alive). But if this is so, then an organism is not identical to its body, since the body exists as a corpse when the organism dies (in most cases). Furthermore, if the body exists and is distinct from the organism, then either the body pops into existence when the organism dies or it exists in the same location as, but distinct from the organism when the organism is alive. The former option is strange, since a new object comes to be

¹¹⁶ Carter, W. R. "Will I Be A Dead Person?" *Philosophy and Phenomenological Research* 59 (1999): 167–72; Olson, "The Remnant-Person Problem," 6.

¹¹⁷ Lynne Rudder Baker, *Persons and Bodies*, 207ff; W. R. Carter, "Will I Be a Dead Person"; David Hershenov, "Do Dead Bodies Pose a Problem for Biological Approaches to Personal Identity?"; William S. Larkin, "Persons, Animals, and Bodies," *Southwest Philosophy Review* 20, no. 2 (2004): 95–116; Eric Olson, "Animalism and the Corpse Problem," *Australasian Journal of Philosophy* 82, no. 2 (2004): 265–274; Shoemaker, "Persons, Animals, and Identity"; Sydney Shoemaker, "Self, Body, and Coincidence," 295.

every time an organism dies (and because of the death of an organism). The latter option isn't attractive either, since it gives rise to the various too-many-thinkers problems mentioned above. First, if the body is physically indiscernible from the organism, then it will be psychologically indiscernible from the organism when the organism is alive and the body will be a thinker as well. This is the overcrowding problem. Second, if the organism and the body are psychologically indiscernible, what reason does the organism have for thinking it's the person rather than the body? This is the epistemic problem. Finally, if the body is psychologically indiscernible from the organism and if the organism is a person, shouldn't the body count as a person as well? This is the personhood problem.

The corpse problem against animalism is analogous to the thinking-organism problem in that, on both problems, there are supposed to be entities that are co-located with and psychologically indiscernible from human persons. The corpse problem is also analogous to the fetus problem against the psychological approach. On the latter problem, the fetus exists prior to the human person and either ceases to exist once the person comes to be or continues to exist and is distinct from but co-located with the person. On the corpse problem against animalism, the body exists after the organism dies and either comes to be once the organism dies or exists prior to the organism's death and is co-located with the organism.

Olson says that one can respond to the corpse problem in three ways. First, one can deny that the body exists. On this response, there was no body that was collocated but not identical to the organism when the organism died and no body that popped into

existence once the organism died.¹¹⁸ Second, one might deny that bodies can think. Thus, even though body is co-located with the organism while the organism is alive, since bodies cannot think, there is no problem of too many thinkers. Finally, if bodies *can* think, the animalist can point to some difference between the organism and the body which enable the organism to know that it is the organism and not the body.¹¹⁹

The Thinking Parts Problem¹²⁰

The *thinking-parts problem* against animalism is similar to the thinking-organism problem.¹²¹ The latter problem relies on the claim that there is an organism located where you are that thinks your thoughts. Further, it relies on the claim that there is only one person thinking your thoughts, namely, you. It follows from this that you are the thinking organism located where you are located. On the thinking-parts problem, your (brain inclusive) proper parts are candidates for thought that are located within but not identical to you. This problem relies on the claim that brains can think just as you can think. If brains think, then not only can brains and organisms think, but proper parts of organisms that include the brain can think as well, such as the heads and upper halves of organisms. But if brains and heads and upper halves of organisms can think, the various too-many-thinkers problems mentioned above arise. First, there are two (and three and four and . . .) thinkers where we thought there was only one. Each of these thinkers is psychologically

¹¹⁸ Peter van Inwagen and Trenton Merricks hold to this view. Trenton Merricks, *Objects and Persons*; Peter van Inwagen, *Material Beings*.

¹¹⁹ See Olson, "The Corpse Problem," 267, for ways to respond.

¹²⁰ Olson, *What Are We?* 216-219.

¹²¹ Olson, *What Are We?* 216.

indistinguishable from the organisms of which they are a part, so the organism has no more reason to think it's the person than any of these (brain inclusive) organism parts. Further, if the organism is a person and is psychologically indistinguishable from each of these organism parts, shouldn't each of these parts counts as persons?

There are three responses that the animalist might give to avoid this multiplication problem. First, one might deny that any proper part of an organism thinks. Second, one might bite the bullet on the overcrowding problem and accept that some of the proper parts of an organism think, but find some way to avoid the epistemic and personhood problems. Third, one might deny that organisms have parts.

The thinking-parts problem is like the corpse problem in that both are similar to the thinking-organism and the fetus arguments. The animalist thinks that the thinking-organism and fetus arguments favor animalism over the psychological approach. But if similar problems exist on animalism, they are in the same position as proponents of the psychological approach. Furthermore, if the animalist has responses to the thinking parts and corpse problems, the psychological continuity theorist can give similar responses to the thinking organism and fetus arguments. Thus, it seems that the latter problems give the animalist no advantage.¹²²

¹²² See Olson, "The Corpse Problem," 268 for resolutions to the corpse problem that Olson alleges are not available as analogous resolutions to the thinking-organism problem for the proponent of the psychological approach.

Conjoined Twinning

Timothy Campbell and Jeff McMahan (2010) have given a multiplication objection to animalism based on actual and hypothetical cases of three varieties of conjoined twinning.¹²³ More specifically, the object of their criticism is animalism defined in the following way:¹²⁴

Necessarily, for all x , if x is a human person, then there is some y such that $x=y$ and y is an organism.

On this view, then, for each human person there is one human organism with which that person is identical; further, for each human organism, there is at most one human person with which the organism is identical. One human person cannot be numerically identical to two numerically distinct organisms and two numerically distinct human persons cannot be numerically identical to one organism since this would violate the transitivity of identity.

Campbell and McMahan identify three varieties of conjoined twinning on which it is not clear that there is one and only one human organism for every person and at most one person for every organism: dicephalus, cephalopagus, and craniopagus parasiticus.¹²⁵ But if there is a case (actual or hypothetical) in which there is more than one human

¹²³ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," *Theoretical Medicine and Bioethics* 31 (2010): 285–301.

¹²⁴ Stephan Blatti, "Animalism;" Eric Olson, *What Are We?* 24. In response to McMahan and Campbell, I discuss other ways of characterizing animalism that are not as strict as Blatti's definition here.

¹²⁵ Rowena Spencer identifies eight types of conjoined twinning, but only the three that Campbell and McMahan identify seem to present problems for animalism; Rowena Spencer, *Conjoined Twins: Developmental Malformations and Clinical Implications* (Baltimore: The Johns Hopkins University Press, 2003), 11.

organism for one human person or vice versa, animalism (as Blatti and Olson define it) is false. The problem that Campbell and McMahan point out is this: there are cases of conjoined twinning in which it is clear that the number of persons and the number of organisms do not match. There are more persons than organisms or more organisms than persons. In such cases, each person cannot be identical to an organism. Since the above definition animalism says that all human persons are identical to organisms, a single case in which a human person is not an organism shows that this version of animalism is false.

Dicephalus is a condition that results from the incomplete division of a single zygote during monozygotic twinning.¹²⁶ Dicephalic twins have two heads, two necks, and one trunk. Campbell and McMahan identify a recent case in Abigail and Brittany Hensel. The body mass that they share (though they do not share all the parts of the body mass) consists of two arms, two legs, an abdomen, and a single thorax to which are connected two necks and two heads. Abigail and Brittany appear to be different persons because they have separate mental lives. Furthermore, “each feels sensations only on her own side of the body, and each has exclusive control over limbs on her side.”¹²⁷ However, it seems that the body mass that they share is one organism since “there is only very limited duplication of organs and all the organs function together as a unit.”¹²⁸ Further, as

¹²⁶ Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 286. However, there is an unsettled debate about whether conjoined twins result from the fission of monozygotic twins or the fusion of two dizygotic or monozygotic twins (after an initial complete separation): Rowena Spencer, *Conjoined Twins*, 9-12; Arif Kokcu et al., “Conjoined Twins: Historical Perspective and Report of a Case,” *The Journal of Maternal-Fetal & Neonatal Medicine* 20, no. 4 (2007): 352.

¹²⁷ This suggests that although Abigail and Brittany may share parts of the body mass, they do not share all of the parts.

¹²⁸ Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 287.

Campbell and McMahan point out, the degree of organ duplication in the Hensel twins is contingent – though the body mass contains “two hearts, two esophagi, and two stomachs,” it might have contained fewer duplicate organs (though in order to be a case of dicephalus, there need to be two heads).¹²⁹ So, cases are possible in which there are fewer duplicate and more shared organs, further strengthening the claim that two persons can inhabit a single organism. If it is possible for two persons to inhabit a single human organism, as it appears to be in the case in dicephalus, animalism (as defined above) is false.

In cases of cephalopagus, the twins are joined “from the top of the head down to the umbilicus.”¹³⁰ Campbell and McMahan describe this phenomenon as one in which there is “one head with two bodies—the antithesis of dicephalus.”¹³¹ In one particular case, the twins had one head, one cerebrum, two cerebella, two brainstems, and two spinal cords.¹³² If such cases involve one person and two organisms, then this is a problem for animalism. In the case just mentioned, since the twins died shortly after birth, it could not be determined whether there were one or two persons involved. But Campbell and McMahan contend that we can easily imagine a case of cephalopagus in which the twins survive and are self-conscious. If it is the cerebrum that produces

¹²⁹ Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 286.

¹³⁰ Arif Kokcu et al., “Conjoined Twins,” 351.

¹³¹ Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 298.

¹³² Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 297; Arif Kokcu et al., “Conjoined Twins,” 354-355. For another case that is slightly different (there are two cerebra that are fused together), see M Hovorakova et al., “A Case of Conjoined Twin’s Cephalothoracopagus Janiceps Disymmetros,” *Reproductive Toxicology* 26 (2008): 178–82.

consciousness (rather than the brainstem or cerebellum), then there is one person here. But there seem to be two organisms. Many of the organs are duplicated and there are two separate spinal cords controlling different sections of the body mass. Further, McMahan and Campbell claim that the fact that the twins are in principle separable and can lead separate lives suggests that they are two different organisms (though one of them would need an artificial cranium and the doctors would have to decide whether to give one twin the entire cerebrum or split the cerebrum between the two).¹³³

The final sort of conjoined twinning that Campbell and McMahan discuss is craniopagus parasiticus, in which one twin is fully developed and the other, in certain cases, has a developed head and brain but whose body ends at the neck.¹³⁴ The twins are conjoined to each other at the head and the second twin is said to be parasitic on the first. In one actual case, the parasitic twin was separated from the host twin and the latter survived for fourteen months after the surgery.¹³⁵ Actual cases in which separation does not occur and the twins survive are rare, so we do not know much about the capacities of

¹³³ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," 298. Aaron Zimmerman, in his comments on the dissertation, points out that considering what would happen to the twins if they were physically separated and each were given a cerebral hemisphere "seems to reduce the significance of the case to that of the (actual) brain bisection cases discussed by Gazzaniga, Nagel, and others." See Michael S. Gazzaniga, *The Bisected Brain*, 1st edition (New York: Appleton-Century-Crofts, 1970) and Thomas Nagel, "Brain Bisection and the Unity of Consciousness," *Synthese* 22, no. May (1971): 396–413.

¹³⁴ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," 291; Rowena Spencer, *Conjoined Twins*, 311–313.

¹³⁵ Mohamed Lotfy, Sameh Sakr, and Basim Ayoub, "Successful Separation of Craniopagus Parasiticus," *Neurosurgery* 59, no. 5 (November 2006): E1150; "Two-head Girl Dies of Infection," *BBC News*, March 26, 2006, news.bbc.co.uk/2/hi/4848164.stm (accessed July 8, 2016).

the parasite twin. But consider the case of craniopagus parasiticus twins from Bengal.¹³⁶ The host twin was fully developed and had a parasitic twin attached to his crown, which twin was composed of a head and truncated neck. The twins lived for four years before they died of a snakebite. The parasitic twin was observed to blink, move its eyes, and react when pinched:

When the boy cried or smiled, the features of the upper-head were not always affected, their movements seem to have been reflex: a pinch in the cheek produced a grimace, and when it was given the breast, its lips attempted to suck. The natural head and body were perfectly normally developed, but a number of anomalies were noted on an examination of the parasitic head: the corneal reflexes were missing and the eyes' reaction to light was weak. When the child slept, the eyes of the parasitic twin might be open and moving, but when it was first awakened, the eyes of the two heads moved in the same direction; the heads' eye-movements were normally independent. The lower jaw was rather small, but capable of motion.¹³⁷

Actual cases aside, Campbell and McMahan suppose that it is metaphysically possible for the second head to develop to the point that it is capable of consciousness. In such a hypothetical case, they think that craniopagus parasiticus is a phenomenon in which there are two persons, but one organism. There are two persons, since there are two cerebra and brainstems which are each capable of consciousness. However, there is one organism on their view. The second head falls short of being an organism because it “draws life support from the organs below the primary head, yet it contributes nothing to their regulation, control, or functioning.” Further, [t]here is no duplication of organs apart from those in the second head.”¹³⁸

¹³⁶ Jan Bondeson and Elizabeth Allen, “Craniopagus Parasiticus,” *Surgical Neurology* 31, no. 6 (June 1, 1989): 426–34.

¹³⁷ *Ibid*, 428.

Animalist Responses to Conjoined Twinning

Animalists might respond by rejecting Blatti's definition of animalism given above and opting for generic animalism – the view that 'we are organisms' is generic, and so, allows for exceptions while still being true. The response, then, would be that the cases we find in conjoined twinning that go against the universal claim that all human persons are organisms does not go against the generic claim that human persons are organisms. Just as the generic claim that ducks lay eggs is not rendered false by some ducks who do not lay eggs, the generic claim that we are organisms is not rendered false by some human persons who are not identical to organisms.

If the animalist wants to opt for Blatti's universalist definition of animalism – that all human persons are identical to organisms – how might she respond to cases of conjoined twinning? There are various ways to respond. Campbell and McMahan suggest that the animalist should respond to cases of dicephalus by admitting that there are two persons present since there are two minds, but then contend that there are two organisms that overlap. Further, they think that animalists should respond to cases of cephalopagus by claiming that since there is (or appears to be) one person present, there is one organism, even though there appear to be two overlapping organisms.

But then they argue that even if the above solutions are satisfactory, an intractable problem arises for the animalist when they consider the implications the two sorts of phenomena have on each other. They claim that the animalist cannot consistently hold both that there are two organisms in cases of dicephalus and one organism in the case of

¹³⁸ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," 292.

cephalopagus. In other words, if they maintain there are two organisms in the case of dicephalus, they must maintain that there are two organisms in the case of cephalopagus. Or if they maintain that there is one organism in cephalopagus, they must maintain that there is one organism in the case of dicephalus. Campbell and McMahan make these claims because they think that the duplication of organs in conjoined twinning cases is a good reason for thinking that such cases involve two organisms. But both dicephalus and cephalopagus involve the duplication of organs. So, how can one say that there are two organisms in the former case, but only one in the latter? But if one claims that there are two organisms in cephalopagus, the animalist must claim that there are two persons. This isn't feasible, though, since there is one cerebrum. Or, one might claim that there is one person but two organisms and one of the organisms is not a person. After all, according to Olson, not all human organisms are persons (consider the fetus). But since each putative organism in cephalopagus possesses a brainstem and they share a cerebrum, there is no non-arbitrary way to say that one of the organisms is a person while the other is not. But if it is maintained that there is one organism in cephalopagus in spite of the duplication of organs, then there must be one organism in dicephalus in spite of the duplication of organs. If this is so, then the animalist must claim that there is one person in cases of dicephalus. But how can one maintain that the Hensel twins – each with their own mental lives, interests, etc. – are one person? It seems that animalists have a problem maintaining animalism in light of these cases.

So much for Campbell and McMahan's suggestion regarding dicephalus and cephalopagus. What are some ways actual animalists have responded to conjoined twinning cases? The common response to dicephalus is to say that these are two

overlapping organisms.¹³⁹ Liao claims that there are two organisms for several reasons, including the duplication of organs and the duplication of the capacity to coordinate organic functions.¹⁴⁰ But the most common reason given is that such cases involve the duplication of the brain and/or brainstem, which is the control center of organisms.¹⁴¹ Olson suggests another way of responding to dicephalus (though he himself does not take this response). Instead of claiming that these are two overlapping organisms, one could respond by claiming that such cases involve one human organism (and therefore, one person) who has two “mental systems” or centers of consciousness.¹⁴² As for cephalopagus, Olson responds by claiming that as long as there is a single cerebrum that the twins share there are two organisms (since there are two brainstems) and two persons, but one shared mind.¹⁴³

How does Olson respond to Campbell and McMahan’s claim that animalists face an intractable problem when the implications of both dicephalus and cephalopagus are considered? He responds by rejecting the response that Campbell and McMahan

¹³⁹ R. George and P. Lee, *Body-Self Dualism in Contemporary Ethics and Politics* (Cambridge: Cambridge University Press, 2008), 44-49; Matthew Liao, “The Organism View Defended,” *The Monist* 89 (2006): 334–50; Eric Olson, “The Metaphysical Implications of Conjoined Twinning,” *The Southern Journal of Philosophy* 52, Spindel Supplement (2014): 24–40; Peter van Inwagen, *Material Beings*, 188-194.

¹⁴⁰ Matthew Liao, “The Organism View Defended.”

¹⁴¹ R. George and P. Lee, *Body-Self Dualism in Contemporary Ethics and Politics*, 46; Eric Olson, “The Metaphysical Implications of Conjoined Twinning”; Peter van Inwagen, *Material Beings*, 188-194.

¹⁴² Eric Olson, “The Metaphysical Implications of Conjoined Twinning,” 30. How one person can have two centers of consciousness Olson discusses at length. David DeGrazia holds to a similar view: *Human Identity and Bioethics*, 59-60. So does David Hershenov, “Countering the Appeal of the Psychological Approach to Personal Identity,” *Philosophy* 79 (2004): 445–72.

¹⁴³ Eric Olson, “The Metaphysical Implications of Conjoined Twinning,” 38-39. Again, Olson discusses at length how it is that two people can share a single mind.

recommend for the animalist for cases of cephalopagus. That is, while he claims that there are two organisms in dicephalus, he also claims that there are two organisms in cephalopagus who share a mind. His response to dicephalus seems reasonable, but depends on a defense of the claim that such cases involve two overlapping organisms. His response to cephalopagus seems a little more incredible given his claims about two people sharing one mind. I will not get into a discussion at this point of the plausibility of Olson's response to Campbell and McMahan; instead, I will discuss this later in the dissertation when considering multiplication objections to my own view of human persons.

How might the animalist respond to cephalopagus? Animalists like Olson and van Inwagen would claim that an organism can be reduced to a head, and so, that the second head in a case of craniopagus parasiticus is an organism. This is due to their view about the brain/brain stem being the control center for the vital functions of the organism and the essential part of the organism.¹⁴⁴ Campbell and McMahan describe this view as follows: "the brain, or even just the brain stem, is the biological core of the organism, the internal integrator of the processes that are constitutive of the organism's life, and thus of its existence."¹⁴⁵

In response, Campbell and McMahan give two reasons for thinking that the brain stem is not necessary for the persistence of an organism. First, they present a modified, hypothetical case of craniopagus parasiticus. On this case, one twin is fully developed

¹⁴⁴ Olson, *The Human Animal*, 44-46; van Inwagen, *Material Objects*, 169-181.

¹⁴⁵ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," 294.

and the other twin has a complete cerebrum, but has no body below the neck and possesses only the portion of the brainstem that is responsible for consciousness rather than the organic functions. Campbell and McMahan claim that if this parasitic head were removed and sustained, it would continue to be a person (supposing it retains consciousness). But it would fail to be an organism according to Olson and van Inwagen because it lacks enough of the brain stem (i.e., the internal regulatory center) that it does not carry on the organic functions. If they are right about this case, then since this severed head is a person, Olson and van Inwagen should claim it is an organism and give up their claim that the brain stem is necessary for the persistence of an organism. A second reason for doubting that the brain stem is necessary for the persistence of an organism involves a case studied by Dr. Alan Shewmon in which a boy's body survives and maintains its bodily functions (except for consciousness) "with only mechanical ventilation, the provision of nutrition and hydration, and basic nursing care" in spite of lacking a brain and brainstem.¹⁴⁶ The body remains an organism and retains its organic functions even without the brain and brainstem – components that organisms cannot persist without, according to Olson and van Inwagen. The upshot of all this for craniopagus parasiticus is that if the brain stem is not necessary for being an organism, the animalist needs to give an alternate reason for thinking that the underdeveloped twin in craniopagus parasiticus is an organism. Or, they can claim that the underdeveloped twin is not a person.

¹⁴⁶ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," 294; Alan Shewmon, "'Brain-Stem Death', 'Brain Death' and Death: A Critical Re-Evaluation of the Purported Equivalence," *Issues in Law and Medicine* 14 (1998): 136. The above quotation is from Campbell and McMahan.

In response, the animalist might claim that rather than needing a brain/brain stem for its continued existence, an organism must “continue, with minimal external support, to be self-regulating and self-sustaining.”¹⁴⁷ Second, they might claim that a severed head can continue to be self-regulating and self-sustaining without much external support while a headless body cannot. But Campbell and McMahan claim, partly because of the Shewmon case above, that it’s the other way around: a headless body can continue to be self-regulating and self-sustaining without much external support while a severed head cannot. So, it seems that a headless body is a better candidate for being an organism than a severed head. To sum up the objection to animalism based on craniopagus parasiticus: if the second head in some such cases is a person, but not an organism, then animalism is false.

¹⁴⁷ Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 294.

CHAPTER 2: HYLOMORPHIC ANIMALISM

In this section, I identify the core elements of hylomorphic animalism¹⁴⁸—which is based on Aristotle’s and Aquinas’s claim that human beings are rational animals composed of matter and form.¹⁴⁹ (While I regularly speak of Aristotle’s view on an issue, I focus more on Aquinas’s views in this dissertation.) I compare hylomorphic animalism to Olson’s version of animalism, pointing out key differences. After defining hylomorphic animalism, I show that it retains the benefits of Olson’s animalism, in that it identifies human beings with human organisms (and animals). If this is right, then the thinking-organism argument for animalism supports hylomorphic animalism as well as it does Olson’s animalism. Hylomorphic animalism allows that there is an organism located where each person is and that this organism thinks. And hylomorphic animalism does not lead to a too-many-thinkers problem. I also contend that it is open to the hylomorphic animalist to contend that every human was once a fetus. Finally, I contend that it is also open to the hylomorphic animalist to say that we can survive in a persistent vegetative state.

¹⁴⁸ The word ‘hylomorphism’ comes from the Greek words *hyle*, meaning “matter” and *morphe*, meaning “form”; David Oderberg, “Hylemorphic Dualism,” 72.

¹⁴⁹ Contemporary proponents of hylomorphic animalism include Jeffrey Brower, *Aquinas’s Ontology of the Material World*; Christopher Brown, *Aquinas and the Ship of Theseus*; Alfred Freddoso, “Good News, Your Soul Hasn’t Died Quite Yet,” *American Catholic Philosophical Association* 75 (2002): 99–120; P. Lee and R. George, *Body-Self Dualism in Contemporary Ethics and Politics*; David Oderberg, *Real Essentialism* (New York: Routledge, 2007), 241 – 260; David Oderberg, “Hylomorphic Dualism”; J. Ross, “Immaterial Aspects of Thought,” *Journal of Philosophy* 89 (1999): 136–50; Eleonore Stump, *Aquinas* (New York: Routledge, 2003); Eleonore Stump, “Non-Cartesian Substance Dualism and Materialism Without Reductionism,” *Faith and Philosophy*, no. 12 (1995): 505–31; Patrick Toner, “Hylemorphic Animalism,” 65–81; Patrick Toner, “On Hylemorphism and Personal Identity,” *European Journal of Philosophy* 19, no. 3 (2009): 454–73.

After outlining these advantages and implications I discuss whether hylomorphic animalism can address the problems raised against animalism in Chapter 1, namely, the transfer and multiplication objections. I will attempt to show that hylomorphic animalism can do justice to the transplant intuition without abandoning the claim that we are organisms. Furthermore, I will identify various theoretical resources within hylomorphic animalism that its proponents can use to deal with the various multiplication objections.

Hylomorphic Animalism

Animalism is the thesis that human persons are identical to organisms. According to hylomorphic animalism, all human persons are composed of *prime matter* and a *rational soul* (notions defined below). Further, according to Aristotle and Aquinas, all human persons are identical to organisms of a specific type: rational animals. If we build this notion into hylomorphic animalism, then it is the view that we are numerically identical to rational animals which are living bodies composed of prime matter and a rational soul. Such a view satisfies the common view that we are organisms or animals, while also acknowledging that our psychology is an important part of who we are and that various features of our minds are implicated in our persistence over time. Before addressing the hylomorphic view concerning the nature and persistence of human beings, I address hylomorphism concerning material objects in general and the nature of their change over time.

Material Objects

Aristotle and Aquinas take human beings to be material substances. All material substances, for them, are not simple, but complex, being composites of *matter* and *form*.¹⁵⁰ This view of material substances as composite is called *hylomorphism*, and the composites are called *hylomorphic compounds*.¹⁵¹

For Aristotle and Aquinas, matter is potentiality,¹⁵² or “that which is in potentiality to receiving a form—namely, *a being in potentiality*.”¹⁵³ Form, on the other hand, is actuality,¹⁵⁴ or “that which actualizes the potentiality of matter—namely, *a being in actuality*.”¹⁵⁵ When form inheres in matter, a hylomorphic compound or substance –

¹⁵⁰ Aristotle, *Metaphysics*, in *The Complete Works of Aristotle: The Revised Oxford Translation*, ed. Jonathan Barnes, vol. 2, Bollingen Series (Princeton: Princeton University Press, 1984), 7.3.1029a3-6; Thomas Aquinas, *Aquinas: Selected Philosophical Writings*, trans. Timothy McDermott, The World’s Classics (Oxford: Oxford University Press, 1993), 93: “Note that what composes composite substances is material and its form (human, for example, contain body and soul) . . .”; Thomas Aquinas, *Summa Theologica*, trans. Fathers of the English Dominican Province, vol. 4 (New York: Benziger Brothers, 1947), 1.75.5; Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 9. All subsequent reference to Aristotle’s works come from Barnes’ *The Complete Works of Aristotle*.

¹⁵¹ Material substances are but one of two types of hylomorphic compound, the other being *accidental unities*, which are composed of material substances and accidental form (defined below); Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 9.

¹⁵² Aristotle, *De Anima*, 412a10-11: “Now matter is potentiality, form actuality . . .”; Thomas Aquinas, *Aristotle’s De Anima with the Commentary of St. Thomas Aquinas*, 2.1.215: “Matter, then, differs from form in this, that it is potential being; form is the ‘entelechy’ or actuality that renders matter actual; and the compound is the resulting actual being”; Thomas Aquinas, *The Principles of Nature*, trans. R. Kocourek (St. Paul, Minnesota: North Central, 1948), 1.35-43: “everything which is in potency can be called matter.”

¹⁵³ Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 5.

¹⁵⁴ Aristotle, *De Anima* 412a10-11: “Now matter is potentiality, form actuality . . .”; Aquinas, *Aristotle’s De Anima with the Commentary of St. Thomas Aquinas*, 2.1.215; Thomas Aquinas, *The Principles of Nature*, 1.35-43: “. . . so also everything from which something has existence whether that existence be substantial or accidental, can be called form . . .”

¹⁵⁵ Thomas Aquinas, *The Principles of Nature* 1.35-43: “just as everything which is in potency can be called matter, so also everything from which something has existence whether that existence be

an actuality – is formed.¹⁵⁶ Since a composite is composed of matter and form, the matter and form of a compound are metaphysical aspects, components or “parts” of the compound.¹⁵⁷ Aquinas calls the relationship that matter bears to form *subjection*, the relationship that form bears to matter *inherence*, and the “relation that both matter and form jointly bear to the hylomorphic compounds of which they are a part” *composition*.¹⁵⁸

According to Aquinas, there are two types of matter: primary matter (prime matter) and secondary matter.¹⁵⁹ Corresponding to these two types of matter are two types of form: substantial and accidental.¹⁶⁰ And corresponding to these two types of

substantial or accidental, can be called form; for example man, since he is white in potency, becomes actually white through whiteness, and sperm, since it is man in potency, becomes actually man through the soul. Also, because form causes existence in act, we say that the form is the act”; Brower, *Aquinas’s Ontology of the Material World*, 5.

¹⁵⁶ Aquinas, *Aristotle’s De Anima with the Commentary of St. Thomas Aquinas*, 2.1.213-17. Forms are also spoken of as actualities, but the difference is that Aquinas speaks of forms as “beings in actuality *in another*,” whereas he speaks of compounds as “beings in actuality *in or through themselves*”; Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 7, 10.

¹⁵⁷ As metaphysical parts, they are not parts of the same sort as the physical parts of a substance (like the eyes, brains, and hands of human beings). Eleonore Stump, in this regard, distinguishes between integral parts (“components that add to the quantity of the material whole they compose,” e.g., the eyes, brains, and hands of human beings) and metaphysical parts (e.g., the matter and form of composite objects): Stump, *Aquinas*, 194, 209-210. Patrick Toner calls integral parts spatial parts. Patrick Toner, “Emergent Substance,” 288.

¹⁵⁸ Thomas Aquinas, *Summa Theologica*, 1.75.2.2, 1.85.5.3; Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 6-7, 72.

¹⁵⁹ Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 12, 81; John F. Wippel, *The Metaphysical Thought of Thomas Aquinas: From Finite Being to Uncreated Being*, Monographs of the Society for Medieval and Renaissance Philosophy 1 (Washington, D.C.: The Catholic University of America Press, 2000), 298. There is some controversy regarding whether or not Aristotle accepts prime matter: Thomas Ainsworth, “Form vs. Matter,” ed. Edward Zalta, *The Stanford Encyclopedia of Philosophy*, Spring 2016, <http://plato.stanford.edu/archives/spr2016/entries/form-matter/>.

¹⁶⁰ Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 12; John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 298.

matter and form are two types of hylomorphic compound: substances and accidental unities.¹⁶¹ For Aquinas, substances are composites of prime matter and substantial form and accidental unities are composites of substances and accidental forms.¹⁶²

Prime matter is pure potentiality, having *in itself* no actuality.¹⁶³ Instead, prime matter exists in actuality only when some form inheres in it.¹⁶⁴ It follows from this that prime matter cannot exist uninformed.¹⁶⁵ Substantial form is that which inheres in prime

¹⁶¹ Ainsworth, "Form vs. Matter."

¹⁶² Jeffrey Brower, *Aquinas's Ontology of the Material World*, 7. It seems that Aristotle did not believe that substances are composites of prime matter and substantial form: Ainsworth, "Form vs. Matter." Instead, he believed that a substance is composed of proximate matter and form, where proximate matter is "the stuff [the substance] is most immediate made of." The proximate matter of a substance is composed of its proximate matter and so on until matter is reached that is composed of prime matter (if there is any).

¹⁶³ Aristotle, *De Anima*, 412a10-11. Aquinas, *The Principles of Nature* 2.112-18: "[M]atter is never completely without form and privation, because it is sometimes under one form and sometimes under another. Moreover, it can never exist by itself; because, since it does not have any form in its definition, it cannot exist in act, since existence in act is only with the form. Rather it exists only in potency. Therefore, whatever exists in act cannot be called prime matter"; Brower, *Aquinas's Ontology of the Material World*, 10; Robert Pasnau, *Thomas Aquinas on Human Nature: A Philosophical Study of Summa Theologiae 1a 75-89* (Cambridge: Cambridge University Press, 2002), 41, 44; John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 296.

¹⁶⁴ Aristotle, *Metaphysics* 9.7.1049a19-b1; Aquinas, *The Principles of Nature* 2.112-18: "in itself (per se) it can never exist, because given that by its nature it has no form, it has no actual existence, since actual existence comes only through form, whereas it is solely in potentiality." On this understanding of the hylomorphic framework, everything that exists has form. See Robert Pasnau, "Philosophy of Mind and Human Nature," in *The Oxford Handbook of Aquinas*, ed. Brian Davies (Oxford: Oxford University Press, 2012), 351.

¹⁶⁵ Aristotle, *Metaphysics* 9.7.1049a19-b1; Aquinas, *The Principles of Nature* 2.112-18: "Matter is never completely without form and privation, because it is sometimes under one form and sometimes under another. Moreover, it can never exist by itself; because, since it does not have any form in its definition, it cannot exist in act, since existence in act is only from the form. Rather it exists only in potency. Therefore whatever exists in act cannot be called prime matter"; As Brower says, "Insofar as prime matter is a being in pure potentiality, it has no form or actuality through itself, but only via inherence. But, given the close connection between actuality and existence, for Aquinas, this just entails that prime matter cannot exist without some form inhering in it. Indeed, for prime matter to exist, he says, just is for it to have actuality in this way, and hence to be a part of a larger compound" *Aquinas's Ontology of the Material World*, 19. See also Pasnau, *Thomas Aquinas on Human Nature*, 44.

matter, and in so doing, actualizes the potential in prime matter.¹⁶⁶ When prime matter receives substantial form, a new substance comes to be, the prime matter serving as the substratum for the substantial form.¹⁶⁷ For example, at least for Aquinas, when the form *human being* informs a chunk of prime matter, a new human being comes into existence.

As for secondary matter, it is not matter in the strict and proper sense, the strict and proper sense being that which has no form in itself. Only prime matter is matter in this sense. Secondary matter has form in itself since it is compound, being composed of matter and form.¹⁶⁸ (As such, secondary matter is not pure potentiality, being limited by the form that inheres in it.) But it qualifies as matter in the sense that it has the potential to receive a form.

As for accidental form, it is that which inheres in secondary matter and that which secondary matter has the potential to receive.¹⁶⁹ Secondary matter serves as the substratum for accidental forms.¹⁷⁰ When an accidental form inheres in secondary matter, no new substance comes to be (as when a substantial form inheres in prime matter);

¹⁶⁶ Aquinas, *Summa Theologica*, 1.76.4 and 1.76.8; Robert Pasnau, *Thomas Aquinas on Human Nature*, 82-83, 88, 92; John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 296.

¹⁶⁷ Aristotle, *De Anima*, 412a19-27; Robert Pasnau, "Philosophy of Mind and Human Nature," 361; R. Polansky, *Aristotle's De Anima: A Critical Commentary* (Cambridge: Cambridge University Press, 2007), 155; Stump, *Aquinas*, 37.

¹⁶⁸ Properly speaking, that which is in potentiality with respect to substantial being is called 'prime matter', whereas that which is in potentiality with respect to accidental being is called 'a subject': Aquinas, *The Principles of Nature*, 1.20-24. Aquinas allows for accidental forms inhering in other accidental forms, but he thinks this only happens through divine intervention: Jeffrey Brower, *Aquinas's Ontology of the Material World*, 239.

¹⁶⁹ Jeffrey Brower, *Aquinas's Ontology of the Material World*, 80. John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 298.

¹⁷⁰ Aristotle, *De Anima*, 412a19-27; R. Polansky, *Aristotle's De Anima*, 155.

instead, an already-existing substance – the subject of the accidental form – is altered.¹⁷¹

When this happens, an *accidental unity* is formed (which is a composite of secondary

matter and accidental form).¹⁷² For example, Socrates, a substance, is potentially pale.¹⁷³

Thus, he has the potential to receive the accidental form *paleness*. When this form inheres in Socrates (who is then the subject of the form), the accidental unity *pale Socrates* is formed.

Change

Change¹⁷⁴ is the *corruption* of one composite and the subsequent *generation* of another composite, where both composites possess the same chunk of matter as a part (though at different times). It occurs when some chunk of matter (M) persists through a transition from being informed by one form (F1) at a time (t1) (with M and F1 together forming a composite) to being informed by another form (F2) at a later time (t2) (with M and F2 together forming a different composite), with F2 being distinct from and incompatible with F1.¹⁷⁵ The composite at t1 composed of M and F1 ceases to exist by t2

¹⁷¹ Aquinas, *Summa Theologica*, I.76.4; Robert Pasnau, “Philosophy of Mind and Human Nature,” 361: “Whereas an accidental form makes a thing be thus and so, a substantial form makes a thing be simpliciter” and “Accidental forms are those forms that can come and go while a substance remains”; Stump, *Aquinas*, 38.

¹⁷² E.g., *Summa Theologica*, I.76.4.

¹⁷³ Aquinas, *The Principles of Nature* . . . “. . . man, since he is white in potency, becomes actually white through whiteness . . .”

¹⁷⁴ Brower points out that certain instances of change do not seem to be that of the generation and corruption of composites, such as the change that occurs when two planets move toward each other. Given this, he limits the account of change given here – that of generation and corruption – to *intrinsic change*, which he thinks only applies to composites. *Aquinas’s Ontology of the Material World*, 63.

¹⁷⁵ Aristotle, *Physics* 1 (starting at 1.7.189b30); *Metaphysics* M 7.7.1033a5-20; Aquinas, *Summa Theologica* 1.45.2, *Aristotle’s De Anima with the Commentary of St. Thomas Aquinas*, 8.1.1688; *The Principles of Nature*, 1-2; Jeffrey Brower, *Aquinas’s Ontology of the Material World*, 63; John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 297.

because F1 ceases to inform M. The ceasing to exist of a composite due to the separation of the composite's matter and form is called corruption.¹⁷⁶ The entity at t2 composed of M and F2 begins to exist when F2 begins to inform M. The coming to be of a composite due to the inhering of form in a chunk of matter is called generation. Thus, with any change, there is some underlying matter that persists through the change, the loss of a form and a taking on of another form by that matter, and the corruption of one composite and the generation of another.¹⁷⁷

The account of change just given is limited to instances of intrinsic change that occur when some chunk of matter persists through the loss of one form and the taking on of another form; in other words, when one composite ceases to exist and another composite begins to exist and both composites possess the same chunk of matter as a logical or metaphysical part (though at different times). This is one-to-one change. But there are other sorts of intrinsic change, namely, one-to-many change (e.g., when a statue is cut into two pieces) and many-to-one change (e.g., when a sperm and egg come together to form a new organism).¹⁷⁸ One-to-many change is the corruption of one

¹⁷⁶ Though substances come to be and cease to exist and though prime matter may possess different forms at different times, prime matter endures through changes and "is neither generated nor corrupted": Aquinas, *The Principles of Nature* 2.90-96; see also *Aristotle's De Anima with the Commentary of St. Thomas Aquinas* 12.3.2443.

¹⁷⁷ Aquinas gives an exception to this. He believes that the sort of change that occurs during the Eucharist – transubstantiation – does not involve generation and corruption. But such change is not natural, being brought about by divine intervention. See Jeffrey Brower, *Aquinas's Ontology of the Material World*, chapter 11.

¹⁷⁸ Jeffrey Brower, *Aquinas's Ontology of the Material World*, 65. Another example of one-to-many change that we'll see in the section on transfer scenarios is when some of the matter in a matter-form composite breaks off from matter-form composite and begins to be informed by a new form (since matter cannot exist uninformed) and the original matter-form composite is not corrupted but survives the loss of matter. The matter that breaks off and the new form that informs that matter compose a new matter-form composite. An example that is perhaps uncontroversial is when a person loses a toenail. The

composite and the subsequent generation of more than one composite, where the matter of the corrupted composite is split among the composites that are generated as a result of the corruption of the initial composite. Many-to-one change is the corruption of many composites and the subsequent generation of one composite, where the matter that made up the corrupted composites comes together to make up the matter of the generated composite. In what remains of my explanation of the hylomorphic concept of change, I limit my discussion to one-to-one intrinsic change.

There are two and only two sorts of intrinsic change: *substantial change* and *accidental change*.¹⁷⁹ Substantial change is the corruption of one substance (*substantial corruption*) and the generation of another substance (*substantial generation*), where both substances possess the same chunk of prime matter as a logical part (though at different times). It occurs when a chunk of prime matter (M) persists through being informed by one substantial form (F1) at a time (t1) (with M and F1 together composing a substance) to being informed by another substantial form (F2) at a later time (t2) (with M and F2 together composing a different substance), with F2 being distinct from and incompatible

person survives the loss of the toenail and the matter of the toenail and its new form compose a new matter-form composite.

¹⁷⁹ Aquinas, *The Principles of Nature* 1.47-50: "Because generation is a motion to form, there is a twofold generation corresponding to this twofold form. Generation *simpliciter* corresponds to the substantial form and generation *secundum quid* corresponds to the accidental form. When a substantial form is introduced we say that something comes into being *simpliciter*, for example we say that man comes into being or man is generated [something]. But when an accidental form is introduced, we do not say that something comes into being *simpliciter*, but that it comes into being as this; for example when man comes into being as white, we do not say *simpliciter* that man comes into being or is generated, but that he comes into being or is generated as white [somehow]"; See also, *The Principles of Nature* 1.9-19; Jeffrey Brower, *Aquinas's Ontology of the Material World*, 76; John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 297.

with F1.¹⁸⁰ The substance at t1 composed of M and F1 is corrupted by t2 because F1 ceases to inform M, while the substance at t2 composed of M and F2 is generated by t2 because F2 begins to inform M. For example, consider what happens when Socrates dies. In such a case, the portion of prime matter that – together with the substantial form *human being* – composed Socrates ceased to be informed by the form *human being* and began to be informed by the form *human corpse*. Thus, when Socrates dies, a substantial change occurs: the substance *Socrates* ceases to exist and the substance *the corpse of Socrates* begins to exist.¹⁸¹

Accidental change is the corruption of one accidental unity (*accidental corruption*) and the generation of another (*accidental generation*) where both accidental unities possess the same subject as a part (though at different times). It occurs when some composite (C) (the subject of the change) persists through being informed by one accidental form (F1) at a time (t1) (with C and F1 together composing an accidental unity) to being informed by another substantial form (F2) at a later time (t2) (with C and F2 together composing a different accidental unity), with F2 being distinct from and incompatible with F1. The accidental unity at t1 composed of C and F1 is corrupted by t2 because F1 ceases to inform C, while the accidental unity at t2 composed of C and F2 is generated by t2 because F2 begins to inform C. For example, consider what happens when Socrates is sunburned. In such a case, Socrates goes from being pale to being red.

¹⁸⁰ Aquinas, *Summa Theologica* 1.45.2 ad 2; Jeffrey Brower, *Aquinas's Ontology of the Material World*, 60, 75; Robert Pasnau, *Thomas Aquinas on Human Nature*, 43.

¹⁸¹ Stump, *Aquinas*, 38. Alternatively, one might say that corpses do not exist as substances, but are aggregates of smaller substances. If this is right, there is still a substantial change, but the change is from one to many rather than one to one.

He loses the accidental form *pale*ness and takes on the accidental form *red*ness. When Socrates gets sunburned, he continues to exist, but the accidental unity *pale Socrates* ceases to exist and the accidental unity *red Socrates* begins to exist.¹⁸²

Living Substances

The class of material substances is divisible into the class of substances that are living and the class of substances that are not.¹⁸³ The source of life for all and only those material substances that are in the class of living beings is its substantial form, or soul¹⁸⁴ – what Aristotle calls “the first actuality of a natural body that is potentially alive.” and what Aquinas calls the “first principle of life” in living beings and “the actuality of living bodies.”¹⁸⁵ What is the first actuality of a natural body? Jason Eberl defines first actuality as “a kind of potentiality to perform some operation.”¹⁸⁶ Which operations? Those that are “characteristic of living things of its natural kind,” such as self-nourishment,

¹⁸² Stump, *Aquinas*, 38.

¹⁸³ Aristotle, *De Anima* 412a18-412a26, 413a21; Aquinas, *Summa Theologica* I.75.I; Robert Pasnau, *Thomas Aquinas on Human Nature*, 26.

¹⁸⁴ Christopher Shields, “The Aristotelian Psuche,” in *A Companion to Aristotle*, ed. Georgios Anagnostopoulos, Blackwell Companions to Philosophy 42 (Massachusetts: Wiley-Blackwell, 2009), 294. Though the term ‘soul,’ these days, tends to be religiously loaded, Aristotle did not take soul in that way. He thought of it as the source or cause of life for organisms. Although Aquinas incorporated Aristotle’s idea of the soul into his Christian faith, but the term ‘soul,’ for him, did not just refer to the spiritual aspect of humans. Instead, for him, soul is form, something every material object possesses.

¹⁸⁵ Aristotle, *De Anima*, 412a29-30; Aquinas, *Summa Theologica* I.75.I; Robert Pasnau, *Thomas Aquinas on Human Nature*, 26-29, Norman Kretzmann, “Philosophy of Mind,” in *The Cambridge Companion to Aquinas*, ed. Norman Kretzmann and Eleonore Stump (Cambridge: Cambridge University Press, 1993), 129-130. By “principle of life,” Aquinas means “source” or “cause”: Robert Pasnau, *Thomas Aquinas on Human Nature*, 28.

¹⁸⁶ Jason T. Eberl, “Aquinas’s Account of Human Embryogenesis and Recent Interpretations,” *Journal of Medicine and Philosophy* 30, no. 4 (2005), 384. Eberl also distinguishes between two senses of first actuality: a capacity in hand and a natural potentiality to develop a capacity. This distinction will prove important later on in the dissertation, at which point I will explain the distinction.

perception, and intellect.¹⁸⁷ Active potentiality is distinct from *passive* potentiality in that “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.”¹⁸⁸ Something that has a passive potential for life is not yet alive. Second actuality is the performance of the operations characteristic of living things. As Aquinas says: “the first act is said to be in potentiality to the second act, which is operation.” Since the operation of the capacities characteristic of living things is not necessary for ensoulment, it follows that a being can remain ensouled even when it is not exercising those operations (e.g., a sleeping person not exercising her rationality is first act rational but not second act rational).

The class of living beings is divisible into the class of sentient beings and the class of non-sentient beings. The non-sentient beings are the merely organic and include such things as flowers, moss, and grass. Finally, the class of sentient beings is divisible into the class of beings that are rational and the class of sentient beings that are non-rational. Sentient and non-rational living beings include slugs, frogs, and worms; sentient and rational beings include, at least, human beings.

Corresponding to the division among living things between (i) non-sentient, non-rational, living beings, (ii) sentient and non-rational living beings, and (iii) sentient and rational living beings, there are different types of souls.¹⁸⁹ Non-sentient living beings

¹⁸⁷ Mark S. Cohen, “Aristotle on the Soul,” accessed May 26, 2017, <https://faculty.washington.edu/smcohen/320/psyche.htm>.

¹⁸⁸ Ibid.

(i.e., mere organisms) possess a vegetative (or nutritive) soul. The vegetative soul is the source of the vegetative functions of the organism, which include self-nutrition, growth, and reproduction.¹⁹⁰ Aristotle identifies self-nutrition as “the originaive power the possession of which leads us to speak of things as *living* at all.” To these functions, I would add breathing, heartbeat, blood pressure, body temperature, digestion, and circulation, those functions for which the brainstem is responsible.¹⁹¹ Those living entities that are sentient but not rational (i.e., mere animals) possess a sensitive soul. The capacity of sensation is what distinguishes entities with a vegetative soul from those with a sensitive soul.¹⁹² Entities with a sensitive soul possesses not only sensitive functions but vegetative functions as well, as Aristotle says:

Of the psychic powers above enumerated some kinds of living things, as we have said, possess all, some less than all, others one only. Those we have mentioned are the nutritive, the appetitive, the sensory, the locomotive, and the power of thinking. Plants have none but the first, the nutritive, while another order of living things has this plus the sensory.¹⁹³

¹⁸⁹ Aristotle, *De Anima*, 413a21-413b13; 414a29-415a12; Aquinas, *Summa Theologica* 1.75.3, 76.1, and 78.1, *Questions on the Soul*, trans. James Robb (Milwaukee: Marquette University Press, 1984), 1, respondeo, ad. 1.

¹⁹⁰ Aristotle, *De Anima*, 412a14-15, 413b4-413b13; Aquinas, *Summa Theologica* 1.78.2; Pasnau, Thomas Aquinas on Human Nature, 122.

¹⁹¹ “Brain Anatomy, Anatomy of the Human Brain;” Kara Rogers, ed., *The Brain and the Nervous System*, 13.

¹⁹² Aristotle, *De Anima*, 413b1-413b3: “it is the possession of sensation that leads us for the first time to speak of living things as animals; for even those beings which possess no power of local movement but do possess the power of sensation we call animals and not merely living things.”

¹⁹³ Aristotle, *De Anima*, 414a29-415a12; Aquinas, *Summa Theologica* 1.76.3

The sensitive soul is the source of these functions.¹⁹⁴ The sensitive functions include the appetites (such as desire, passion, and wish¹⁹⁵), pleasure and pain,¹⁹⁶ the five outer senses (sight, touch, hearing, etc.), and internal senses like *common sense* (“the power that integrates information from the various external senses” and includes, for example, the ability to distinguish between the sweetness and the whiteness of an object¹⁹⁷), *phantasia* (“a form of internal representation that underlies mental states quite generally”¹⁹⁸), imagination, and memory.¹⁹⁹ Not everything with a sensitive soul possesses all of these functions. But what differentiates something with a sensitive soul from something with a mere vegetative soul is the capacity for sensation.²⁰⁰ In addition, some entities with a sensitive soul possess locomotion.²⁰¹ While all living things have the ability to move (those living things lacking locomotion move “in the sense of nutrition, growth, and

¹⁹⁴ Aristotle, *De Anima*, 413b4-413b13.

¹⁹⁵ Aristotle, *De Anima*, 414a29-415a12.

¹⁹⁶ Ibid.

¹⁹⁷ Deborah Modrak, “Sensation and Desire,” in *A Companion to Aristotle*, ed. Georgios Anagnostopoulos, Blackwell Companions to Philosophy 42 (Massachusetts: Wiley-Blackwell, 2009), 310, 314-315; Stump, *Aquinas*, 248. Quote was taken from Stump.

¹⁹⁸ Victor Caston, “Phantasia and Thought,” in *A Companion to Aristotle*, ed. Georgios Anagnostopoulos, Blackwell Companions to Philosophy 42 (Massachusetts: Wiley-Blackwell, 2009), 325; cf. Stump, *Aquinas* 257.

¹⁹⁹ Aristotle, *De Anima*, 413b14-413b24; Deborah Modrak, “Sensation and Desire,” 310; Pasnau, *Thomas Aquinas on Human Nature*, 420, n.14; Stump, *Aquinas* 248. Not everything with a sensitive soul possesses all these functions (*De Anima*, 414a3). But what differentiates something with a sensitive soul from something with a mere vegetative soul is the capacity for sensation.

²⁰⁰ Aristotle, *De Anima*, 414a29-415a12. Aristotle believes that all entities with a sensitive soul possess the power of touch (413b4-413b13: “all animals whatsoever are observed to have the power of touch.”)

²⁰¹ Aristotle, *De Anima*, 414a29-415a12; Aquinas *Summa Theologica* 1.78.1. Not everything with a sensitive soul possesses locomotion: “among living things that possess sense some have the power of locomotion, some not” (*De Anima*, 414a29-415a12). Aquinas labels these entities “immovable animals” and those entities with locomotion he labels “perfect animals.”

decay”²⁰²), only animals possess the capacity of locomotion – the ability to move from place to place by one’s own volition. I would add to this that some animals possess voluntary movement that is not locomotive, e.g., the flapping of wings, or the voluntary moving of one’s jaws. Finally, those organisms that are sentient and rational possess a rational soul. Organisms with a rational soul possess vegetative, sensory, and rational functions.²⁰³ The rational functions include *understanding* (which is the formation of concepts from mental representations of objects perceived by the outer senses), propositional thought, and reasoning.²⁰⁴ The soul of an organism determines what sort of thing the substance is (plant or animal, rational or non-rational),²⁰⁵ the soul determines what capacities and functions the organism has (vegetative, sensitive, or rational), the soul controls the various functions, is responsible for the unity of the organism, and organizes the parts of the body.²⁰⁶

Living entities possess exactly one soul.²⁰⁷ For example, a sentient (non-rational) animal does not possess one soul for the vegetative functions and another soul for the

²⁰² Aristotle, *De Anima*, 413a21-413a31.

²⁰³ Aristotle, *De Anima*, 413a21-413b13; 414a29-415a12; Aquinas, *Summa Theologica* 1.76.3

²⁰⁴ Aristotle, *De Anima*, 413a21-413a31; Victor Caston, “Phantasia and Thought,” 327; Kretzmann, “Philosophy of Mind,” 142; Pasnau, *Thomas Aquinas on Human Nature*, chapter 10; Stump, *Aquinas*, 270.

²⁰⁵ Aristotle, *Parts of Animals*, 1.3.643a23; Aquinas, *Questions on the Soul* 1, respondeo, ad. 1; David Oderberg, *Real Essentialism*, 68. Normann Kretzmann, “Philosophy of Mind,” 111.

²⁰⁶ Thomas Aquinas, *Summa Contra Gentiles*, trans. English Dominican Fathers (London: Burns, Oates, and Washbourne, 1934), 4.36, *Summa Theologica* 1.77.6, 90.2; Mark Spencer, “A Reexamination of the Hylomorphic Theory of Death,” *The Review of Metaphysics* 63, no. 4 (June 2010): 847; Robert Pasnau, *Thomas Aquinas on Human Nature*, 41, 54; Stump, “Non-Cartesian Substance Dualism and Materialism Without Reductionism,” 509-510.

sensitive functions. Rather, the sensitive soul in an animal is the source of both the vegetative and sensitive functions for that animal.²⁰⁸ As for humans, they do not possess three souls, but one – a rational soul – which is the source of the vegetative, sensitive, and rational functions.²⁰⁹ Furthermore, the various physical parts of an organism – the heart, brain, hand, cells, molecules, etc. – do not qualify as substances in their own right. That is, substances (at least for Aquinas) possess no substances as parts.²¹⁰ So a human hand is not a substance, but is part of the substance which is the human being. The fact that a given organism has exactly one soul and does not have substances as parts gives the organism a unity that would be lacking if it had three souls (a vegetative soul, a sensitive soul, and a rational soul) or one soul for each of its proper parts.²¹¹

²⁰⁷ Aristotle, *De Anima* 412b10-20, Aristotle, *Meteorology* 4.12, 389b31-390a19; Aquinas, *Questions on the Soul*, 11; *Summa Contra Gentiles* 2.8.

²⁰⁸ For Aristotle, it seems to be the case that though these functions belong to the same soul, they are nevertheless different parts of that soul. Klaus Corcilius and Pavel Gregoric, "Separability Vs. Difference: Parts and Capacities of the Soul in Aristotle," *Oxford Studies in Ancient Philosophy* 39 (2010): 81–120.

²⁰⁹ Aquinas, *Summa Theologica* 1.76.3; Normann Kretzmann, "Philosophy of Mind," 131.

²¹⁰ Patrick Toner, "Hylemorphic Animalism," 68. Stump gives the reasoning for why this is. She says that given that substantial forms inhere in prime matter, not in other matter-form composites, if a substance had substances as parts, those substances which are parts would inhere in the substance, not in prime matter. But then those parts would not be substances; *Aquinas*, 39.

²¹¹ Aquinas, *Summa Theologica*, 1.76.3: "In the first place, an animal would not be absolutely one, in which there were several souls. For nothing is absolutely one except by one form, by which a thing has existence: because a thing has from the same source both existence and unity; and therefore things which are denominated by various forms are not absolutely one; as, for instance, 'a white man.' If, therefore, man were 'living' by one form, the vegetative soul, and 'animal' by another form, the sensitive soul, and 'man' by another form, the intellectual soul, it would follow that man is not absolutely one. Thus Aristotle argues, *Metaph.* viii (Did. vii, 6), against Plato, that if the idea of an animal is distinct from the idea of a biped, then a biped animal is not absolutely one. For this reason, against those who hold that there are several souls in the body, he asks (*De Anima* i, 5), 'what contains them?'—that is, what makes them one? It cannot be said that they are united by the one body; because rather does the soul contain the body and make it one, than the reverse."

The beings in the last category of organism – those living beings that are sentient and rational – consist of (at least) human beings.²¹² Human beings are identical with²¹³ rational animals and are composed of primary matter and a substantial, rational soul.²¹⁴ The rational soul that partly composes human beings is what determines that human beings are rational and that they are living and sentient.²¹⁵ The rational soul is what distinguishes humans from other non-rational animals.²¹⁶

Given that human beings are rational animals, they are both persons and animals. I follow Boethius in his definition of a person: that of an individual substance of a rational nature, with the rational nature being determined by the form (since the form of a

²¹² I say 'at least' in order to allow for non-human rational animals such as dolphins (if they are rational) and Martians.

²¹³ Why say that human beings are identical with rational animals rather than, say, constituted by but not identical to them? The most compelling reason for thinking so is the thinking-organism argument given by Olson.

²¹⁴ Aquinas thinks that the human soul is identical to rational soul, which is the substantial form of the human being: *Summa Theologiae* 76.1: "Now it is clear that the first thing by which the body lives is the soul. And as life appears through various operations in different degrees of living things, that whereby we primarily perform each of all these vital actions is the soul. For the soul is the primary principle of our nourishment, sensation, and local movement; and likewise of our understanding. Therefore this principle by which we primarily understand, whether it be called the intellect or the intellectual soul, is the form of the body. This is the demonstration used by Aristotle (*De Anima* ii, 2)." Norman Kretzmann, "Philosophy of Mind," 131.

²¹⁵ Aquinas, *Summa Theologica* 1.76.3: "Thus the intellectual soul contains virtually whatever belongs to the sensitive soul of brute animals, and to the nutritive souls of plants"; Robert Pasnau, *Thomas Aquinas on Human Nature*, 145-152.

²¹⁶ Thomas Aquinas, *Summa Theologica* 1.75.3: "Although man is of the same 'genus' as other animals, he is of a different 'species.' Specific difference is derived from the difference of form; nor does every difference of form necessarily imply a diversity of 'genus.'"; 1.76.1: "According to the Philosopher, *Metaph.* viii (Did. vii 2), difference is derived from the form. But the difference which constitutes man is 'rational,' which is applied to man on account of his intellectual principle. Therefore the intellectual principle is the form of man." Norman Kretzmann, "Philosophy of Mind," 135.

composite determines its nature).²¹⁷ This is distinct from Eric Olson's conception of persons as phases of substances. Onhylomorphism, a human being cannot fail to be a person and continue to exist, but on Olson's animalism, human beings start out as nonpersons and develop into persons. I follow Aristotle and Aquinas in defining an animal as a sensing, corporeal thing.²¹⁸ So, given that we human beings are rational animals, we are identical with individual substances of a sensing and rational nature.²¹⁹

Human Persistence

Human beings are rational animals, which are material substances composed of prime matter and a rational soul. A particular human being is a material substance composed of a rational soul and a particular chunk of prime matter.²²⁰ What are the

²¹⁷ Boethius, *Patrologia Latina* 64.1342. On form determining the nature of the thing (because matter is not specific), see Aristotle, *Metaphysics* 7.17, 1041b7-8: "Since we must know the existence of the thing and it must be given, clearly the question is *why* the matter is some individual thing, e.g. why are these materials a house? Because that which was the essence of a house is present. And why is this individual thing, or this body in this state, a man? Therefore what we seek is the cause, i.e. the form, by reason of which the matter is some definite thing; and this is the substance of the thing." Aquinas, *Commentary on the Metaphysics of Aristotle*, trans. J. P. Rowan (Chicago: Henry Regnery Co., 1962), 8.17.1668: "Hence in such questions it is evident that we are asking about 'the cause of the matter,' i.e., why it is made to be of this nature. Now the thing under investigation which is the cause of the matter is 'the specifying principle,' namely, the form by which something is"; "As Aquinas understands Aristotle, then, the question What is a human being? Should be analyzed as the question of what makes this material stuff be human. The general line of reply that Aristotle proposes (and Aquinas accepts) is that it is form, in the ultimate analysis, that makes the matter be what it is. Form is 'the cause of the matter'; it is 'on account of' form that the matter 'realizes the nature' of what it is," Robert Pasnau, *Thomas Aquinas on Human Nature*, 34-35.

²¹⁸ Aristotle, *De Anima*, 413a21-413b13; 414a29-415a12; Aquinas, *Summa Theologica* 1.76.3; *Summa Theologiae Supplement* 79.2.3; Norman Kretzmann, "Philosophy of Mind," 134.

²¹⁹ Gyula Klima, "Man = Body + Soul: Aquinas's Arithmetic of Human Nature," in *Thomas Aquinas: Contemporary Philosophical Perspectives*, ed. B. Davies (Oxford: Oxford University Press, 2002), 257-274.

²²⁰ Souls are individuated by their inherence in a particular chunk of matter at a particular time. If soul₁ inheres in chunk of matter₁ and soul₂ inheres in chunk of matter₂ (and matter₁ and matter₂ are numerically distinct) then soul₁ is numerically distinct from soul₂. If soul₁ inheres in chunk of matter₁ at t₁ and soul₂ inheres in chunk of matter₂ at t₂ (and matter₁ and matter₂ are numerically identical but t₁ and t₂ are distinct times), then soul₁ is numerically distinct from soul₂.

persistence conditions for human beings? Here I consider two different hylomorphic views of the persistence conditions for human beings – the *formal continuity view*, and the *composite continuity view*.²²¹ I favor the latter and say why below.

Consider the formal continuity view first. On this view, the persistence of a particular human being's form is necessary and sufficient for the persistence of that human being.²²² That is, for any human being, x, existing at a time, t1, something, y, existing at a later time, t2, is identical with x if and only if the form of x is identical with the form of y.²²³

How can the persistence of the form be necessary and sufficient for the persistence of the human person if the human person is identical to the composite of

²²¹ Silas Langley, "Aquinas, Resurrection, and Material Continuity," *Proceedings of the American Catholic Philosophical Association*, no. 75 (2001), 138. Note that Langley calls the composite continuity view the 'material continuity view.' However, this term is misleading. It suggests that what is necessary and sufficient for the persistence of human persons is the persistence of their matter. But, as will be seen below, it is the view that the persistence of the composite is necessary and sufficient for the persistence of the person. Furthermore, note that for the purposes of this dissertation, I will leave it open which view more accurately reflects the views of Aristotle and Aquinas. I am not concerned with arguing that Aristotle or Aquinas held one view or the other; nor am I concerned with holding to a view on human persistence simply because Aristotle or Aquinas held it. Langley argues that one can find textual evidence in Aquinas for both the material continuity view and the formal continuity view and that both are consistent with Aquinas's other philosophical commitments. For further discussion of the pros and cons of these views see Jason Eberl, "Aquinas on the Nature of Human Beings," *The Review of Metaphysics* 58, no. 2 (2004): 333–65. For the sake of being logically complete, a third option would be the *material continuity view*, according to which you persist if and only if your matter persists. This view entails that a person could persist through substantial change so long as the matter persists through the change. So, perhaps you could become a bear or an alligator. This view would reject *kind essentialism*, the view that members of a kind are essentially members of that kind. I do not know of any hylomorphist who holds to this view.

²²² Here are some contemporary proponents of this view: Christopher Brown, *Aquinas and the Ship of Theseus*; J. P. Moreland and Scott Rae, *Body and Soul* (Downer's Grove, IL: InterVarsity Press, 2000), 201; David S. Oderberg, *Real Essentialism*, 50-54; Stump, *Aquinas*.

²²³ I took the structure of this statement from the structure of the statement of the persistence of organisms in Olson, "Animalism."

matter and form? It cannot. If human persons are identical to the composite, the ceasing to be of the composite is sufficient for the ceasing to be of the human person.²²⁴ But formal continuity theorists like Eleonore Stump reject the claim that the human person is identical to the composite that constitutes her.²²⁵ Instead, Stump claims that “a human person is identical to a particular in the species *rational animal*” and is constituted by but not identical to a composite of matter and form. If this is right, it is open to the theorist to argue that the human person can lose one of its constituents (e.g., its matter) and continue to exist. Thus, this view is hylomorphic in the sense that it views human beings as in some sense composites of matter and form. But it rejects the contention by certain hylomorphists (including me) that human beings are identical to the composite. As Stump contends, human persons are identical to rational animals, but rational animals are not identical to composites of form and matter.

On the formal continuity view, the continuity of one’s current mental content (such as memories, beliefs, desires, etc.) is arguably neither necessary nor sufficient for one’s survival. The continuity of her mental content is not necessary for her survival. Suppose that Sally is hit in the head with a brick and loses her memories, beliefs, etc. If her form persists, she persists. Losing one’s beliefs, for example, does not entail that one ceases to exist since a person’s form is distinct from her mental content. Her form gives her the capacity to acquire new beliefs, so, supposing her form persists, she still retains the capacity for acquiring beliefs. What evidence is there that Sally has retained her form? Her other capacities – the vegetative, sensitive, and even rational capacities (such

²²⁴ Unless we introduce a relative notion of identity.

²²⁵ Stump, *Aquinas*, 51-54.

as the ability to add 1+1) – are still functioning and she possesses these capacities in virtue of her form. In other words, if we see that many of Sally’s functions (such as metabolism, respiration, etc.) continue in spite of her memory loss, this is evidence that her form persists (and thus, that she persists). Now consider the claim that the persistence of one’s mental content is not sufficient for one’s survival on the formal continuity view. Someone might scan and copy Sally’s mental content, wipe Sally’s brain, wipe Suzie’s brain (an identical twin, let’s say), and then configure Suzie’s brain so that Suzie’s mental content matches Sally’s pre-wiped mental content. It is not clear that Sally (including her form) is transferred from Sally’s body to Suzie’s body. In fact, if Sally’s body retains its vital functions, perhaps we should take this as evidence that Sally’s body retains Sally’s form and that Sally was not transferred from one place to another.

Are psychological capacities such as rationality and self-awareness necessary and/or sufficient for a person’s survival on the formal continuity view? Consider first whether they are necessary. In a sense, one cannot lose one’s first-actuality rationality and self-awareness and continue to exist on the formal continuity view. To explain the sense in which this is true, I need now to distinguish between two senses of first actuality.²²⁶ The first is what Robert Pasnau calls a *capacity in hand*.²²⁷ He does not define ‘capacity in hand,’ but perhaps an example will help. A mature, properly functioning human being has the capacity in hand for vision whether or not she is

²²⁶ Recall that first actuality is equivalent to second potentiality. So, these two senses of first actuality are two senses of second potentiality as well.

²²⁷ Robert Pasnau, *Thomas Aquinas on Human Nature*, 115, 118. As we will see, he ultimately rejects this requirement for the less stringent requirement that the brain be capable of any mental operations at all.

actually exercising that capacity (she might be in a completely dark room or sleeping). On another sense of first actuality, one has, as Norman Kretzmann labels it, a “‘natural potentiality’ to develop a capacity.”²²⁸ Each substance possesses an “essential set” of natural potentialities in virtue of the sort of soul it possesses.²²⁹ This sense of first actuality is a sort of potentiality, though it is distinct from first potentiality.²³⁰ Natural potentiality is active, whereas first potentiality is passive. If something has an active potential for x, the thing itself internally directs the realization of x. But if something has a passive potential for x, it will not realize x through internal direction, but must be the “subject of externally directed change such that it can become what it is not already.”²³¹ The fetus, before she develops eyes, does not possess the capacity in hand for vision. She does, however, possess the natural potential to develop the capacity for vision. Sperm (or a rock, for that matter), on the other hand, do not possess the natural potential for vision or rationality. The actualization of the sperm’s passive potential for vision or rationality is a substantial change, and thus, the sperm does not persist through the process. Given this distinction between a capacity in hand and a natural potential, on the formal continuity view, one can lose the capacity in hand for rationality and self-awareness and continue to exist so long as this is consistent with retaining one’s rational soul. However, one cannot

²²⁸ Eberl, “Aquinas’s Account of Human Embryogenesis and Recent Interpretations,” 385; Norman Kretzmann, *The Metaphysics of Creation: Aquinas’s Natural Theology in Summa Contra Gentiles II* (Clarendon Press, 1999), 39.

²²⁹ Jason Eberl, “Metaphysical and Moral Status of Cryopreserved Embryos,” *The Linacre Quarterly* 79, no. 3 (August 1, 2012): 304–15.

²³⁰ Indeed, the capacity in hand is a sort of potentiality as well since it is a capacity that is not exercised.

²³¹ Jason T. Eberl, “Aquinas’s Account of Human Embryogenesis and Recent Interpretations,” 384.

lose the natural potential for rationality and self-awareness and continue to exist since these are possessed essentially by the rational soul.

Furthermore, the retention of the natural potential for rationality and self-awareness is sufficient for one's survival on the formal continuity view. Since each person, in virtue of her soul, possesses an essential set of natural potentialities (which includes rationality and self-awareness), so long as she possesses these capacities, she retains her soul. The same goes for the retention of the capacity in hand for rationality and self-awareness, which is possessed in virtue of the person's natural capacities.

What about biological continuity? On the formal continuity view, neither the persistence of the organism nor the persistence of the physical body is necessary for the persistence of the human being. Suppose that human beings, though essentially rational animals, are not essentially embodied. Suppose further, as Aquinas believed, that rational souls survive the death of the body and exist in a disembodied state.²³² If this is so, then when Sally dies, since the persistence of her soul is sufficient for her persistence, she continues to exist in a disembodied state even though her body is in the ground.²³³ Is

²³² Thomas Aquinas, *Questions on the Soul* 1. That there is such a state for human souls is part of Christian tradition. This state is temporary and will end at what is called the general resurrection when God will reunite all souls with their bodies.

²³³ That organisms can exist without their bodies raises some concerns. First, if Sally can exist in a disembodied state, is Sally identical to her soul? No, says Stump, *Aquinas*, 52. She argues that constitution is not identity, and therefore, that human beings can lose one of their metaphysical constituents without ceasing to exist. However, note that unless souls have parts (as Spencer claims and Aquinas holds), the position that human beings can survive with their soul as their only proper part requires rejecting the *weak supplementation principle*, which, according to Toner, is the following: if *x* is a proper part of *y*, then there is a *z* such that *z* is a proper part of *y* and *z* is disjoint from *x* (where if one object is disjoint from another, then those objects share no part); Aquinas, *Summa Theologica* 1.75.5.4 and 90.2.1; Mark Spencer, "A Reexamination of the Hylomorphic Theory of Death," 853, n.36; Patrick Toner, "On Hylomorphism and Personal Identity," 456. Second, if matter individuates souls, are disembodied souls not individual? No, says Stump (54): "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." Third, if human beings are animal by nature, does this mean that animals can exist in a disembodied state? Yes, according to Jason Eberl: "although without her body a human being is unable to

biological continuity sufficient for the persistence of human beings on this view?²³⁴

Concerning the persistence of the organism, yes. On hylomorphism, the human soul is responsible for the vegetative functioning of the human being in that the inherence of the soul in a human being is necessary for the vegetative functions to continue. Thus, if the vegetative functions persist in a human body, this is sufficient evidence that the soul continues to inform the body.²³⁵ But in the sense of the persistence of the physical body (that is, physical continuity), no. The persistence of the physical body as a corpse after the death of the organism is not sufficient for the persistence of the human being. In fact, the existence of the corpse is sufficient evidence that the form of the human being has ceased to inform the matter of the human being.

There is at least one problem with the formal continuity view.²³⁶ In saying that human persons are constituted by but not identical to the composite of matter and form,

actualize many of her capacities, she remains a rational animal by virtue of her soul retaining all the capacities—actively, in the case of the intellective and volitional capacities [because human beings can think in a disembodied state], or virtually, in the case of sensitive and vegetative capacities—proper to such a nature. It thus follows that, for Aquinas, a human being—a person—persists between death and resurrection by virtue of being composed of, but not identical to, a rational soul”; Jason Eberl, “Do Human Beings Persist Between Death and Resurrection?” 200. For further discussion of hylomorphism and disembodied humans, see Christopher Brown, *Aquinas and the Ship of Theseus*; David Hershenov and Rose Koch-Hershenov, “Personal Identity and Purgatory,” *Religious Studies* 42 (2006): 439–51; Robert Pasnau, *Thomas Aquinas on Human Nature*, 381; Stump, “Resurrection, Reassembly, and Reconstitution.”

²³⁴ To understand why it’s important that the vegetative functions continue in an integrated human body, see my response to Campbell and McMahan’s objections to animalism based on cases of conjoined twinning.

²³⁵ But suppose that God switches the souls in an integrated human body so that the vegetative functions continue (seemingly) uninterrupted. I would say that in this case the vegetative functions (grounded in the first soul) ceased and other vegetative functions (grounded in the second soul) began. If this is right, then souls are not individuated simply on the basis of inhering in a particular chunk of matter, but by inhering in a particular chunk of matter at a particular time.

²³⁶ For other problems with the view that we are constituted by but not identical to composites of matter and form, see David Hershenov, “Soulless Organisms? Hylomorphism vs. Animalism,” *American Catholic Philosophical Quarterly* 85, no. 3 (2011): 465–82.

this view encounters the same too-many-thinkers problems that plague Shoemaker's and Baker's contention that we are constituted by but not identical to organisms. First, if the human person can think, why can't the composite, which is coincident with but numerically distinct from the human person, also think? Second, if the composite can think, does it qualify as a person? If not, why not if the composite possesses the same psychology as the human person? Third, how can the human person know that it is the person rather than the composite? The formal continuity theorist needs to address these issues.

To avoid the charge of too many thinkers, my preferred hylomorphic account of persistence is the composite continuity view, according to which human persons are identical to matter-form composites and human persons persist if and only if the matter-form composite to which they are numerically identical persists.²³⁷ This avoids the too-many-thinkers problems, since, if the human person is identical to the composite, then the composite is not a rival thinker – it *is* the thinker. What is it for a composite to persist, on this view? It is for a particular chunk of prime matter to retain its form. So long as the rational form informs the same chunk of matter, the composite persists. Thus, a substance cannot survive an instantaneous and complete change in its matter. Neither can a substance survive an instantaneous and complete change in its form. But this does not mean that a substance cannot lose bits of matter and gain other bits of matter over time. If the composite continuity view required that a human being could not lose some of its matter and continue to exist, this would be inconsistent with the hylomorphic view that

²³⁷ Contemporary proponents of this view include Silas Langley, "Aquinas, Resurrection, and Material Continuity," and Sandra Edwards, "Saint Thomas Aquinas on 'The Same Man,'" *The Southwestern Journal of Philosophy* 10, no. 1 (Spring 1979): 89–97.

human beings are organisms. After all, organisms, by nature, can survive the replacement of their matter over time. What, then, are the persistence conditions for chunks of matter? Chunk of matter₁ at t₁ is numerically identical to chunk of matter₂ at t₂ if and only if there is material continuity between matter₁ and matter₂, where there is material continuity if and only if there is some degree of material overlap from one moment to the next. What degree of material overlap is required? For persons, I contend that what is required is the continued informing of enough of the matter that composes the matter-form composite to be the matter-form composite of a living person.²³⁸ Why should I hold to this standard of material overlap? Because the form is responsible for the functions of the living person. If enough of the brain continues to exist that the functions of the living person do not cease, this is sufficient evidence that the form continues to inhere in the chunk of matter that partly composes the person. Regarding material continuity, then, it is sufficient for matter₁ to be numerically identical to matter₂. This means that a chunk of matter can persist in spite of being the subject of different substantial forms over time. Material continuity is also necessary for matter₁ to be numerically identical to matter₂. This means that there can be no gaps in existence for a particular chunk of matter.

On this view, the continuity of one's mental content such as memory, beliefs, desires, etc., where the continuity has either Parfit's wide cause (that of any reliable cause) or Parfit's widest cause (that of any cause at all), is neither necessary nor sufficient for one's survival. It is not necessary because one can lose one's mental content and persist so long as one's matter-form composite persists. Further, the continuation of one's mental content is not sufficient for one's persistence since it is the matter-form composite

²³⁸ My formulation of this was inspired by Derek Parfit, *Reasons and Persons*, 202.

that matters to one's survival, not one's mental content. So, if Sally's mental content is copied and transferred to a different substance and Sally's matter-form composite is destroyed, that other substance may be psychologically identical to Sally, but she will not be numerically identical since the matter-form composite to which Sally is identical wasn't transferred. Sally no longer exists, in spite of the fact that her psychology is instantiated in another matter-form composite. The continuity of one's mental content such as memory, beliefs, desires, etc., where the continuity has Parfit's normal cause (i.e., the brain) is not necessary, but is sufficient for the persistence of the human being. It is not necessary because (as already said) one can lose one's mental content and persist so long as one's matter-form composite persists. It is sufficient because the continuity of one's mental content in a materially continuous body guarantees that the form still informs the body.

The continuity of Sally's natural potential for rationality and self-awareness is necessary for her survival. Since she possesses these capacities in virtue of the sort of soul she possesses, she cannot lose these capacities without losing her soul (that is, without her soul ceasing to inform her matter). The continuation of Sally's natural potential for rationality, etc. is sufficient for her survival. Since she possesses these in virtue of her soul, if the capacities continue, she continues. However, the continuity of Sally's capacity in hand for rationality and self-awareness is not necessary, but is sufficient for her survival. So long as her composite continues, she may lose the capacity to immediately exercise her rationality and self-awareness and continue to exist. If she retains the immediately exercisable capacity for rationality and self-awareness (so long as

that capacity is had in a materially continuous body), then she survives. The retention of the capacities guarantees that the composite continues to exist.

What about biological continuity? On this view, the persistence of the organism is both necessary and sufficient for a human being's survival over time. Recall that on the composite continuity view, the persistence of the composite is both necessary and sufficient for the persistence of the human being. Since the organism depends on the soul for its continued existence and functioning, if the organism continues to function, this guarantees that the soul of the organism continues to inform the matter of the organism, and thus, that the human being continues to exist. On the other hand, if the organism ceases to exist, this guarantees that the soul of the organism has ceased to inform the matter of the organism, and thus, that the human being has ceased to exist. If this is right, then no human being can undergo complete inorganic part replacement. Suppose that Sally's organic parts are incrementally and over much time completely swapped for inorganic parts. At some point in the process, Sally's vital processes – metabolism, digestion, etc. – cease. But once that happens, Sally – the matter-form composite – has ceased to exist. Bodily continuity is necessary but not sufficient for the person to survive on the composite continuity view. Bodily continuity is necessary because bodily continuity is physical continuity and the latter is required for the persistence of the human being on the composite continuity view. Thus, body-swapping is ruled out. Bodily continuity is not sufficient since bodily continuity continues after the death of the organism. But the death of the organism guarantees the ceasing-to-be of the matter-form composite. On this view, then, a human person cannot survive as a corpse.

The composite continuity view is similar to Judith Jarvis Thomson's view of human persons, though I think there are important differences. Thomson holds that we are our bodies and that we persist if and only if our bodies persist.²³⁹ This is a version of the somatic approach. Is it animalism? No, in that it does not claim that we are organisms. It claims that we are bodies. Nevertheless, some version of animalism might give the same persistence conditions for human beings as some version of the bodily continuity view. It simply depends on the persistence conditions for both organisms and bodies. As discussed in Chapter 1, some animalists (called somaticists) like David Mackie deny that life is necessary for the persistence of an organism, and claim that

Given a human animal, x , existing at one time, t_1 , and something, y , existing at a later time, t_2 , y is identical with x if and only if y retains a sufficient degree of the life-apt structure of constituent parts previously exhibited by x .²⁴⁰

It follows on this view that there can be dead organisms. Mackie might also claim this life-apt organization is a necessary condition for the persistence of organisms. A proponent of the bodily continuity view might claim that bodies in fact have these same persistence conditions as organisms. If so, then this version of the bodily continuity view and Mackie's animalism give the same persistence conditions for human beings.

Thomson's bodily continuity view is different from my composite continuity view in the following way. I take death to be substantial change – that at the death of the human being, the form of the human being ceases to inform the matter of the human being. Life, then, is necessary for our persistence. If the human being ceases to be alive, it

²³⁹ Thomson, "People and Their Bodies," 204.

²⁴⁰ Blatti, "Animalism."

ceases to be. This is because the form is responsible for the vital (vegetative) processes of the human being, and thus, so long as the form of the human being informs the matter of the human being, the vital processes will continue. Life, though, does not seem to be a necessary condition for the persistence of a body; rather, retaining enough of the body-like organization seems necessary.

Non-Human Rational Animals?

On the hylomorphic view of human persons that I have laid out, all human persons are rational animals. But I have not said anything about whether all rational animals are human persons. This is because I want to leave open the possibility that there are rational animals that are not human persons. For example, there may be rational animals on other planets or on our own planet (such as dolphins or chimps). So, we human persons belong to an ontological kind that includes members of the species *homo sapiens* but may also include individuals from other species or races from other planets.²⁴¹

Hylomorphic Animalism vs. Olson's Animalism

Since I am comparing (my version of) hylomorphic animalism to Olson's animalism and claiming that (my version of) hylomorphic animalism has certain advantages over Olson's animalism, it will be helpful to compare and contrast the two versions of animalism here. First, both Olson and I agree that we are identical to

²⁴¹ Toner takes a different strategy. He defines 'human person' in terms of ontological kind rather than biological species. On his view, the ontological kind *human person* is equivalent to the ontological kind *rational animal*. So, if dolphins are rational animals, then they are human persons in spite of how bizarre this sounds. On my view, all human persons belong to the kind *rational animal*, but human persons are limited to those that are biologically human. "Hylemorphic Animalism," 78-79.

organisms and that we are organisms essentially. Second, Olson and I agree that we persist if and only if our human organism persists. However, we disagree on the persistence of human organisms. He claims that the human organism persists just in case its vital functions continue. I claim that human organisms persist just in case the matter-form composite to which they are identical persists. But, so long as the matter-form composite persists, it will retain its natural potential for organic functions such as metabolism, circulation and respiration, animal functions such as sensation and movement, and rational functions such as conceptualization, propositional thought and reasoning. Note that my view is consistent with a human person being unable to exercise their capacities for a time. For example, suppose that human persons could survive being frozen for a time. While frozen, the person would not metabolize, sense, or reason, but would retain the natural potential for these functions. Once the person was thawed, he would presumably begin to carry out his functions again. Third, Olson and I disagree when it comes to person essentialism. Olson thinks that persons are simply a phase in our existence. On the version of hylomorphism I have laid out, we are persons essentially – being a person is part of our nature so that we cannot exist without being persons. Fifth, Olson thinks that our psychology (specified in terms of mental content such as memories, beliefs, etc. and capacities such as reasoning and consciousness) is neither necessary nor sufficient for our persistence. On my view, our psychology is relevant to our survival in that we are identical to composites of rational soul and prime matter, so we cannot lose our rational soul and continue to exist. Thus, while we can lose our capacity in hand for rationality and self-awareness and continue to exist, we cannot lose our natural potential for these things and continue to exist. Sixth, Olson glosses over the distinction between

organisms and animals. Hylomorphists do not. Organisms possesses one kind of soul with functions such as metabolism, circulation, and respiration; animals possess another kind of soul with the functions of a vegetative soul but with the distinct functions of sensation as well; rational animals possess another kind of soul with vegetative and sensitive functions, but with the distinct functions of rationality as well. Finally, Olson rejects the claim that organisms are composites of matter and form, but this is central to hylomorphism.²⁴²

²⁴² Olson, *What Are We?* 171-179.

CHAPTER 3: HYLOMORPHIC ANIMALISM RETAINS THE BENEFITS OF ANIMALISM

In Chapter 1, I discussed the benefits of animalism over the psychological approach. First, animalism avoids the too-many-thinkers problem that plagues the psychological approach. Second, animalism includes the benefit that we once were early fetuses prior to possessing the capacity for rationality, consciousness, etc. and mental content such as memories, beliefs, desires, etc. Third, on animalism, we can continue to exist in a persistent vegetative state, something the psychological continuity theorist must deny. In this section, I claim that hylomorphic animalism retains these features of animalism as it is more generally characterized: characteristics which I regard as benefits of adopting the animalist perspective on persons.²⁴³

The Thinking-Organism Argument

Olson gives the thinking-organism argument for animalism:

- (1) There is a human organism sitting in your chair;
- (2) The human organism sitting in your chair is thinking;
- (3) The one and only thinking being sitting in your chair is none other than you;
- (4) You are the thinking organism sitting in your chair.

Those who wish to avoid the conclusion that you are identical to an organism must deny one of the premises of this argument, but the denial of any of (1) – (3) is problematic.²⁴⁴

One might deny premise (1) by claiming that there are no organisms, one might deny premise (2) by claiming that organisms do not think, and one might deny premise (3) by

²⁴³ Although it might seem obvious that hylomorphic animalism retains the benefits of animalism, things are complicated by the fact that hylomorphic animalists claim that we are specifically rational animals. More on this below.

²⁴⁴ In chapter 1, I detail the various problems for denying the argument's premises.

claiming that there is more than one thinker sitting in your chair – you (the thinking thing) and the organism. But these are *prima facie* unattractive theses, and hylomorphic animalism can allow us to reject them by accepting each premise in Olson’s argument. Regarding premise (1), hylomorphic animalism holds you are identical to an organism (though of a specific kind: a rational animal). So, when you are sitting in your chair, there is an organism sitting in your chair. As for premise (2), hylomorphic animalism claims that organisms think. This is not surprising, since you are an organism and you can think. As for premise (3), you are the only thinking being sitting in your chair because the one and only thinker sitting in the chair in question – the one person, i.e. organism sitting there – is identical to you.

As is probably clear, the reason that hylomorphic animalism can accept each premise of this argument is that it equates you, the human person, with a specific human organism. There aren’t two entities denoted by these phrases, only one. The too-many-thinkers problem arises for views that make a distinction between the person and the organism, considering them two different entities, and identifying you with one of them. This is true on Baker’s constitutionalism, for example. You are the human person and the human person is constituted by but not identical to the human organism. For the hylomorphist, there is a human person sitting in your chair and there is a human organism sitting in your chair, but there is only one thinker sitting in your chair because the human person in question just is the human organism in question: i.e. “they” are numerically identical. Furthermore, *you* are identical to both the human person and the human organism. (The personal pronouns “I” as used by the speaker and “you” as addressed to her, pick out the very same individual denoted by “this human,” “this organism,” “this

thinker” and so on.) Thus, hylomorphic animalism can avoid all the problems associated with denying the premises of Olson’s thinking-organism argument and it can accept the conclusion. Hylomorphic animalism retains the advantage of the argument, then, in that Olson’s argument for animalism is equally an argument for hylomorphic animalism.

But can hylomorphic animalism really get off so easily? Are you really the only thinker in your chair? For example, can the soul think? If so, and if your soul is not identical to you, then there are two thinkers sitting in your chair: you and your soul. What about your brain? Can it think? If so, and if you are not your brain, there is then an *additional* thinker in your chair. Must the hylomorphist countenance three thinkers here: the person, her soul and her brain? Furthermore, hylomorphists believe in accidental unities. For example, while you are sitting in your chair, there is another entity sitting in your chair: the accidental unity *seated you*. Can *seated you* think? It has a brain, so there is just as much reason to believe that it thinks as that you think. But if it can think and it’s not identical to you, then there would again seem to be too many thinkers in your chair. Indeed, there would seem to be as many thinkers co-incident with you as there are accidental or contingent properties that you possess.

These worries need to be addressed as they seem to raise thorny conceptual issues. We will return to them in the final chapter when dealing with multiplication objections to hylomorphic animalism.

The Fetus Argument

On Olson's animalism, you and I were once fetuses without the capacity in hand for rationality or self-awareness and without mental content such as memories, beliefs, desires, etc. In this section, I argue that this is true for hylomorphic animalism as well. Although this might seem obvious, since hylomorphic animalists claim that we are identical to organisms, things are complicated by the fact that hylomorphic animalists claim that we are organisms of a specific kind: *rational* animals. If we are rational animals, how is it that we were once fetuses without mental capacities or content? In giving my argument for the claim that we came into being before we developed the rational capacities and content mentioned above, I first summarize the fetus argument as it relates to Olson's animalism. Next, I look at Aristotle's and Aquinas's view of when we begin to exist. Aristotle and Aquinas claim that human beings do not come into existence at conception, but at a later point in development, namely, the point at which the fetal matter has developed sufficiently to be capable of receiving the rational soul. They held this view for two reasons: (i) Aristotle and Aquinas believed that the human soul could not simply inform any chunk of matter whatsoever, but could only inform matter that was properly organized to "accept" a rational soul. (ii) Aristotle and Aquinas had views in embryology that inclined them to accept a post-conception date for our coming into being. Certain contemporary hylomorphists follow Aristotle and Aquinas in this view, which came to be called *delayed hominization* (detailed below). For proponents of delayed hominization, both ancient and contemporary, human beings do not come into existence until the fetal brain develops sufficiently for the exercise of rational capacities. For Pasnau, a contemporary proponent of delayed hominization, the relevant rational

capacity is the ability to form concepts and then in addition to have ‘thoughts’ constituted by these concepts.²⁴⁵ If this is right, then the hylomorphic animalist cannot say that we were once early fetuses and is in no better position in this regard than those who adopt the psychological approach. In opposition to delayed hominization is *immediate hominization*, according to which humans come into being at conception. In this section, after detailing the debate between delayed and immediate hominization, I argue that a late starting date for human persons (say, once the cortex begins to develop) is not required of hylomorphic animalism.

In Chapter 1, I identified a second argument for favoring animalism – the fetus argument. This argument relies on the intuition that each one of us was once an early fetus. That is, on this intuition, we all started out as fetuses without certain psychological capacities and without mental content and developed into mature human adults. But proponents of the psychological approach have trouble accounting for this. There are versions of the psychological approach according to which we persist if and only if certain mental content (e.g., memory, beliefs, etc.) persists. Since mental content is required for our persistence on this view; and since the early fetus lacks mental content; and since none of us are psychologically continuous with the early fetus from which we developed (in the sense of being connected via mental content); none of us is identical to the early fetus from which we emerged. The same goes for proponents of the psychological approach who require rational capacities such as consciousness and reasoning rather than mental content. The capacity for consciousness and rationality

²⁴⁵ Robert Pasnau, “Souls and the Beginning of Human Life,” *Philosophy* 78, no. 306 (October 2003), 529.

develop after the fetal organism already exists. So, none of us is identical to the early fetus on this view. Furthermore, if none of us is identical to the early fetus from which we developed, what happened to that fetus once we came to be? Either it ceased to exist and was replaced by a person or it continues to endure throughout the space-time worm we occupy but is not identical to us (because it existed at earlier times than did we). Neither option is attractive. Regarding the first option, why should a fetus cease to exist simply because it develops the capacities for consciousness or reasoning or mental content such as memories and desires? This does not seem like the kind of thing that would bring an organism to an end. This leaves the second option, which says that a human organism and human person exist in the same location but are not identical. But this leads to the overcrowding problem, the epistemic problem, and the personhood problem mentioned in Chapter 1.

Animalism can easily make sense of the intuitive claim that we started out as fetuses and it has an attractively simple account of the relationship between the fetus (the human organism) and the person. Given that we are organisms, we begin whenever the organisms with which we are identical begin. If organisms begin at conception (or close to it), we began at conception (or close to it).

Now consider the animalist's conception of the relationship between human persons and human organisms. The animalist view is distinct from the psychological approach in that the former does not consider the organism and the person to be separate entities. Rather, the organism *is* the person, though it need not hold its person-constituting properties essentially. On Olson's version of animalism, human organisms start out as

nonperson organisms and develop into persons.²⁴⁶ The organism is a person in the same way that a human being is an adolescent or a philosophy professor. Being a person is a phase in the existence of a human organism just as being an adolescent is a phase in the existence of a human being. The person does not exist as a separate entity any more than a boy or a teenager is an entity capable of existing separately from the human being that he is. As such, the fetus does not go away once the human person comes to be. Neither does the fetus exist as a being that is co-located with a person once that person develops. Rather, the fetus becomes a person and is identical to that person. So the animalists can do justice to the claim that we were once fetuses. We all started out as fetuses on animalism because, for a given person P: P is an organism, the fetus F that P developed from is an organism, and the organism that F is numerically identical to at t_1 is numerically identical to the organism that P is numerically identical to at t_2 .

Where does the hylomorphic animalist stand on this argument? Can hylomorphic animalism accommodate the intuition that we were once early fetuses that developed into mature adult human beings? Yes, one might think. After all, hylomorphic animalists say that we are identical to human organisms and that the fetus is a human organism. Since we all begin when the organism with which we are identical begins and the organism started out early on in the womb as a fetus, we were all once fetuses. But things are not so simple. Aristotle and Aquinas believed that the organized matter of the early fetus was incapable of receiving a rational soul, and perhaps for good reason. Since the possession of a rational soul is necessary for the existence of a human being, they believed that the

²⁴⁶ Olson, *The Human Animal*, 89.

early fetus was not a human being. If they are right that the early fetus is incapable of receiving a rational soul, then we were not early fetuses. To this issue we now turn.

Aristotle and Aquinas on Hominization

Aristotle and Aquinas advanced the theory of delayed hominization, according to which the fetus is not a human being from conception, but that human beings come into existence in the process of fetal development. As Aquinas says,

the more noble a form is and the further removed it is from the elemental form, the more numerous must needs be the intermediate forms, through which the ultimate form is reached by degrees, and consequently the more numerous will be the intermediate generations. Wherefore in the generation of an animal or a man in which the form is most perfect, there are many intermediate forms and generations, and consequently corruptions, since the generation of one is the corruption of another. Therefore the vegetative soul, which comes first, when the embryo lives the life of a plant, is corrupted, and is succeeded by a more perfect soul which is both nutritive and sensitive, and then the embryo lives an animal life; and when this is corrupted it is succeeded by the rational soul introduced from without.²⁴⁷

Thus, fetal development, for them, involves a series of substantial changes as “the fetus” comes to possess new functions.²⁴⁸ So, to start, the conceptus possesses a vegetative soul that possesses vegetative functions. When it reaches a certain level of development and begins to function as an animal and not merely an organism, its vegetative soul is

²⁴⁷ Thomas Aquinas, *Summa Contra Gentiles* 2.89. Regarding the rational soul “being introduced from without,” Aquinas thought that a rational soul is not generated by natural processes, but is created by God and “infused into the human body”: Robert Pasnau, *Thomas Aquinas on Human Nature*, 109. For Aristotle on delayed hominization, see *On the Generation of Animals*, 2.1.735a15-26 and 736a35-736b.

²⁴⁸ I placed the phrase ‘the fetus’ in quotes because, strictly speaking, there is no single entity that persists through the series of substantial souls since the loss of a substantial soul by a chunk of matter and the subsequent gain of a different substantial soul by that same chunk of matter results in a substantial change and thus the coming to be of a new substance. So, the conceptus does not persist in its development until it becomes a human being. Rather, the human being comes into existence when the matter of the conceptus receives a rational soul.

replaced by a sensitive soul. After some further development, the sensitive soul is finally replaced by a rational soul when the fetus begins to live the life of a human being. Since human beings, by nature, possess a rational soul, they cannot exist without it.²⁴⁹ So, in the process of fetal development, when the developing entity possesses a vegetative or a sensitive soul, it is not a human being. It *does* qualify as an organism, since every living being qualifies as an organism. But the human being is only present once the fetal matter “takes on” a rational soul.

Why did Aristotle and Aquinas hold to delayed hominization? It is because they believed that the human soul could not simply inform any chunk of matter whatsoever, but could only inform matter that was properly organized for a rational soul.²⁵⁰ (And they believed that the matter of the conceptus was not sufficiently organized to receive a rational soul.) This is not peculiar to the rational soul, but is true of substantial form in general, that “substantial form can exist only in matter capable of receiving it.”²⁵¹ Thus, there is a certain sort of organization required for matter to receive a vegetative soul (one with the organs required for vegetative functioning), a certain sort of organization required for a sensitive soul (one with the organs requires for sensitive functioning), and a certain sort of organization required for a rational soul (one with the organs required for rational functioning). Aquinas specified the organization required for a rational soul as

²⁴⁹ That human persons cannot persist without a rational soul is consistent with the possibility that a human person persists in an irreversible coma. Though such a person lacks the capacity in hand for exercising their rationality, they possess the natural potential for rationality, which I claim is all that is required for the possession of a rational soul.

²⁵⁰ Aristotle, *De Anima* 412b; Thomas Aquinas, *On the Power of God*, 3.12 and 3.9.6.

²⁵¹ Joseph F. Donceel, “Immediate Animation and Delayed Hominization,” *Theological Studies* 31 (1970), 83.

“that point when the fetus is sufficiently developed, in its brain and sensory systems, to support the soul’s intellectual operations” (which operations Aquinas identifies as the ability to form concepts).²⁵²

When does the human being come into existence in the course of fetal development? According to Aristotle and Aquinas, hominization occurs for males around 40 days after conception and it occurs for females around 90 days after conception.²⁵³ Hominization cannot occur at conception, according to Aristotle and Aquinas, because the matter of the conceptus is not sufficiently developed to be capable of receiving the rational soul. On Aristotle’s and Aquinas’s view of human reproduction, the female provides the matter (i.e., the menstrual blood) from which the embryo is formed. The male is the efficient cause of the embryo via the semen as an instrument. The semen produces the embryo, not by becoming part of the embryo itself, but by forming the female’s menstrual blood into a living being via an active power which it possesses.²⁵⁴ Since the material upon which the semen works does not initially possess the organization necessary for the reception of a rational soul (in fact, for Aristotle and

²⁵² Robert Pasnau, *Thomas Aquinas on Human Nature*, 111, 118.

²⁵³ Aristotle, *A History of Animals*, 583b; Thomas Aquinas, *A Commentary on the Book of Sentences*, III.3.5.2, resp. Note that Aquinas thought that once the fetus possesses a rational soul, it engages in conceptualization. So Aquinas thought that as early as 40 days after conception, human fetuses are engaged in conceptualization. See Pasnau, *Thomas Aquinas on Human Nature*, 118.

²⁵⁴ Norman Ford, *When Did I Begin? Conception of the Human Individual in History, Philosophy and Science* (New York: Cambridge University Press, 1988), 25-29.; Aristotle, *On the Generation of Animals* 2.3.736a24-737b6; Aquinas, *Summa Theologica* 1.118.1.4: “Living bodies . . . act so as to generate their like, both without and with a medium. . . with a medium—in the act of generation, because the semen of the animal or plant derives a certain active force from the soul of the generator, just as the instrument derives a certain motive power from the principal agent.”

Aquinas, the material “was homogeneous and without any structure of its own”²⁵⁵) and since the process of organizing this material so that it can receive the rational soul is gradual, it takes some time for the semen to organize the matter into a body proper for a rational soul.²⁵⁶

I have been speaking loosely about delayed hominization as if there is a single entity that comes into existence at conception and survives the transition from one soul to another until it receives a rational soul and becomes a human being. Technically, this is incorrect, since, whenever matter takes on a new substantial form (when it loses one form and gains another), a new substance comes to be. And every time this occurs, the previous substance ceases to exist:

we must consider that the substantial form differs from the accidental form in this, that the accidental form does not make a thing to be "simply," but to be "such," as heat does not make a thing to be simply, but only to be hot. . . . Now the substantial form gives being simply.²⁵⁷

[M]atter cannot remain without being subjected to some form. That is why, upon the corruption of one thing, another is generated, and upon the generation of one thing another is corrupted.²⁵⁸

²⁵⁵ Benedict Ashley and Albert Moraczewski, “Is the Biological Subject of Human Rights Present from Conception?,” in *The Fetal Tissue Issue: Medical and Ethical Aspects*, ed. Peter Cataldo and Albert Moraczewski (Braintree, Massachusetts: The Pope John Center, 1994), 37.

²⁵⁶ Benedict Ashley, “A Critique of the Theory of Delayed Hominization,” in *An Ethical Evaluation of Fetal Experimentation: An Interdisciplinary Study*, ed. Donald McCarthy and Albert Moraczewski (St. Louis, Missouri: Pope John XXIII Medical-Moral Research and Education Center, 1976), 117-118; Aristotle, *On the Generation of Animals*, 2.3.736a24-737b6; Aquinas, *On the Power of God*, 3.9.9; *Summa Contra Gentiles* 2.89.11; *Summa Theologica* 1.118.1.4 and 1.119.2.20.

²⁵⁷ *Summa Theologica* 1.76.4. Aristotle says as much in *Physics*, 190a32-190a33: “Things are said to come to be in different ways. In some cases we do not use the expression 'come to be', but 'come to be so-and-so'. Only substances are said to come to be without qualification.”

²⁵⁸ Thomas Aquinas, *Commentary on Aristotle's Generation and Corruption*, trans. Father Pierre Conway and F. R. Larcher (unpublished but circulated in photocopied form, 1964), 25. Aristotle says as

Furthermore, on Aquinas's hylomorphism, the vegetative, sensitive, and rational souls are substantial forms:

Whence we must conclude, that there is no other substantial form in man besides the intellectual soul; and that the soul, as it virtually contains the sensitive and nutritive souls, so does it virtually contain all inferior forms, and itself alone does whatever the imperfect forms do in other things. The same is to be said of the sensitive soul in brute animals, and of the nutritive soul in plants, and universally of all more perfect forms with regard to the imperfect.²⁵⁹

Thus, each time one substantial soul replaces another in embryonic development, a substantial change occurs – one substance is corrupted and another is generated. At the beginning of the process, an embryo with a vegetative soul exists. When the embryo reaches a certain level of development (i.e., when its matter is sufficiently organized to receive a sensitive soul), the vegetative soul of the embryo ceases to inform its matter and the embryo ceases to exist. At the same time, the matter begins to be informed by a sensitive soul, which brings a new, second embryo into existence. This second embryo then develops to the point that its matter is sufficiently organized to receive a rational soul. Once this happens, the sensitive soul of the second embryo ceases to inform its matter and the embryo ceases to exist. At the same time, the matter begins to be informed by a rational soul, which brings a final, third embryo into existence. This third embryo is a human being.

much in *On Generation and Corruption*, 319a17-319a28: "in substances, the coming-to-be of one thing is always a passing-away of another, and the passing-away of one thing is always another's coming-to-be."

²⁵⁹ *Summa Theologica* 1.76.4.

Note further that although it may be difficult to determine exactly when rational ensoulment takes place, this difficulty is simply epistemological. For Aristotle and Aquinas, rational ensoulment is not a gradual process, but is all or nothing and involves the coming to be of an entirely new thing.²⁶⁰ This result is entailed by a couple of different hylomorphic principles.²⁶¹ First, a thing's nature, which nature is determined by the sort of soul it possesses, is rigid, so that "this nature cannot be altered, cannot be diminished or increased":²⁶²

Substance, it seems, does not admit of a more and a less. I do not mean that one substance is not more a substance than another (we have said that it is), but that any given substance is not called more, or less, than that which it is. For example, if this substance is a man, it will not be more a man or less a man either than itself or than another man. For one man is not more a man than another, as one pale thing is more pale than another and one beautiful thing more beautiful than another. Again, a thing is called more, or less, such-and-such than itself; for example, the body that is pale is called more pale now than before, and the one that is hot is called more, or less, hot. Substance, however, is not spoken of thus. For a man is not called more a man now than before, nor is anything else that is a substance. Thus substance does not admit of a more and a less.²⁶³

When we say that substance does not admit of more or less, we do not mean that one species of substance is not more perfect than another; but that one and the same individual does not participate in its specific nature at one time more than at another.²⁶⁴

For the substantial being of each thing consists in something indivisible, and every addition and subtraction varies the species, as in numbers, as stated in *Metaph.* viii (Did. vii, 3); and consequently it is impossible for any substantial form to receive "more" or "less."²⁶⁵

²⁶⁰ Robert Pasnau, *Thomas Aquinas on Human Nature*, 421, note 22.

²⁶¹ Robert Pasnau, *Thomas Aquinas on Human Nature*, 123.

²⁶² *Thomas Aquinas on Human Nature*, 123.

²⁶³ Aristotle, *Categories* 5.3b32-4a9.

²⁶⁴ Aquinas, *Summa Theologia* 1.93.3.

²⁶⁵ Aquinas, *Summa Theologia* 1.76.4.

Second, as mentioned above, some substance cannot change its substantial form while continuing to exist because the transition by matter from one substantial form to another involves the corruption of one substance and the generation of another. (This follows on the composite continuity view of personal identity discussed above.) Thus, one substance cannot persist through a vegetative then sensitive then rational soul since these are substantial souls. It follows from this that the species (whether vegetative, sensitive, or rational) of a thing is essential to it so that it cannot transition from one species to another while continuing to exist.²⁶⁶ As Aristotle says,

it is impossible for a thing still to remain the same if it is entirely transferred out of its species, just as the same animal could not at one time be, and at another not be, a man.²⁶⁷

Thus, there are no cases, metaphysically speaking, in which it is indeterminate whether some substance is a mere organism, a mere animal, or a rational animal. In fetal development, there is a specific point at which rational ensoulment takes place even if we cannot tell when it takes place. Before that moment, a matter-form composite with a sensitive soul exists. At that moment, that matter-form composite has been replaced with a human being.

Contemporary Proponents of Delayed Hominization

Some contemporary hylomorphists follow Aristotle and Aquinas in holding to delayed hominization, including Henry Dorlodot, Joseph Donceel, Robert Pasnau, and

²⁶⁶ Pasnau makes this point about species essentiality on p. 124 of *Thomas Aquinas on Human Nature*.

²⁶⁷ Aristotle, *Topics* 125b37-39.

Thomas Shannon and Allan Wolter.²⁶⁸ Each of these individuals believe in the reality of delayed hominization for the same reason: they accept the metaphysical principle that matter must be commensurate with form.²⁶⁹ Call this the *principle of commensurability*. To elaborate on this principle, in what follows, I lay out Donceel's position and argument, which is representative of the positions and arguments held by the other proponents of delayed hominization. Here's the reasoning Donceel gives for accepting delayed hominization:

The soul is the substantial form of man. A substantial form can exist only in matter capable of receiving it. In the case of man's soul this means: the human soul can exist only in a highly organized body.²⁷⁰

Like Aristotle and Aquinas, Donceel believes that not just any body is capable of "receiving" a rational soul; in order for organic bodies to be capable of receiving a

²⁶⁸ Henry de Dorlodot, "A Vindication of the Mediate Animation Theory," in *Theology and Evolution*, ed. E. C. Messenger (London: Sands and Co., 1949), 259–83; Joseph F. Donceel, "Immediate Animation and Delayed Hominization"; Robert Pasnau, *Thomas Aquinas on Human Nature*, chapter 4. Thomas Shannon and Allan Wolter, "Reflections on the Moral Status of the Pre-Embryo," *Theological Studies* 51 (1990): 603–26. Norman Ford also accepts the doctrine of delayed hominization, but not because he thinks the matter of the human embryo is incapable of receiving a rational soul. Rather, it is due to the potential of the early fetus for twinning prior to the primitive streak. Thus, he thinks that human beings begin after the development of the primitive streak (around two weeks); Norman Ford, *When Did I Begin?*

²⁶⁹ Henry de Dorlodot, "A Vindication of the Mediate Animation Theory," 259: "Since the 'substance of the intellectual soul is truly, essentially and *per se* the substantial form of the human body', as the Council of Vienne defined, it is impossible for the human soul to contract that union with the body which, in accordance with the above definition, makes body and soul one single human nature, if this body does not possess a *human* organisation, and in particular, if it does not possess the human organs of the organic faculties, the operation of which are indispensable for the exercise of human reason." Robert Pasnau, *Thomas Aquinas on Human Nature*, 111: "Just as a form requires the appropriate sort of matter . . . so the human soul requires the appropriate sort of body" (see also, 524). Thomas Shannon and Allan Wolter, "Reflections on the Moral Status of the Pre-Embryo," 620: "One can speak of a rational nature in a philosophically significant sense only when the biological structures necessary to perform rational actions are present, as opposed to only reflex activities."

²⁷⁰ Joseph F. Donceel, "Immediate Animation and Delayed Hominization," 79.

rational soul, they must possess a certain sort of organization.²⁷¹ This is due to the rational soul's role as the substantial form of the body. On Donceel's view, the rational soul of a human being is akin to the shape of a statue: the rational soul could no more exist in a newly conceived embryo than the shape of the statue of David could exist in the unformed marble from which the statue was produced.²⁷² But what sort of organization is required of a body for it to be capable of receiving a rational soul? For Donceel, it is a body that is "endowed with the organs required for the spiritual [read: rational] activities of man."²⁷³ The required organs, for Donceel, are the sense organs, the nervous system, and the brain, especially the cortex.²⁷⁴ Dorlodot holds to this same requirement.²⁷⁵ Shannon and Wolter hold to a similar, but less stringent requirement. They claim that the soul is present around the 20th week when "neural integration of the entire organism has been established."²⁷⁶ But each of these requirements is at odds with our intuition about when we begin and with Olson's claim that we begin around two weeks after conception with the formation of the primitive streak.

²⁷¹ Like Aristotle and Aquinas, he believes that the same goes for vegetative souls and sensitive souls – that they each require a body with a certain sort of organization.

²⁷² Joseph F. Donceel, "Immediate Animation and Delayed Hominization," 83.

²⁷³ Joseph F. Donceel, "Immediate Animation and Delayed Hominization," 83.

²⁷⁴ Joseph F. Donceel, "Immediate Animation and Delayed Hominization," 101.

²⁷⁵ Henry de Dorlodot, "A Vindication of the Mediate Animation Theory," 266: ". . . we can infer that the intellectual soul cannot animate the body before the parts of the brain which are the seat of the higher organic faculties are suitably organised. That does not mean that the body of man has no other essential organs besides the brain. In order that the brain may live, there is required the concurrence of other organs. Every organ which is necessary for the existence and life of the brain is essential to man."

²⁷⁶ Thomas Shannon and Allan Wolter, "Reflections on the Moral Status of the Pre-Embryo," 620.

Pasnau proposes a stricter standard for rational ensoulment than the presence of the brain: the brain must be developed to the point that the fetus (or infant, as the case may be) has the capacity in hand to form concepts.²⁷⁷ To possess this capacity, one must possess the immediately exercisable ability to “have full-fledged concepts, and then in addition to have ‘thoughts’ about those concepts.”²⁷⁸ If further neural development is required before one is able to form concepts, then one does not possess this capacity in hand even if one possesses the natural potential for conceptualization. But if the capacity in hand is required for hominization, when does this occur in fetal development? As mentioned above, Aquinas thinks this occurs around 40 days for males and 90 days for females, but Pasnau admits that this seems to push rational ensoulment beyond birth (for both males and females):

It is plausible to think that the capacity for conceptualization – actually having the capacity in hand – does not come until some time after birth, and if that is right, then by Aquinas’s own lights it would follow that the organism takes on a rational soul and hence becomes a human being only at that late date.²⁷⁹

Reflecting on the implications of this standard, Pasnau says that “it strikes us as appalling to claim that newborns and late-term fetuses are not genuinely human beings (or persons).”²⁸⁰ Thus, he proposes a more lenient standard for hominization: the capacity for

²⁷⁷ Robert Pasnau, *Thomas Aquinas on Human Nature*, 115, 118. As we will see, he ultimately rejects this requirement for the less stringent requirement that the brain be capable of any mental operations at all.

²⁷⁸ Robert Pasnau, “Souls and the Beginning of Life,” 529.

²⁷⁹ Robert Pasnau, *Thomas Aquinas on Human Nature*, 119.

²⁸⁰ Robert Pasnau, *Thomas Aquinas on Human Nature*, 120.

the fetus to have any mental operations at all.²⁸¹ Thus, so long as the fetus is able to engage in mental operations, he says that it possesses a rational soul. And he believes that the fetus does in fact engage in thought before birth.²⁸²

So it looks as if, by Pasnau's own admission, requiring that a body possess the capacity in hand for rationality if that body is to possess a rational soul—when wedded to an Aristotelian definition of human beings as essentially rational animals—leads to the conclusion that human *beings* (and not merely human *persons*) do not begin to exist until after birth.²⁸³

Pasnau calls this consequence appalling and responds by loosening his requirements for rational ensoulment.²⁸⁴ Rather than claim that the capacity in hand for forming concepts is required, he simply requires the capacity for any mental operations at all. His revised view turns out to be much closer to the views of Donceel, etc. His view, too, is at odds with our intuition about when we begin and Olson's claim that human organisms begin around two weeks after conception.

²⁸¹ Robert Pasnau, "Souls and the Beginning of Life," 529.

²⁸² Ibid.

²⁸³ Recall that on hylomorphism, something cannot be a human being but not a person, since nothing is a human being unless it possesses a rational soul, and everything that possesses a rational soul is a person. So, on Pasnau's theory, it is not the case that we begin to exist before birth but do not become persons until after birth. Instead, we do not begin until after birth.

²⁸⁴ Robert Pasnau, *Thomas Aquinas on Human Nature*, 120; Pasnau, "Souls and the Beginning of Human Life," 529.

Immediate Hominization

If Aristotle, Aquinas, and the contemporary proponents of delayed hominization are correct, then we were never early fetuses because we did not begin to exist before the brain developed. But are they correct? Proponents of immediate hominization – a view on which the rational soul, and so, the human being, is present from conception – think it is not.²⁸⁵ In rejecting delayed hominization, proponents of immediate hominization do not deny the metaphysical principle that matter must be commensurate with form.²⁸⁶ On this they agree with the proponents of delayed hominization. Given the nature of the soul as the form of the body, they think that the rational soul cannot inform just any chunk of matter like a rock or piece of driftwood or even a dog. Thus, there is a certain sort of organization required for a body to possess a rational soul. The main point of contention for the two views lies in how they answer the following question: what sort of body is

²⁸⁵ Proponents of immediate hominization include Ashley Benedict, Jason Eberl, Germain Grisez, John Haldane, Rose Koch-Hershenov, Patrick Lee, Albert Moraczewski, David Oderberg, Kevin O'Rourke, Gabriel Pastrana, and Ronald Tacelli. See Benedict Ashley, "A Critique of the Theory of Delayed Hominization"; Benedict Ashley and Albert Moraczewski, "Is the Biological Subject of Human Rights Present from Conception?"; Jason Eberl, "Aquinas' Account of Human Embryogenesis and Recent Interpretations," *Journal of Medicine and Philosophy* 30 (2005): 379–94; Germain Grisez, "When Do People Begin?," in *Proceedings of the American Catholic Philosophical Association*, ed. John Lizza (Johns Hopkins University Press, 2009), 27–47; John Haldane and P. Lee, "Aquinas on Human Ensoulment, Abortion and the Value of Life," *Philosophy* 78, no. 304 (2003): 255–78; Rose Koch-Hershenov, "Totipotency, Twinning, and Ensoulment at Fertilization," *Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 32, no. 2 (2006): 139–64; David Oderberg, "Modal Properties, Moral Status, and Identity," *Philosophy and Public Affairs* 26, no. 3 (July 1997): 259–76; Kevin O'Rourke, "The Embryo as Person," *The National Catholic Bioethics Quarterly* 6, no. 2 (2006): 241–52.; Gabriel Pastrana, "Personhood and the Beginning of Human Life," *The Thomist* 41 (1977): 247–94; Ronald Tacelli, "Were You a Zygote?," *Revista Portuguesa de Filosofia: Between Reason and Revelation: The "Logic" of the Semitic Dimension in Philosophy*, December 2006, 889–99.

²⁸⁶ For example, see Benedict Ashley, "A Critique of the Theory of Delayed Hominization," in *An Ethical Evaluation of Fetal Experimentation: An Interdisciplinary Study*, ed. Donald McCarthy and Albert Moraczewski (St. Louis, Missouri: Pope John XXIII Medical-Moral Research and Education Center, 1976), 115. Consider also, Jason Eberl's statement: "The debate among scholars who argue for either immediate or delayed hominization centers on the application of Aquinas's metaphysical principle that only an appropriate body may be informed by a rational soul to constitute a human being"; "Aquinas' Account of Human Embryogenesis and Recent Interpretations," 380.

required to serve as the matter for a rational soul?²⁸⁷ A related question that must be answered in addition to the first question is this: “When does the fetus come to have that sort of body?”²⁸⁸ As discussed, proponents of delayed hominization think that a body needs to have a brain that is capable of rational activity in order for it to serve as the matter for a rational soul. And the time at which the fetus develops such a body is nowhere near conception. How do proponents of immediate hominization answer these questions? They claim that the presence of the brain in the fetus is not necessary for the presence of the rational soul. Furthermore, they believe that the sort of organization possessed by the fetus at the time of conception is sufficient for the presence of the rational soul. This is consistent with the principle of commensurability. As Lee and Haldane note, the principle is not very specific, so does not, on the face of it, demand delayed hominization.²⁸⁹ On this point, they give two rival interpretations of the principle:

1. What is necessary for ensoulment is the presence of the actual organs, sufficiently developed to support the operations proper to that species; or
2. What is necessary for ensoulment is the material organization sufficient for the development of those organs, in other words, the epigenetic primordia of the organs that support the operations proper to the species.²⁹⁰

²⁸⁷ Robert Pasnau, “Souls and the Beginning of Human Life,” 525. To see that this is the main point of contention, see Ashley and Lee and Haldane: Benedict Ashley, “A Critique of the Theory of Delayed Hominization,” 115; John Haldane and P. Lee, “Aquinas on Human Ensoulment, Abortion and the Value of Life,” 268.

²⁸⁸ Robert Pasnau, “Souls and the Beginning of Human Life,” 525.

²⁸⁹ Patrick Lee, *Abortion and the Unborn Human Life*, 2nd ed. (Washington, D.C.: The Catholic University of America Press, 2010), 86.

²⁹⁰ John Haldane and P. Lee, “Aquinas on Human Ensoulment, Abortion and the Value of Life,” 268.

On the first reading, since rationality is the operation proper to human beings, the presence of the brain sufficiently developed to support the operation of rationality is necessary for ensoulment. This reading does not exactly correspond to the requirements laid out by the proponents of delayed hominization since Dorlodot, Donceel, and Shannon and Wolter require the mere presence of the brain (nervous system, etc.) rather than its operation. But it does correspond to Pasnau's requirement that the organism must be capable of exercising rationality in order for the rational soul to be present. Proponents of immediate hominization interpret the principle in the second way, believing that it is not necessary for ensoulment that the body possess the organs necessary for the operation of the rational capacities. Instead, they interpret the principle in such a way that one must simply possess the natural potential to develop the capacity for rational thought, which they claim is present from conception.²⁹¹

Responding to the Debate

In this section, I claim that it is open to the hylomorphist to claim that we were once early fetuses without much of a psychology, i.e., without mental content such as memories and beliefs, or without the capacity in hand for consciousness or conceptualization. That is, I claim that there are several accounts of when we begin – most of which are not immediate hominization views – that are open to the hylomorphist and that do not require a late “starting date” (in contrast with accounts like Pasnau's

²⁹¹ See, for example, Norman Ford, *When Did I Begin?* 42-43; Patrick Lee, “The Pro-Life Argument from Substantial Identity: A Defence,” *Bioethics* 18, no. 3 (2004): 252-253; Gabriel Pastrana, “Personhood and the Beginning of Human Life,” 258. Though Ford holds to delayed hominization, it is because he thinks that twinning presents a problem for the individuation of the human being at conception, not because he thinks that the brain is necessary for the presence of the human being.

initial proposal according to which we do not begin until we have the capacity in hand for conceptualization). First, the hylomorphist might retain the hylomorphic claim that human beings are composites of matter and form while rejecting the claim that we are essentially rational animals. If she does this, she can claim that we begin to exist as organisms prior to rational ensoulment. But to make this claim she would have to hold that the vegetative, sensitive, and rational souls are accidental, rather than substantial forms. That way, she can consistently hold that we persist while transitioning from vegetative to sensitive to rational souls. This position does not require her to give up person essentialism: she can reject Olson's and Tooley's claim that being a person requires a special sort of mental life and embrace a Thomson-inspired view that persons persist if and only if the organisms they are persist.²⁹² When do we begin on this view? This position allows the hylomorphist to say that we begin to exist as early as the period during which the developing entity begins to function vegetatively, for example, when the heart begins to beat. This occurs between weeks 6 and 7 of fetal development.²⁹³ The early starting point for the human organism (and hence, us) on this account might do justice to the common intuition that we were once early fetuses. Or, if it seems that the organism does not yet exist at this point, perhaps she could say that the organism begins to exist when neural integration occurs and the fetus begins to engage in organism-level activities such as sucking and swallowing (which activities are made possible by neural integration). This occurs between 15 and 18 weeks after fertilization for sucking and

²⁹² Thomson, "People and Their Bodies," 202-203.

²⁹³ "Fetal Development," MedlinePlus, the National Institute of Health's website for patients, accessed 08/17/2016, <https://medlineplus.gov/ency/article/002398.htm>.

between 18 and 21 weeks after fertilization for swallowing.²⁹⁴ This is still fairly early in fetal development and may do justice to the intuition that we were once fetuses.

She might further adjust the above account by claiming that it is metaphysically vague when the organism (and hence, the person) comes into existence. On this view, there are points in fetal development when it is metaphysically indeterminate whether or not the organism exists. Thomson holds to this view. She thinks that (i) the “newly fertilized ovum, the newly implanted clump of cells, is no more a person than an acorn is an oak tree” and (ii) the fetus “has become a human person well before birth.”²⁹⁵ Furthermore, she also thinks that (iii) “to draw a line, to choose a point in development and say ‘before this point the thing is not a person, after this point it is a person’ is to make an arbitrary choice, a choice for which in the nature of things no good reason can be given.”²⁹⁶ The transition from non-organism to organism, on this view, is incremental and there is no principled way to give a definitive point at which the developing entity transitions from non-organism to fully existing organism. In spite of this, there might be a point during which the organism partially exists, much in the way that there is a point in the construction of a building during which the building only partially exists. And, there will be a point at which the fetus definitively fully exists. However, it may not be a point for which we can say: directly prior to this point, the fetus did not fully exist and directly at this point the fetus does fully exist. The transition between partial existence and full

²⁹⁴ “Fetal Development.”

²⁹⁵ Judith Jarvis Thomson, “A Defense of Abortion,” *Philosophy and Public Affairs* 1, no. 1 (1971): 48.

²⁹⁶ *Ibid.*

existence may also be vague. To hold to this position, one would have to reject Aristotle's and Aquinas's claim that there is a definitive moment when a substance comes into existence. What is the point at which we can say that the fetus definitively fully exists? Maybe it will be once certain vegetative functions like the heartbeat become active. Or, maybe the organism begins to exist when neural integration occurs and the fetus begins to engage in organism-level activities such as sucking and swallowing.

The above accounts require giving up the view that we human beings are essentially rational animals; that is, that we essentially possess a rational soul. But what if the proponent ofhylomorphism wants to retain this view? There are multiple ways she can do this. She can (and should) start by rejecting Pasnau's initial proposal that the fetus must possess the capacity in hand for conceptualization in order for hominization to occur. This gives her the freedom to say that we begin to exist before birth. Second, she might go with Pasnau's revised account and claim that the capacity for any mental content at all is sufficient for rational ensoulment.²⁹⁷ This still leaves a gap, however, between the time in fetal development when an organism begins to exist (at least according to Olson) and the beginning of human persons at rational ensoulment. To lessen this gap, she can reject Olson's claim about when organisms begin and claim instead that the organism is only present when neural integration occurs and the fetus begins to engage in organism-level activities such as sucking and swallowing.²⁹⁸ Even

²⁹⁷ She might even accept a psychological account of diachronic personal identity according to which the continuity of mental content is necessary for us to persist. Psychological continuity would not be sufficient because of branching cases.

²⁹⁸ "Fetal Development," MedlinePlus, the National Institute of Health's website for patients, accessed 08/17/2016, <https://medlineplus.gov/ency/article/002398.htm>.

still, the fetus is not capable of awareness until “its neurons can communicate with one another” which “takes place when they get connected together with synapses, roughly twenty-five to thirty-two weeks after fertilization.”²⁹⁹ But perhaps it is capable of some sort of mental activity prior to this point. If so, then the gap between the beginning of organisms and the beginning of persons (i.e., us) is not that great.

But there is a more promising strategy for claiming that rational ensoulment takes place when the organism begins. First, thehylomorphist can reject the claim that rational ensoulment requires mental activity and adopt Shannon and Wolter’s view that rational ensoulment takes place “around the 20th week, when the neural integration of the entire organism has been established:”

One can speak of a rational nature in a philosophically significant sense only when the biological structures necessary to perform rational actions are present, as opposed to only reflex activities. The biological data suggest that the minimal time of the presence of a rational nature would be around the 20th week, when neural integration of the entire organism has been established. The presence of such a structure does not argue that the fetus is positing rational actions, only that the biological presupposition for such actions is present.³⁰⁰

Then, she can claim that the organism begins when neural integration occurs. This way, the hylomorphist can say that we begin when the organism begins and we are essentially rational animals. And she can avoid the problem of what happened to the fetus once the person came into existence by claiming that before the organism came to be, the fetus was not a substance but was a collection of parts (perhaps substances themselves) that were developing into the organism. Note that this requires the hylomorphist to say that it

²⁹⁹ Olson, *The Human Animal*, 75.

³⁰⁰ Thomas Shannon and Allan Wolter, “Reflections on the Moral Status of the Pre-Embryo,” 621.

is not necessary for rational ensoulment that a being possess the capacity for awareness or some other special mental property. Instead, she might say that the possession of a natural potential for rationality is sufficient for ensoulment.

Finally, it is open to the hylomorphist to claim that rational ensoulment takes place at or near conception. To do this, she can claim that the organism begins very early on – perhaps at conception or after twinning is no longer possible (about two weeks, which is when the primitive streak forms).³⁰¹ Furthermore, she can claim that the possession of the natural potential for rationality is sufficient for rational ensoulment. Finally, she can claim that this natural potential is possessed when the organism begins, since the conceptus possesses a complete genetic code. As argued before, this view does not reject the principle of commensurability – that matter must be commensurate with form. Rather, it notes that this principle can be interpreted such that the epigenetic primordia of the brain is all that is required for rational ensoulment. As Jason Eberl puts it,

It must be noted that, from the moment that the fertilization process is complete, a zygote has a complete human genome and other material factors that are *sufficient*—given a nutritive uterine environment—for the development of a functioning cerebral cortex. From this fact, one can infer that a zygote or early embryo, before it forms a functioning cerebral cortex, has an active potentiality for rational thought in the sense that it has a natural potentiality to develop a capacity in hand for such operations.³⁰²

In summary, given the several accounts of the time of hominization detailed above, the hylomorphist need not accept a late starting date for hominization. Thus, it is

³⁰¹ Olson, *The Human Animal*, 91.

³⁰² Jason Eberl, “Aquinas’ Account of Human Embryogenesis and Recent Interpretations,” 387. Benedict Ashley gives similar reasoning in a “A Critique of the Theory of Delayed Hominization,” 125.

open to the hylomorphist to say that we were once early fetuses without much of a psychology, i.e., without mental content such as memories and beliefs, or without the capacity in hand for consciousness or conceptualization. It is even open to the hylomorphist to claim that we human beings start at conception or close to it if this is consistent with the principle of commensurability.

Persistent Vegetative States

One implication of Olson's animalism that the hylomorphic animalist retains is that we continue to exist in a persistent vegetative state. On Olson's animalism, one's mental content and psychological capacities such as rationality and self-awareness are neither necessary nor sufficient for one to persist. Instead, the continuation of one's vital (vegetative) functions such as circulation, metabolism, and respiration are necessary and sufficient for one to survive. Thus, an individual in a persistent vegetative state continues to exist even though she has apparently lost her mental content such as her beliefs, desires, etc. and even though she has apparently lost her capacity for rationality and self-awareness. For, even in a persistent vegetative state, she retains her vegetative functions such as circulation, metabolism, and respiration. Since Olson thinks that we persist so long as the organism we are persists and since he takes the continued operation of organismic functions in an organism's body as sufficient evidence that this organism persists, he thinks that we can persist in a persistent vegetative state.

What can the hylomorphist say about whether or not human beings can survive in a persistent vegetative state? On my view, the composite continuity view, the human being survives if and only if the composite of matter and form to which he is identical

survives. If there is evidence that the matter-form composite can survive in a persistent vegetative state, then this is evidence that the human being can survive in a persistent vegetative state. Is there such evidence? Yes. Recall that on hylomorphism, the soul of a human being is responsible for the functions – the vegetative, sensitive, and rational – of that individual. Furthermore, the human being in virtue of her soul has the active potentiality for these functions essentially. So, if certain functions carry on in the individual's organic body – whether those are vegetative, sensitive, or rational functions – this is evidence that the soul continues to inhere in the matter of the individual, and thus, that the individual persists.

How does this apply to individuals in a persistent vegetative state? Suppose that Sally is injured and falls into a persistent vegetative state. We want to know whether Sally has survived this ordeal or not. If we see that, in spite of the lapse into a persistent vegetative state, some of the potentialities Sally possessed in virtue of her soul are still being actualized (namely, the potential for her organic body to carry out vegetative functions such as metabolism, respiration, and digestion), this is evidence that Sally has survived. Furthermore, if Sally has survived, since human beings are essentially living and rational, she has survived as a *rational* animal. Evidence that Sally the organism has survived is evidence that Sally the rational animal has survived.³⁰³ This is an implication of the composite continuity view. But in what sense can we say that Sally is rational? She does not retain the capacity in hand for rationality, since her cerebrum is damaged to the point that it cannot (currently) sustain consciousness. However, if she survives, she

³⁰³ David Hershenov gave me this insight via email.

retains her soul. And in virtue of retaining her soul, she retains the natural potential for rationality. There is even empirical evidence that some patients in a persistent vegetative state retain their natural potential for rationality; namely, there are PVS patients who eventually regain consciousness and recover their capacity in hand for rationality as displayed by their ability to read, write and do simple math.³⁰⁴ What can we say about those PVS patients who have not yet recovered? As mentioned above, the fact that the vegetative functions continue to operate is evidence that the matter-form composite persists, and thus, that the person persists.

What other responses might thehylomorphist give if she want to say that human beings can survive a lapse into a persistent vegetative state? First, she might reject Aristotle's and Aquinas's claim that the rational, sensitive, and vegetative forms are substantial. Given this, she can claim that human beings can survive the transition from a rational to a sensitive to a vegetative soul without ceasing to exist (that is, without changing in substance). Then, she can apply this to PVS cases by saying that human beings can survive a lapse into a persistent vegetative state even if such a lapse involves the loss of rational form. Note, however, that unless identity is contingent, this response is inconsistent with my claim that humans are identical to a composite of prime matter and rational form. As such, the hylomorphist will have to give an alternative account of human persistence that does not involve rational form. As another response, she might claim, contra Aristotle and Aquinas, that the possession of one's form is not an all or

³⁰⁴ K. Andrews, "Recovery of Patients after Four Months or More in the Persistent Vegetative State," *British Medical Journal* 306, no. 6892 (June 12, 1993): 1597–1600; Nancy L. Childs and Walt N. Mercer, "Late Improvement in Consciousness after Post-Traumatic Vegetative State," *New England Journal of Medicine* 334, no. 1 (January 4, 1996): 24–25.

nothing thing, but admits of degrees.³⁰⁵ That is, she might claim that one can fall short of the full possession of one's form by possessing mere aspects of it. Thus, in PVS cases, she can say that the patients do not possess their full form, yet retain aspects of it (e.g., the vegetative aspect, but not the rational aspect).

If, however, the hylomorphist is not concerned with claiming that humans can survive a lapse into a vegetative state, she might say that such a lapse involves substantial change. One might say that the person, say Sally, ceases to exist and leaves behind a numerically-distinct organism in her place. One might even say that since the organism that is left behind is functioning to some degree, that it possesses (at least a) vegetative soul, but not necessarily a rational soul. Sally possessed a rational soul, but Sally is gone. The thing left in her place is not her. My response is this: the explanations which say that humans *can* survive in a persistent vegetative state are more economical. It is certainly possible that one soul is swapped for another. However, (i) since the vegetative functions continued to operate throughout the process (even though the rational functions were interrupted) and (ii) since there is no rival organism who might be Sally (as occurs in duplication cases), it seems the simplest explanation is that Sally continues to exist because her form – or at least aspects of it – continues to inhere in her matter. Furthermore, for the person who says that Sally does not survive her lapse into a vegetative state, consider what she must say in cases where PVS patients regain consciousness. She must say that the original patient died, a mere organism took her place, and then a rational animal with some of the same memories as the original patient

³⁰⁵ See Aristotle, *Categories* 5.3b32-4a9 and Aquinas, *Summa Theologia* 1.76.4, 93.3.

took the place of the mere organism. It seems that the best explanation of these cases is that the original patient survived the entire ordeal.

CHAPTER 4: HYLOMORPHIC ANIMALISM AND TRANSFER PROBLEMS

Some people's intuitions about what would happen to us in transfer scenarios – cases of brain and cerebrum transplant, brain-state transfer, and teletransportation – suggest that we are not organisms, not even contingently. And this is bad news for both Olson's animalism and hylomorphic animalism, views according to which we are organisms, insofar as those views want to capture our common conceptions of personhood, conceptions which are thought to generate the intuitions in question. In this section, I focus on brain and cerebrum transplant cases and argue that hylomorphic animalism does a better job of responding to these transplant cases than Olson's animalism. Specifically, I claim that the hylomorphic animalist can claim that we “go with our cerebra” in cerebrum-transplant scenarios. What is it to go with our cerebra? It means that during the procedure, we are whittled down to the size of a cerebrum and our rational form ceases to inform the portions of matter that helped make up the portions of our body that were cut away as a result of the procedure. Instead, our rational form now informs just the prime matter that – together with the rational form – makes up the cerebrum. This position, if it can be defended, retains the benefits of hylomorphic animalism – that we are organisms, animals, and persons essentially – while accommodating the transplant intuition.

Brain-Transfer Scenarios

Cerebrum-transplant scenarios pose more of a problem for animalism than do brain-transplant scenarios. Why? Because animalists like Olson contend that it is open to the animalist to say that we “go with our brains” during whole-brain transplants, by

contending that in such scenarios the control center for the vital (i.e., vegetative) functions is the brain stem and that this is transplanted during the procedure. Thus, if the human organism continues to exist, it exists as a naked brain during the transplant rather than as the corpse on the operating table. Once it is placed into a new body, the organism begins to function fully again via the brain/brain stem. But cerebrum transplants separate the psychological functions of rationality and self-awareness (assuming they are realized in the cerebrum) from the vegetative functions of metabolism, respiration, and circulation (assuming they are realized in the brain stem). The cerebrum is transplanted to a new body while the brain stem remains in the old body and continues to carry on the vegetative functions. Since animalists like Olson think that psychological continuity is neither necessary nor sufficient for the survival of human organisms, they think that the human organism does not “go with the cerebrum” in such scenarios, but stays behind as a cerebrum-less entity as a result of the operation.

However, it is important to briefly go over brain-transplant scenarios and animalist responses. In Chapter 1, I discussed a brain-transplant case involving Brown and Johnson. In this case, Brown’s brain (which includes both of Brown’s cerebral hemispheres and his brain stem) is removed from his body and placed into Johnson’s brainless body. In such a case, it is supposed that Brown’s psychology (his mental content such as beliefs, desires, memories, and his capacities such as rationality and self-awareness) goes with his brain in the transplant so that the person who results from the transplant—that is, the person who results from the combination of Brown’s brain and Johnson’s body—is psychologically continuous with Brown pre-operation. The transplant intuition, which many people have, is that Brown continues to exist during the

operation and “goes with” his brain when it is transplanted into a new body. This is because Brown’s psychology did not cease to exist, but was maintained in existence by Brown’s brain. The transplant intuition generalizes to all such whole-brain transplant scenarios: that the person whose brain is extracted from his body and placed into a new body will go along with his brain during the transplant so that the person in question will find himself in a new body post-operation.

What do the various views of personal identity say about brain-transplant scenarios? Consider the version of the psychological approach which says that continuity of our mental content such as our memories and beliefs is sufficient for our persistence (whether the cause of the continuity is the narrow, wide, or widest cause). It seems to entail that we go with our brains in brain-transplant scenarios given the plausible assumption that our mental content is instantiated in our brains (or nervous systems more generally). The same goes for the version of the psychological approach which says that continuity of our mental capacities such as rationality and self-awareness is sufficient for our persistence (whether the cause is the narrow, wide, or widest cause). Thus, psychological theories seem easily to accommodate the majority intuition about the kind of transplant scenarios described above. However, the psychological approach has the counterintuitive consequences that I discussed in Chapter 1: it implies that we were never early-term fetuses and it results in the various too-many-thinkers problems.

As discussed in Chapter 1, some animalists (for example, Carter in “How to Change Your Mind”) claim that we do not “go along with” our brains when these are transplanted into foreign bodies. Instead, when the brain is removed from an organism,

that organism can no longer function: the organism dies. What is left behind is a dead body devoid of a brain: a brainless corpse. What receives the brain is a lifeless body that is animated by the new brain, which brain begins to support the functions executed by this new organic body. Other animalists claim that the original human organism goes along with its brain in transplant scenarios and this is precisely because the brainstem controls “basic” organic functions like respiration and circulation.³⁰⁶ They say that brain-transplant cases are cases of whole body amputations in which the organism survives as a naked brain until it is transplanted into a new body. The animalist who says that we do not go along with our brains in brain-transplant scenarios cannot accommodate the commonly held transplant intuition that we go with our brains in transplant scenarios. These animalists must say that our intuitions about these cases are mistaken or confused. But those animalists who think that we do go along with our brains in brain-transplant scenarios—supposing they can make the case that the relevant organisms also in fact do “go along with” their brains—can accommodate this transplant intuition. Brain-transfer scenarios, then, presents a problem for only some animalists: those who do not privilege nervous systems (or “control systems” more generally) when making judgments about the persistence of organisms despite radical changes to their structure.

Which animalist point of view is correct? This question is hard to answer. But we needn’t make progress on it here. In contrast with brain transplant cases, cerebrum-transplant cases pose a *prima facie* problem for all varieties of animalism: animalists

³⁰⁶ Eric Olson (*The Human Animal*, 44-46), Trenton Merricks (*Objects and Persons*, 52), and Peter van Inwagen (*Material Beings*, 172–181) all claim that organisms go with their brains in brain transplants. Derek Parfit (“We Are Not Human Beings”) discusses an animalist view on which we go with our brains. Others argue that the brain is an organ, not an organism: P. F. Snowdon, “Persons, Animals, and Ourselves,” 89.

have a difficult time defending the claim that an organism goes along with its cerebrum. They therefore have a difficult time retaining the more or less widespread intuition that a person might survive a cerebrum transplant case and do so by gaining a new lower brain and body.

What does the hylomorphic animalist have to say about brain-transplant scenarios? Whatever animalists of other sorts can say about such scenarios, the hylomorphic animalist can say the same. If hylomorphic animals do not go along with their brains in brain-transplant scenarios, then there is some tension between hylomorphic animalism and the most common intuition about such transplants. If hylomorphic animals do go along with their brains in such scenarios, then there is no incompatibility between hylomorphic animalism and the transplant intuition. Again, rather than settle this dispute, we can move to cerebrum-transplant scenarios instead, as it seems *prima facie* correct that organisms do not “go with” their cerebra.

Cerebrum-Transfer Scenarios

In order to consider a revised version of the Brown and Johnson case, it will be helpful to discuss the functions of the various parts of the brain. The brain divides into the cerebrum, cerebellum, and the brain stem. The cerebrum - composed of various lobes and the basal ganglia - is responsible for functions traditionally associated with persons such as abstract thought, language, reasoning, self-awareness, and speech³⁰⁷ It is also responsible for intelligence, personality, belief, memory, imagining, sensory integration,

³⁰⁷ “Brain Anatomy, Anatomy of the Human Brain.” Rogers, *The Brain and the Nervous System*, 12-13, 20, 23; “Brain Basics: Know Your Brain.”

emotion, planning, concentration, voluntary movement, and behavior.³⁰⁸ The cerebellum receives sensory information, coordinates muscle movements, and maintains posture and balance.³⁰⁹ The brainstem “acts as a relay center connecting the cerebrum and cerebellum to the spinal cord” and is largely responsible for the vital (vegetative) functions of human beings such as breathing, heartbeat, blood pressure, body temperature, digestion, and circulation.³¹⁰

Given these parts of the brain and their respective functions, consider a revised version of the Brown and Johnson case. On this version, Brown’s cerebrum (not his entire brain) is removed from his skull and placed in Johnson’s cerebrum-less (but not brainstem-and-cerebellum-less) body. Brown’s brainstem (along with the cerebellum) is left in Brown’s body to maintain control of Brown’s vegetative functions such as circulation, and respiration. In such a case, it seems that the aspects of Brown’s psychology that are associated with persons – his mental content such as his memories and beliefs, and his capacities such as rationality and self-awareness – goes with his cerebrum in the transplant so that the person who results from the transplant—that is, the person who results from the combination of Brown’s cerebrum and Johnson’s body and brainstem—is psychologically continuous with Brown pre-operation. That is, the

³⁰⁸ “Brain Anatomy, Anatomy of the Human Brain.” Sam Harris, “The Neural Correlates of Religious and Nonreligious Belief”; J. Frederico Marques, Nicola Canessa, and Stefano Cappa, “Neural Differences in the Processing of True and False Sentences: Insights into the Nature of ‘truth’ in Language Comprehension”; Rogers, *The Brain and the Nervous System*, 12-13, 20, 23; “Brain Basics: Know Your Brain.”

³⁰⁹ “Brain Anatomy, Anatomy of the Human Brain.” Rogers, *The Brain and the Nervous System*, 14, 39.

³¹⁰ “Brain Anatomy, Anatomy of the Human Brain;” Rogers, *The Brain and the Nervous System*, 13.

individual who results from the combination of Brown's cerebrum and Johnson's body (largely) has the same memories and beliefs as the pre-operation Brown and retains psychological capacities such as rationality and self-awareness. If the transplant intuition says that people "go with" the aspects of psychology mentioned above, then this intuition dictates that Brown goes with his cerebrum when it is transplanted. Brown receives a new body and brain stem. The cerebrum-less organism left behind is not Brown.

The psychological approach can easily account for the transplant intuition in cerebrum-transplant cases. Consider the version of the psychological approach which says that continuity of mental content such as memory and beliefs is sufficient for our persistence (whether that continuity has the narrow, wide, or widest cause). If our cerebrum realize our mental content, then when the cerebrum is transplanted, our mental content "goes with" our cerebrum in transplant cases. But if we go wherever our mental content goes, then we go with our cerebrum. Now consider the version of the psychological approach which says that continuity of mental capacities such as rationality and self-awareness is sufficient for our persistence (whether that continuity has the narrow, wide, or widest cause). If these mental capacities are realized in our cerebrum, then these mental capacities "go with" our cerebrum in transplant cases. But if we go wherever the neural correlates of these mental capacities go, then we go with our cerebrum in transplant cases. Thus, these psychological approaches can easily accommodate the transplant intuition. However, as mentioned above, the psychological approaches mentioned above have the counterintuitive consequences that were discussed in Chapter 1: they cannot say that we were early-term fetuses and they encounter a too-many-thinkers problem.

Olson's animalism says that you do not go with your cerebrum in cerebrum-transplant cases, but stay behind as the cerebrum-less organism. Why? On such cases, a living, breathing, cerebrum-less organism controlled by a brainstem which carries on various vegetative functions remains on the operating table after the surgery. The organism's psychology (i.e., the capacities of rationality and self-awareness and mental content such as memories and beliefs), allegedly, goes along with the cerebrum and is placed into a new body. If the more common intuition about the results of these hypothetical transplants is correct, we "go" along with our psychologies, and we leave behind the living, breathing organisms we once occupied. According to Olson, the living, breathing, cerebrum-less entity that stays behind is an organism and the cerebrum is not clearly an organism;³¹¹ and so, the former entity is a better candidate for being you than the latter.

But saying that we stay behind as a cerebrum-less organism comes with three costs. First, it conflicts with the transplant intuitions of many people who seem to understand how to use "person" in accord with accepted usage as well as the rest of us. Second, most people think that some aspect of our psychology such as rationality or memory has something to do with our persistence, but animalism entails that these aspects of our psychologies are neither necessary nor sufficient for our persistence. How so? In such transplant cases, we organisms come apart from our cerebra, which are the

³¹¹ In fact, Olson denies altogether that the cerebrum is an organism since he says that it is not responsible for any of the vegetative functions such as respiration, digestion, and metabolism. As mentioned in Chapter 1, Olson thinks that human beings have the persistence conditions of organisms rather than animals (so, he thinks that our capacities for sensation and locomotion have nothing to do with our persistence).

bearers of our mental content and rational capacities. Given this, these aspects of our psychologies are not necessary for our persistence – we can survive as cerebrum-less organisms. And neither are these aspects of our psychologies sufficient for our persistence because our capacity for rationality and our memories, beliefs, etc. might be destroyed while we survive as organisms. Third, person essentialism, the view that we are essentially persons, is nearly universally held. But if we can survive without these aspects of our psychologies, how can the animalist maintain that we are essentially persons? On Tooley’s account of personhood, something is a person “only if it possesses the concept of a self as a continuing subject of experiences and other mental states, and believes that it is itself such a continuing entity.”³¹² But in cases where we are cerebrum-less organisms, we lack such psychological features. Animalists like Olson reject person essentialism and it is partly because of cerebrum transplant scenarios.³¹³

How might the hylomorphic animalist deal with cerebrum-transplant cases? There is a *prima facie* tension here between hylomorphic animalism and the transplant intuition since it seems natural for the hylomorphic animalist to say that we stay behind as cerebrum-less organisms. Here I consider three possible positions the hylomorphic animalist might take in responding to cerebrum-transplant cases: (i) that as a result of the operation to remove the cerebrum, you cease to exist, (ii) that you stay behind as a cerebrum-less organism, and (iii) that you go with your cerebrum and continue to be an organism while a naked cerebrum. Each position has its costs and benefits. I will investigate each in turn and argue that option (iii) has the best benefits and the least costs.

³¹² Michael Tooley, “Abortion and Infanticide,” *Philosophy and Public Affairs* 2, no. 1 (1972), 44.

³¹³ Olson, 1997, 32; DeGrazia, *Human Identity and Bioethics*, 30

In addition, I will argue that option (iii) fares better than Olson's animalism at accounting for the transplant intuition.

We Cease to Exist

Perhaps the hylomorphic animalist should say that in transplant scenarios we cease to exist. After all, the hylomorphic animalist says that we are essentially rational animals, so a human animal cannot lose its personhood or our nature as organisms without ceasing to exist. But in transplant cases, the person and the organism seem to come apart: the person goes with the psychology and the biological but not-even-remotely-organism-constituting cerebrum, whereas the bulk of the organism stays behind devoid of mental content and the capacities in hand for rationality and self-awareness. If this is right, then the hylomorphic animalist has no principled basis on which to maintain that "we" move ahead into novel bodies, but nor does she have a principled basis on which to say that we stay behind as cerebrum-less organisms in our old bodies. And the only other option is to say we cease to exist.

This option seems reasonable. However, if a theorist could make the case that either the cerebrum-less organism left behind is actually a person or that the naked cerebrum is a rational animal, then she would give the hylomorphic animalist some reason for thinking we do not cease to exist in cases of cerebrum transplantation. In either case, the hylomorphic animalist who claims that we cease to exist would have to explain why a person ceases to exist when there remains in existence a rational animal that is materially continuous with the original animal that person used to be. In addition, Mark Spencer identifies a hylomorphic principle which further supports the claim that we do

not cease to exist in cerebrum-transplant cases, “that 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.”³¹⁴ If the case can be made that a rational animal survives the procedure, then unless one can argue that material conditions have deteriorated to the point where the soul can no longer inform the body, those of us who accept Spencer’s principle have reason to think that we survive cerebrum-transplant cases. But is it more reasonable to think that we survive as cerebrum-less organisms or as naked cerebra? It is to these options that I now turn.

Cerebrum-less Organisms

Patrick Toner is a hylomorphic animalist who holds that in cerebrum-transplant cases, we stay behind as cerebrum-less organisms.³¹⁵ That is, he holds to the view that we are essentially rational animals that are compounds of matter and form and that we can survive as cerebrum-less rational animals if our cerebra are removed. Toner follows Boethius in thinking that rational beings (persons) are “individual substances of a rational nature.”³¹⁶ And he follows Aristotle and Aquinas in thinking that being a sensing thing is what is definitive of animals.³¹⁷

³¹⁴ Mark Spencer, “A Reexamination of the Hylomorphic Theory of Death,” 856.

³¹⁵ Patrick Toner, “Hylemorphic Animalism.”

³¹⁶ Patrick Toner, “Hylomorphic Animalism,” 67.

³¹⁷ Patrick Toner, “Hylomorphic Animalism,” 74.

He gives two reasons for thinking that we stay behind. First, he claims that given that we are essentially animals and that naked cerebra are not animals (that is, they are not sensing things), we do not go with our cerebra.³¹⁸ Second, since there is a continuity of vegetative functions (such as breathing, heartbeat, regulation of blood pressure and body temperature, and digestion) between the pre-operation organism that has its cerebrum removed and the cerebrum-less organism that results from the operation, it seems reasonable to think that the pre-operation organism and the post-operation, cerebrum-less organism are the same organism (i.e., you), than to think that you ceased to exist or survived as a cerebrum.³¹⁹ Here's another way to put this second point: given the continuity of vegetative functions between the pre-operation and the post-operation organisms, there does not seem to be a substantial change that takes place by the removal of the cerebrum. If there is no substantial change, then the human being still exists. If she still exists, then she is a rational, sensing thing since she is essentially such a thing.³²⁰ So, the pre-operation organism who has her cerebrum removed did not cease to exist but is identical to the post-operation organism who has had its cerebrum removed.

Toner's account has, as a benefit, that we are essentially persons. So, unlike Olson's animalism, being a person is essential to who we are, and so has something to do with our persistence. It also has, as a benefit, that we are essentially organisms and

³¹⁸ Toner does not give reasons for thinking that the cerebrum is not an animal, but simply states it.

³¹⁹ Patrick Toner, "Hylomorphic Animalism," *Philosophical Studies* 155 (2011): 65–81, 76. Eric Olson give a similar reason for thinking that you do not go with your cerebrum; *The Human Animal*, 11-12.

³²⁰ How is a cerebrum-less organism rational? See below.

animals (something the psychological approach denies). Before the surgery, during the surgery, and after the surgery, you persist and remain an organism and animal even if a cerebrum-less one.

But Toner's view raises some potential worries. First, it cannot account for the most common intuition about cerebrum transplants. According to Toner, we stay behind as cerebrum-less entities rather than go ahead with our cerebra, but most people think we "go" with our cerebra (since we go with those aspects of our psychology associated with being a person). Second, if we can survive as cerebrum-less organisms, then (as would be true according to Olson's animalism) it seems that our beliefs, memories, rationality, and self-awareness have nothing to do with our persistence. But surely these things do have something to do with our persistence. Furthermore, if we can survive without any continuity in these aspects of our psychologies, how is it that we are essentially persons? As mentioned earlier, most proponents of animalism (including Eric Olson) reject the view that we are essentially persons in part because of cerebrum transplant scenarios.³²¹ Finally, it is not very clear that a cerebrum-less entity can sense. But Toner thinks that it is essential to being an animal that a thing can sense. How is it that human beings can stay behind as cerebrum-less entities if such entities cannot sense?

Regarding the first worry, Toner plainly admits that his account cannot satisfy the transplant intuition. However, he questions the metaphysical import of this intuition.³²²

³²¹ Olson, 1997, 32; DeGrazia *Human Identity and Bioethics*, 30

³²² Toner, "Hylemorphic Animalism, 80. Toner is inclined to think that the way to determine where we go is not by intuition but by having a worked out theory of persistence and persons. He admits, though, that theories of personhood are informed and judged by intuition, so theory is not all that matters.

Secondly, regarding memories, beliefs, and such aspects of our psychologies as important to our persistence, Toner points out that his account fares better than ordinary animalism in that we are rational beings by nature.³²³ That is, it is an essential property of human beings that they are rational, and so, thinking, psychological things. Admittedly, he does not think that anyone's current psychology (their memory, personality, beliefs, etc.) or capacity in hand for rationality is necessary or sufficient for their persistence. So, this makes it possible for a person and these aspects of their psychology to part ways, as in cerebrum-transplant cases. But the question remains: how exactly is it that we remain persons and remain psychological beings when our psychology has been removed along with our cerebra? The way that Toner answers this can be used as a reply to the third worry for his account: How is it that human beings, who are essentially sensing things, can stay behind as cerebrum-less entities that cannot sense? After giving Toner's reply to the first question, I will give his reply to the second.

So, if our psychological capacities such as rationality and self-awareness and our mental content such as our memories and beliefs are neither necessary nor sufficient for our persistence, then how is it that we are essentially persons? How is it that we remain persons and psychological, rational beings while we are cerebrum-less? The answer to this question lies in the distinction between a natural potential and a capacity in hand. If the human being still persists in the cerebrum-less state, then since the human is a rational animal by nature, he possesses the natural potential for rationality even if he lacks the capacity in hand for rationality (and even if he never again has the capacity in hand). That

³²³ Toner, "Hylemorphic Animalism," 80.

is, he is still a rational being by nature even if he cannot exercise his rationality. He is a rational and sensing thing in that he is the sort of thing that by nature has the potential for rationality and sensation. And the evidence, for Toner, that he still exists is that his vegetative functions continue uninterrupted throughout the entire cerebrum-transfer procedure. So, our psychology has something to do with our persistence in that we cannot cease to be psychological beings yet continue to exist. But, Toner's position is different from the psychological approach in that continuity of memory, personality, beliefs, etc. and the retention of the capacity in hand for rationality and self-awareness (or some combination of these) is not necessary for our survival. We can survive the sudden and complete loss of all of these features. But what cannot be lost is our nature. So psychological continuity does not constitute our identity over time, though Toner allows that it can serve as evidence for our identity over time.

The distinction between a capacity in hand and a natural potential also helps us give an account for how it is that the cerebrum-less entity qualifies as an animal, a sensing being. Even if a cerebrum-less human beings does not have the capacity in hand to see, hear, etc. it still has the natural potential to sense in that it is the sort of being that senses by nature.

Cerebrum Organisms

Although Toner's account seems reasonable, it has a problem that it cannot get around. Allow me to bring that problem to the forefront by laying out the final position – the position I favor – that the hylomorphic animalist might take in response to cerebrum-transplant scenarios. On this view, we are essentially rational animals, we survive the

cerebrum-transplant procedure, and we go with our cerebra rather than stay behind as cerebrum-less organisms. What is it to “go with our cerebra” as a result of the procedure? It means that during the procedure, we are whittled down to the size of a cerebrum and our form ceases to inform the portions of matter that helped make up the portions of our body that were cut away as a result of the procedure. Instead, our form now informs just the prime matter that – together with the form – makes up the cerebrum. This position, if it can be defended, retains the benefits of Toner’s account – that we are organisms, animals and persons essentially – while accommodating the transplant intuition.

Having laid out my position, I now return to the problem for Toner’s view that I think he cannot get around and afterwards I will give a reason for thinking my position is correct. Toner thinks that he has a reason for thinking that we stay behind in cerebrum-transplant cases rather than go ahead with our cerebra. What is that reason? That the continuity of vegetative functions between the pre-operation organism with the cerebrum (entity A) and the post-operation, cerebrum-less organism (entity B) gives us a reason for thinking that A is identical to B. However, this same sort of reasoning can be given in terms of psychological continuity in support of the claim that we go along with our cerebra: there is psychological continuity between the pre-operation organism with the cerebrum (entity A), the extracted cerebrum (C), and the post-operation organism (D) made up of C and a new body. That is, presumably, A, C, and D will largely share the same memories, beliefs, personality, etc. and will possess the capacity for rationality. Given that hylomorphic animalists say that we are both essentially psychological beings and essentially animals, why should we take the vegetative continuity between A and B as evidence of what happens to the human being rather than the psychological continuity

between A, C, and D? That is, our rational nature and our animal nature are both essential to our persistence, so why should we favor one over the other in determining what happens to us in transplant scenarios? Unless we have an additional reason for favoring the identity of A and B over the identity of A, C, and D, it seems arbitrary to favor the identity of the former over the latter.

Toner might respond that even if there is some sort of psychological continuity between A, C, and D, A cannot be identical to C and D because humans are essentially animals and cerebra are not since they lack the capacity for sensation. But in response to Toner, I would employ a distinction similar to the one he uses to defend his view that a cerebrum-less organism is a rational, sensing being. He says that although it seems that the cerebrum-less entity is not rational, it is rational in the sense of possessing a rational nature (and thus, possessing the natural potential for rationality). And although it seems that the cerebrum-less entity cannot sense, it has the capacity for sensation in that it is a sensing thing by nature. We can say the same thing of the cerebrum regarding the capacity for sensation (and rationality, if you like). If the human being goes along with the cerebrum, then although it seems like the cerebrum is not an animal because it has no sense organs, it has sensation in the sense of belonging to a kind that senses by nature (the kind being *animal*). That is, it has the natural potential for sensation even if it currently cannot exercise that capacity and even though it lacks sense organs. So if the human being has gone along with the cerebrum, then the situation we have is this: as a result of the extraction of the cerebrum from the body, the human being has been pared down to the size of a cerebrum. Even still, the human being is an entity composed of a rational soul and prime matter. Even if cerebra do not and cannot carry out animal

functions, if they are informed by a rational soul, then they possess the capacity for those functions in virtue of belonging to the kind *human being*. Since the rational soul is responsible for the various functions of the human being, including the vegetative and sensitive functions, and carries within it the capacity for these functions, when the human being is pared down to the size of a cerebrum, he retains the natural potential for the animal functions. In sum, if the extracted cerebrum is the original human being, then it is an animal. If it is animal, then it possesses the natural potential for the animal functions even if it cannot exercise them.

So Toner and I are at a standstill. I can employ the same sort of reasoning in support of my position that he can employ in support of his. The way to break the standstill (and find out where we go in transplant scenarios) lies in where our rational form goes. On my version ofhylomorphic animalism, we do not persist in virtue of our biology or our psychology. We persist in virtue of the persistence of rational form inhering in a particular chunk of matter. If our form continues to inform the matter of the cerebrum-less entity, then we survive as a cerebrum-less entity. If our form goes along with the cerebra (that is, if it ceases to inform the entire body during the procedure and informs just the cerebrum while it is being transplanted), then we go along with our cerebra. The persistence of vegetative, sensitive, or psychological functions can at best serve as evidence of the persistence of the form.

Is there a way to know where the form has gone in cerebrum-transplant cases? I offer two pieces of evidence that the rational soul (and so, the human being) goes along with the cerebrum. First, Mark Spencer identifies two hylomorphic principles which

indicate that the soul goes with the cerebrum and does not stay behind with the cerebrum-less entity from which the cerebrum was removed:³²⁴

(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.

Spencer's first principle provides good reason to think that the human being does not go out of existence in cerebrum-transplant cases. Given that the rational soul will inform matter as long as possible, the separation of the cerebrum and the body is not sufficient to end the human being's existence. Neither the cerebrum nor the cerebrum-less organism have deteriorated to a point that the rational soul can no longer inform them.³²⁵ (What degree and kind of deterioration would render a body unfit for information by a rational soul? This question is not easy to answer. But the cerebrum and the cerebrum-less organism are still relatively organized or structured and this helps support the intuition that they can be informed by a rational soul.) The second principle helps us determine that the soul goes with the cerebrum instead of staying behind with the cerebrum-less organism. Every soul, whether rational, sensitive, or vegetative, will seek to implement its "highest" powers as long as it is able. Given this, the rational soul, even though it carries out the vegetative and sensitive functions as well as the rational functions, will seek to implement the rational functions as long as it is able. Since it cannot carry out those functions if stays with the matter devoid of a cerebrum and it *can* carry out those

³²⁴ Mark Spencer, "A Reexamination of the Hylomorphic Theory of Death," 856.

³²⁵ Technically, the cerebrum and the cerebrum-less organism are not what the rational soul informs. Prime matter is what the rational soul informs. The cerebrum and cerebrum-less organism are objects that result from form inhering in prime matter.

functions if it informs the chunk of matter that helps compose the cerebrum, it will inform the chunk of matter that helps compose the cerebrum in case the cerebrum is separated from its body.

The second reason that the hyломorphist can cite to support the claim that we go with our cerebra is that those who contribute to the personal identity literature commonly assume that the rational capacities and mental content of the person go along with the cerebrum in cerebrum-transplant scenarios. If they are correct in assuming that these aspects of a person's psychology goes along with her cerebrum, this is evidence that her rational soul has gone along with her cerebrum. Here's another way to put it. Any material object that is capable of abstract thought is informed by a rational soul. So, if the cerebrum is capable of abstract thought, it has a rational soul. But if it has a rational soul, we should not suppose that its soul suddenly sprang into existence with all the same memories, personality, etc. as the original human being; rather, we should suppose that it is the original rational soul that previously informed the pre-operation organism. On my view of personal identity, so long as the soul persists, the human being persists and wherever the soul goes, the human being goes. Thus, if we have evidence that the soul persists, then we have evidence that the human being persists. This is not to say that human beings persist in virtue of their psychology. Rather, it is to say that the persistence of a human being's psychology is evidence of the persistence of her soul. In order to hold to his account of transplant scenarios, Toner must explain away this evidence.

Before moving on to other transfer scenarios, we must consider whether my claim that we go with our cerebra is in tension with my claim that we can survive in a persistent

vegetative state. That is, how can I consistently say that the cerebrum-less entity that results from a cerebrum-transfer scenario does not possess the original rational soul, but that patients in a persistent vegetative state do? Spencer's principles can assist us here:³²⁶

(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.

Principle (2) helps us determine that, in cerebrum-transplant scenarios, the rational soul goes with the cerebrum rather than stays behind with the cerebrum-less entity. That is, since the rational soul will implement its rational functions as long as it is able, it goes with the cerebrum. This means that the cerebrum-less entity left behind possesses a numerically distinct soul. As for PVS cases, per principle (1), the continuation of the vegetative functions in a PVS patient is evidence that material conditions have not deteriorated to the point that the soul is no longer able to inform the body. Per principle (2), the soul realizes the functions that it can while retaining the natural potential for the functions that it cannot. That is, it continues to implement the vegetative functions while being unable to implement the rational and sensitive functions. If a PVS patient recovers, the soul begins to realize the sensitive and rational functions again. Thus, we have a principled reason for treating cerebrum-transfer cases differently than PVS cases.

³²⁶ Spencer applies these principles to address this specific issue in "A Reexamination of the Hylomorphic Theory of Death," 857.

Other Transfer Scenarios

What should the hylomorphic animalist say about Parfit's My Division, teletransportation, and Shoemaker's brain-state-transfer scenario? Consider My Division first:

My body is fatally injured, as are the brains of my two [twin] brothers. My brain is divided, and each half is successfully transplanted into the body of one of my brothers. Each of the resulting people believes that he is me, seems to remember living my life, has my character, and is in every other way psychologically continuous with me. And he has a body that is very like mine.

How can the hylomorphic animalist respond? The hylomorphic animalist who thinks that transferring my brain into another organism results in my death (since I do not go along with my brain, but die a brainless death on the operating table) has an easy response. They will simply say that My Division results in my death. However, if each of my brothers wake up thinking they are me, this seems to be evidence that I survived somehow.

What about hylomorphic animalists (like me) who think that we go along with our brains in brain-transplant scenarios? Perhaps My Division is a case in which the hylomorphic organism fissions out of existence because fission involves substantial change. We can support this claim using the composite continuity view. On this view, material continuity is necessary for our persistence and material continuity requires some degree of material overlap. The degree of overlap that is required is the continued informing of enough of the matter that composes the matter-form composite to be the matter-form composite of a living person. Maybe the fission of the brain is a case in which not enough of the matter is informed for it to be the form of a living person. If so,

then I have died and my form no longer informs my matter. If the surgery is successful – that is, if my brothers each wake up thinking he is me – it must be because each half of my brain took on a new form once my matter-form composite ceased to exist. Then, once a given half of my brain was placed into one of my brothers' skulls, the form of that half of my brain began to inform the formerly brainless body of that twin brother.

How can the hylomorphic animalist respond to cases of teletransportation? The composite continuity view has an easy response since it implies that we are not transferred in such cases. How so? Recall, first, that the composite continuity view requires material continuity. That is, on this view, in order for us to persist, the matter-form composite with which we are identical must persist. Further, for a matter-form composite to persist, the matter of the composite must be continuous. Thus, for us to persist through time, there can be no space or time gaps in our existence. Since teletransportation requires a material gap between the person who is copied (person₁) and the duplicate of that person (person₂), there cannot be material continuity between the person and the duplicate. Thus, on the composite continuity view, person₁ and person₂ are not numerically identical. The same goes for cases of brain-state transfer. Since brain-state transfers require a material gap between the person whose brain state is copied (person₁) and the person onto whom the brain state is transferred (person₂), there cannot be material continuity between person₁ and person₂. Thus, on the composite continuity view, person₁ and person₂ are not numerically identical. If the transplant intuition says that we are transferred in teletransportation and brain-state-transfer cases, then the composite continuity view conflicts with the transplant intuition in such cases. But perhaps we can mitigate the sting of this consequence. First, perhaps fewer people have

the intuition that we would survive teletransportation and brain-state transfers than would say that we survive a brain or cerebrum transplant. Why? Because teletransportation is lacking the normal cause for our psychology – the brain. Second, since the composite continuity theorist says that teletransportation and brain-state transfers do not preserve our identity, he does not fall prey to teletransportation and brain-state-transfer scenarios in which more than one copy of a person (or brain state) is made.

CHAPTER 5: HYLOMORPHISM AND MULTIPLICATION OBJECTIONS

We saw in Chapter 1 that certain responses to the thinking-organism argument lead to a so-called multiplication objection. In particular, suppose one responds to the thinking-organism argument by denying premise 3, that the one and only thinking being sitting in your chair is none other than you. This leads to the various too-many-thinkers problems such as the overcrowding problem, the epistemic problem, and the personhood problem. Animalism avoids the too-many-thinkers problem by saying that the one and only thinking being sitting in your chair is the organism sitting there and you are numerically identical to it. However, animalism suffers from multiplication problems of its own, as was pointed out in Chapter 1: the remnant-person problem, the corpse problem, the thinking-parts problem, and problems related to varieties of conjoined twinning. The remnant-person problem and the corpse problem involve cases in which there is more than one entity thinking your thoughts, for example, your organism and your body. Conjoined twinning cases present a problem for animalism in that the number of human organisms and the number of human persons that seem to exist doesn't correspond to the number of human organisms and the number of human persons that animalism says there should be in such cases.

Hylomorphic animalism carries the same benefit as animalism in that it identifies you and the organism. On hylomorphic animalism, there is one and only one thinking being sitting in your chair. But does hylomorphic animalism suffer from multiplication problems of its own, like animalism does? If so, how can the hylomorphist respond? I examine each of the multiplication problems brought up against animalism to see if they

apply to hylomorphic animalism as well. In addition, I bring up multiplication problems specific to hylomorphic animalism, but argue that hylomorphic animalism has the resources to address these problems.

The Remnant-Person Problem

As seen in Chapter 1, the remnant-person problem arises for animalists as a result of their response to cerebrum-transplant scenarios. Animalists such as Olson say that when a cerebrum transplant occurs, the organism does not go with its cerebrum, but stays behind as a cerebrum-less organism. But if the cerebrum is capable of supporting thought and consciousness during the transplant—when it's connected neither to the donor nor the recipient—then it seems to qualify as a person. If the human organism does not go with its cerebrum during the operation, then the cerebrum is not numerically identical to the human organism who donated it since something cannot come apart from itself. But then, if the cerebrum is a person, where did this person come from? Either it existed in the same location as but not identical to the human organism prior to the operation or it came into existence once it was removed from that organism. Neither option is attractive. The former suffers from various too-many-thinkers problems—prior to the operation, there were two thinkers (even persons) where we thought there was one (the organism and its cerebrum); and how does the organism know which of these people she is? Should we then say that the cerebrum becomes a person when it is removed from the skull? This option violates a plausible principle—“that you cannot bring a person into being merely by cutting away sustaining tissues.”³²⁷ That is, since we are supposing that the cerebrum was not a person until it was removed from the organism, we must then suppose that the

³²⁷ Olson, “The Remnant-Person Problem,” 6.

removal of the sustaining tissues surrounding that cerebrum brought a person into existence. And this conflicts with the intuitions articulated with the aforementioned principle.

Furthermore, once the brain is connected to the recipient's body, what happens to the remnant person? It cannot exist as an organism, according to Olson, since organisms cannot survive as detached cerebra or start out as detached cerebra and then become organisms. So the remnant person and the organism are distinct. If this is the case, either the remnant person continues to exist or it ceases to exist once it is implanted. On the former option, after the transplant, the cerebrum is still a person and so is the organism. This gives rise to the various too-many-thinkers problems. But the latter option goes against a plausible principle—"that you cannot destroy a person merely by surrounding him with sustaining tissues."³²⁸ In other words, if the remnant person is destroyed once the brain is transplanted, then it is possible to destroy a person merely by surrounding him with sustaining tissue.

So goes the remnant-person problem for animalism. Does hylomorphic animalism suffer from the same issue? Before I answer this, recall that hylomorphists differ in their response to cerebrum-transplant scenarios. Some, like Toner, say that we organisms do not go along with our cerebra in cerebrum-transplant scenarios but stay behind as cerebrum-less organisms. Others, like me, say that we do go along with our cerebra and leave behind a cerebrum-less organism. A remnant-person problem arises on Toner's account but not mine. However, my view (as explained below) gives rise to a remnant-

³²⁸ Olson, "The Remnant-Person Problem," 6.

organism problem. So, whether a hylomorphist holds to Toner's view or mine as a response to cerebrum-transplant scenarios, a remnant-entity problem arises. However, in either case, the hylomorphist can give a plausible response to the remnant-entity problem using the resources of hylomorphic animalism.

Consider Toner's response first. If a naked cerebrum is capable of conceptual thought, then the cerebrum can engage in conceptual thought while being transplanted from one organism to another. But if the cerebrum is engaged in conceptual thought during the transplant, then it is a person. But if Toner is right about cerebrum-transplant scenarios, the naked cerebrum is not the person whose cerebrum it was. That is, a normal person stays behind as a cerebrum-less organism once his or her cerebrum is removed. But if the naked cerebrum is a person that is not identical to that original organism, where did it come from? Either this person was co-located with but not identical to the original organism prior to the surgery or it popped into existence once the cerebrum was removed from the skull of the original organism. Further, once it is transplanted, either this person continues to exist in the same location as but is not identical to the new organism or it ceases to exist once the transplant takes place. Clearly, Toner's account suffers from the remnant-person problem.

On my response to cerebrum-transplant scenarios, the organism goes with its cerebrum. It does not give rise to a remnant-person problem because the cerebrum person is identical to the original organism. The cutting away of the body from the cerebrum reduces the size of the human person to that of a cerebrum. The person is taken and placed into a new body and continues its existence. However, while my account does not

give rise to a remnant-person problem, it does give rise to a remnant-organism problem. After all, once the body is cut away from the cerebrum and the cerebrum is taken away, there is a living, breathing organism left on the operating table. This organism is not identical to the original organism since the original organism goes with the cerebrum. Thus, this now cerebrum-less organism was either co-located but not identical to the original organism prior to the surgery or it popped into existence once the cerebrum was removed from the skull. Further, what about the organism into which the cerebrum is placed? During the surgery but before transplant, that organism lay cerebrum-less on an operating table. Once the cerebrum is placed into its skull, if the original organism survives the operation (the organism who was once a naked cerebrum), what happens to the cerebrum-less organism into which the cerebrum was placed? Either it is now co-located but not identical to the original organism or it ceased to exist once the surgery was complete. So, although my take on cerebrum transplants does not give rise to a remnant-person problem, it gives rise to a remnant-organism problem. And this is equally problematic. Thus, hylomorphic animalism, like Olson's animalism, gives rise to a multiplication objection of its own due to transplant scenarios – a remnant-person problem if one says that the original organism stays behind on the operating table or a remnant-organism problem if one says that the original organism goes along with its cerebrum.

How should the hylomorphist respond to such problems? Though the problems are distinct, the solution is the same: for the hylomorphist, cerebrum transplants result in the formation of a new substance and hylomorphists can give an account of why such surgeries have this result. The account involves two hylomorphic doctrines that I

discussed in Chapter 2. The first is that “no substance has a substance as a proper part.”³²⁹ Why is this the case? According to Eleonore Stump, it is because “a substantial form of a material thing configures prime matter; but if a substantial form were to configure what is already configured by a substantial form, then it would be configuring a matter-form composite, not prime matter.”³³⁰ Since substances are composites of prime matter and substantial form, any proper spatial part of a substance – like an atom in a molecule – will not itself be a substance since it is made up of matter that is already configured.³³¹ Thus, a proper spatial part of a substance cannot itself be configured by a substantial form that is distinct from the substantial form of the substance itself; instead, it is configured by the substantial form of the substance of which it is a proper part. So, the proper parts of substances are not themselves substances. Now let us apply this to humans. On hylomorphism, human beings are substances. But human beings have proper parts, like atoms, cells, fingers, hearts, and cerebra. Since each of these are proper parts of the human being, they are not themselves substances. When an atom that is not itself a proper part of a substance becomes a proper part of a human being, it undergoes a substantial change: it ceases to be a substance in its own right, becomes a spatial region

³²⁹ Patrick Toner, “Emergent Substance,” 287. See also, Stump, *Aquinas*, 39, 195. Toner’s main defense of this view is that holding that substances have no substances as proper parts allows one to avoid what he calls the vagueness argument for unrestricted composition (where unrestricted composition says that “any two objects compose a third”) and the overdetermination argument for eliminativism (where eliminativism says that certain “(alleged) macrophysical objects—humble things like chairs, tables, or baseballs—do not exist”); Patrick Toner, “Emergent Substance,” 282-285.

³³⁰ Stump, *Aquinas*, 39. As Stump reminds her readers, this isn’t to say that the substantial form of a matter-form composite might be replaced by a new substantial form, thus resulting in a new matter-form composite.

³³¹ So, human beings *do* have parts, just not *substantial* parts. A spatial part, according to Toner, is a “geometrically defined section of the substance;” Patrick Toner, “Emergent Substance,” 288. As discussed earlier in the dissertation, the metaphysical parts of a substance – matter and form – are not themselves substances either.

of the human being, and the form of the human being begins to determine its organization and function within the human being.³³² Note, though, that the proper spatial parts of substances retain what Toner calls a *nominal presence* in the substance. Consider, as an example, an atom that is a proper part of a human being. In being nominally present, the spatial region in the human being that the atom takes up will exhibit the properties of a substantial atom. The difference between a substantial atom and an atom that is nominally present in the human being is this: the properties of a substantial atom are had by the substantial atom itself whereas the properties exhibited by the nominally present atom will be had by the human being rather than the atom.

The second doctrine is that matter cannot exist uninformed.³³³ This doctrine reflects the nature of matter itself, that is, prime matter.³³⁴ Recall that prime matter is

³³² This view does not deny that a substance can have another substance within its boundaries. If a person swallows a fly and the fly remains alive for a bit in the person's stomach, the person has a substance within his boundaries, but not a substance as a proper part. The fly only becomes part of the substance once it is digested and integrated into the person's body. Or suppose, more radically, that one person, person A, has a tiny person, person B, inside her brain. If B is integrated into the body of A and is therefore organized and controlled by A's form, then B is not a substance in her own right (and therefore, is not a person in her own right). But if B is not integrated into the body of A, then B is not part of A and merely exists within the boundaries of A. On this option, B would be a distinct substance and person.

³³³ Aristotle, *Metaphysics* 9.7.1049a19-b1; Aquinas, *The Principles of Nature* 2.112-18: "Matter is never completely without form and privation, because it is sometimes under one form and sometimes under another. Moreover, it can never exist by itself; because, since it does not have any form in its definition, it cannot exist in act, since existence in act is only from the form. Rather it exists only in potency. Therefore whatever exists in act cannot be called prime matter"; As Brower says, "Insofar as prime matter is a being in pure potentiality, it has no form or actuality through itself, but only via inherence. But, given the close connection between actuality and existence, for Aquinas, this just entails that prime matter cannot exist without some form inhering in it. Indeed, for prime matter to exist, he says, just is for it to have actuality in this way, and hence to be a part of a larger compound" *Aquinas's Ontology of the Material World*, 19. See also Pasnau, *Thomas Aquinas on Human Nature*, 44.

³³⁴ The other sort of matter, secondary matter, it is not matter in the strict and proper sense. The strict and proper sense of matter is that which has no form in itself. Secondary matter is composed of matter and form and is only referred to as matter because of its potential to receive form.

pure potentiality, having *in itself* no actuality, and that it exists in actuality only when it is informed. On this view, any actually existing chunk of matter will not be matter in itself, but will be informed matter. So, for example, in cerebrum-transplant scenarios, when a cerebrum is removed from the skull of its organism, the matter of that cerebrum is not an uninformed chunk of prime matter. Instead, it possesses form and the cerebrum itself is a matter-form composite.³³⁵

Given these two doctrines, I can now explain why hylomorphists think that cerebrum-transplant scenarios result in the formation of a new substance. Consider Toner's response to transplant cases first, in which the original organism stays behind as a cerebrum-less entity and does not go with the cerebrum. When the cerebrum and the original organism part ways, the soul of the original organism continues to inform the matter of the original organism (with the exception of the matter of the cerebrum). Once the cerebrum is removed, it is no longer informed by the form of the original organism. But it cannot exist uninformed since it is partly composed of matter and matter cannot exist uninformed. Thus, when the cerebrum is removed, it takes on a new form and acquires new functions in virtue of this form.³³⁶ The naked cerebrum, then, with its new form, is a matter-form composite in its own right. That is, it is its own substance. It was

³³⁵ Another option is that the cerebrum is an aggregate of substances but is not a substance itself. But if the naked cerebrum possesses can think, as is often supposed in the personal identity literature, it will be a substance - thinking is not an activity that takes place via the cooperation of various substances in an aggregate, but thinking takes place within a substance. If the naked cerebrum exhibits rational activity, it possesses a rational soul and qualifies as a substance. If other parts of the human organism are removed, they may not possess a single soul that informs the entire part, but may be aggregates of smaller substances. Consider, for example, a clipping of a finger nail. Is there a form *finger nail clipping* which makes this detached part a substance? Or is it a composite of smaller substances?

³³⁶ Patrick Toner, "On Hylomorphism and Personal Identity," 465-466.

not a substance prior to being removed from the original organism since, according to the first hylomorphic doctrine, substances do not have substances as parts. Rather, the cerebrum comes into existence qua substance once it is removed from the organism of which it was a proper part.³³⁷ In the same way, since the cerebrum of the original organism, prior to the surgery, is integrated into the body of that organism so that the organization and function of the cerebrum is controlled by the original organism's form, the cerebrum is not a substance in its own right, and so, does not exist as a substance or person pre-operation.

Now we are in a position to respond to the remnant-person problem. Recall that the respondent to the problem can either say that this remnant person was co-located with but not identical to the original organism prior to the surgery or that it popped into existence once the cerebrum was removed from the skull of the original organism. On the former option, there is a too-many-persons problem, and on the latter option, it is odd to say that a person comes to be because of the surgery. The hylomorphist can deny that the cerebrum was a person substance prior to the surgery because people are substances and the cerebrum was not a substance prior to surgery. The hylomorphist can therein avoid the too-many-thinkers problem. If the cerebrum becomes a substance in its own right only when it is removed from the original organism, it is not a substance prior to being removed. And if thinkers and people are substances, the cerebrum was neither a thinker

³³⁷ What sort of substance is it? This depends on the sort of form that it possesses, which can be determined by the sort of functions of which it is capable. If the cerebrum is capable of rationality, as is supposed in personal identity thought experiments, then it will possess a rational soul. As an alternative, one could say that the cerebrum is not a substance in its own right. Since matter cannot exist uninformed, then presumably the cerebrum will be an aggregate of smaller substances. Toner responds in this way: 1. Patrick Toner, "Hylomorphism, Remnant Persons and Personhood," *Canadian Journal of Philosophy* 44, no. 1 (January 2, 2014): 89.

nor a person prior to surgery. Thus, the hylomorphist has principled grounds on which to argue that the cerebrum is not a thinker in addition to the organism. Rather, it is the human organism itself who thinks. He or she does this using certain spatial regions of her body (notably, her cerebrum). But it is the person as a whole who has the capacity for thought. The hylomorphist can embrace the second option – that a person comes to be because of the surgery – and can soften its oddness by giving a principled reason for her adoption of this stance. Since matter cannot exist uninformed and the form of the original organism does not inform the matter of the cerebrum once it is removed from the organism, that matter must take on a new form. But the taking on of a form by matter is just what it is for a new substance to come into existence. Thus, it is no mystery as to why a new substance comes to be because of the surgery.

What should the hylomorphist say happens to the cerebrum once it is placed into a new body – that is, into a living, but cerebrum-less human organism? I propose that the cerebrum substance ceases to exist as a substance in its own right. This is because, once the cerebrum is integrated into the organism, it becomes part of the living organism that received it and the form of that living organism now controls the cerebrum (i.e., organizes its matter, determines its functions, etc.).³³⁸ On hylomorphism, it is not mysterious that the cerebrum (as a substance) ceases to exist once it is placed into a new organism. Since substances do not have substances as parts and since the form of a substance informs each part of the substance, once the cerebrum is placed into the new

³³⁸ As an alternative, one might say that the cerebrum does not cease to exist as a substance, but begins to inform the organism into which it is placed. I can think of no principled reason for preferring one of these positions over the other.

organism (and integrated into that organism), it becomes part of that organism and is informed by the form of that organism.³³⁹

So much for Toner's view of what happens during cerebrum transplants. What about my view, where the original organism does not stay on the operating table as a cerebrum-less entity, but goes along with its cerebrum (rather: the human organism is reduced to the size of a cerebrum)? If the original organism goes along with the cerebrum, then the form of the original organism informs the cerebrum and does not inform the cerebrum-less entity that remains on the operating table. Since the entity on the table is composed partly of matter, it must be informed. Thus, the cerebrum-less entity on the operating table possesses a form, one proper to its organization and capacities.³⁴⁰ This entity did not exist prior to the surgery since substances cannot have substances as parts. That is, the original organism did not have this cerebrum-less substance as a part (though the matter that now composes the cerebrum-less substance was part of the original organism prior to the surgery), but the cerebrum-less substance "popped" into existence as a result of the surgery. Thus, the too-many-thinkers problem is avoided. And the oddness of an entity popping into existence as a result of the surgery is mitigated given the hylomorphic contention that matter cannot exist uninformed.

³³⁹ However, there may be a period of time during which the cerebrum retains its status as a substance. This would be after it is placed into the skull of the new organism, but before it becomes integrated into the new organism and the form of the new organism takes over the organization and functions of the cerebrum. Once the form of the new organism begins to inform the cerebrum, the cerebrum substance ceases to exist and becomes part of the new organism.

³⁴⁰ What sort of form does the cerebrum-less organism possess? It is not crucial for my argument. But, it seems that it does not possess a rational soul since an entity without a cerebrum does not naturally possess the capacity for rationality. Thus, it either possesses a sensitive or vegetative soul, depending on its capacities.

Once the cerebrum is placed into the skull of the new, recipient organism and the cerebrum becomes integrated into the recipient organism, the form of the cerebrum (that is, the form of the original organism) takes over the organization and functions of the recipient organism and the recipient organism ceases to exist.³⁴¹ In its place is the original organism. So, whether thehylomorphist holds that the original organism stays behind as a cerebrum-less entity or goes along with the cerebrum and is transplanted into a new body, he has a response to the remnant-person problem that fits well with his theory.

The Corpse Problem

The corpse problem arises for those animalists who think that organisms cease to be when they die (rather than continue to exist as a corpse).³⁴² When an organism dies, it leaves a corpse or body behind. But where did this entity that is left behind come from? As in the remnant-person problem, this entity either popped into existence when the organism died or it existed in the same location as but distinct from the organism when the organism was alive. The former option is strange, since a new object comes to be every time an organism dies (and because of the death of an organism). The latter option is not attractive either, since it gives rise to the various too-many-thinkers problems. While the organism is still alive, there are two thinkers (even persons) where we thought

³⁴¹ Why think that the recipient organism ceases to exist rather than the cerebrum? Well, keep in mind that the cerebrum is identical to the original organism. That organism has certain memories, beliefs, desires, etc. If the entity that results from the surgery – the combination of the recipient organism and the cerebrum – has the memories, beliefs, desires, etc. of the original organism, this is good evidence that the original organism survived the operation and the recipient organism did not.

³⁴² For those animalists who think that organisms survive beyond their deaths as corpses, there is no corpse problem. This is because the corpse/body of the organism and the organism are identical, so there is no problem of explaining where the corpse came from. It is the same entity that was once living and breathing and thinking only now it has ceased living and breathing and thinking.

there was one (the organism and the body); and how does the organism know she is the person who is an organism rather than the person who is a body?

Hylomorphism has the theoretical resources to explain what takes place when an organism dies. It takes death to be substantial change.³⁴³ Substantial change involves the ceasing to be of one substance and the coming to be of a new substance. When the organism dies, the matter-form composite that it was ceases to be. The form of the organism ceases to inform the matter of the organism. (That the body ceases to be self-integrated and begins to decompose is evidence of this.) But the chunk of matter that composed the organism still exists. Since matter cannot exist uninformed, a new form begins to inform the matter and a new matter-form composite comes to be, namely, the corpse. (Alternatively, one might say that corpses do not exist as substances in their own right, but are aggregates of smaller substances. On this picture, many different substances with different forms come to be because of the death of the organism.) So, the hylomorphist can respond to the corpse problem by explaining on principle the respect in which a corpse “pops” into existence when an organism dies. This avoids the too-many-thinkers problem since the corpse did not exist in the same location as but distinct from the organism when that organism was alive. And, even though it may seem odd to think that a corpse “pops” into existence every time an organism dies, hylomorphism minimizes the unintuitive nature of this result by utilizing fully general metaphysical or conceptual resources to explain why this happens.

³⁴³ Patrick Toner, “Hylemorphic Animalism,” 71.

The Thinking-Parts Problem

The thinking-parts problem for animalism is similar to the thinking-organism problem. On the thinking-organism problem, you are not identical to your organism and your organism seems to be just as good a candidate for thought as you. On the thinking-parts problem, the brain-inclusive proper parts of organisms are not identical to the organisms themselves but are just as good a candidate for thought as the organism. For example, if brains think, then not only can brains and organisms think, but the proper parts of an organism that include its brain can think as well, such as the heads and upper halves of organisms. But if brains and heads and upper halves of organisms can think, they will be psychologically indistinguishable from the organisms of which they are a part. If this is so, too-many-thinkers problems will arise. There will be more thinkers in the boundaries of organisms than we originally supposed. Each thinker will believe that it is the whole organism and even the person. Further, the whole organism has no more evidence that he is the organism or person than do any of these brain-inclusive organism parts. How does the organism know that he is the organism and person and not just a brain-inclusive proper part of it?

The hylomorphic animalist seems to suffer from the same problem: hylomorphic organisms have parts like brains and heads and upper halves and these parts seem like good candidates for thought. But if they are, then the various problems of too many thinkers arise. But the hylomorphist has a principled way of solving the problem. She can claim that only substances think – not properties, relations, events, or even proper parts of substances (that are not themselves substances). Since these various spatial regions of the

human organism are not themselves substances but parts of substances, they do not think. The subject of thought – the subject of the various mental properties manifested by the spatial regions of the human organism – is not any of the spatial regions themselves. Rather, the subject of thought is the human organism itself.³⁴⁴ As Toner claims: the brain does not think; the human organism thinks using its brain.³⁴⁵

The Problem of Conjoined Twins

Timothy Campbell and Jeff McMahan (2010) have given a multiplication objection based on actual and hypothetical cases of three varieties conjoined twinning: dicephalus, cephalopagus, and craniopagus parasiticus. Animalism – at least on Stephan Blatti’s definition – holds that for every person there is only one organism with whom that person is numerically identical and for every human organism there is at most one person with whom that organism is identical. These varieties of conjoined twinning present a problem for animalism so defined. In both craniopagus parasiticus and dicephalus, there appear to be two persons and one organism. In cases of cephalopagus, there appear to be one person and two organisms. If these cases are as Campbell and McMahan describe them, animalism is false.

These varieties of conjoined twinning present a problem for hylomorphic animalism as well. After all, hylomorphic animalism holds that human persons are identical to organisms. So, how can the hylomorphic animalist respond to such cases? And is this best response specific to hylomorphic animalism or is it available to the

³⁴⁴ Patrick Toner, “Hylemorphic Animalism,” 72.

³⁴⁵ Patrick Toner, “Hylemorphic Animalism,” 72.

animalist *simpliciter* to give as well? I claim that each case of conjoined twins Campbell and McMahan bring up involves two human beings (and thus, two organisms, animals and persons). In order to see this, consider again whathylomorphic animalism says about the nature of human beings. Human beings cannot exist without a rational soul.³⁴⁶ Since humans possess not only rational capacities in virtue of their soul, but also vegetative and sensitive capacities, humans are organismal, animal, and rational by nature. Given this, every human being is a person, an animal, and an organism for every moment of her existence. Furthermore, if any person is of human descent, this is good evidence that the person is a human being and a human animal; and, if any animal is of human descent, this is good evidence that the animal is a human being and a human person.³⁴⁷

Since a soul is necessary for the existence, unity, capacities, operations, and actions of an organism, the presence of vegetative, sensitive, or rational capacities, operations and actions in an integrated body is sufficient evidence that the body is at least an organism with a soul.³⁴⁸ Since human beings are by nature rational, animal, and

³⁴⁶ This is the case on either the formal or the material continuity view.

³⁴⁷ I say it is good evidence rather than sufficient evidence because of the theory of speciesization via natural selection on genetic mutation. That is, the human species may eventually give rise to a new species of animal via the process of natural selection acting on genetic mutations. So, there may eventually be some animal of human descent that is not a human being. There may even come a day when the fact that a person is of human descent is not good evidence that the person is a human being (a day, for example, when all human beings are extinct but the persons that arose from human beings still exist). On another note, if delayed hominization is true, then not every organism of human descent is a human being, let alone a person. On delayed hominization, the early fetus is an organism of human descent that does not possess a rational soul, and so, is not a human being or person. But see chapter 3 where I give reasons for thinking that it is open to thehylomorphist to accept immediate hominization rather than delayed hominization.

³⁴⁸ "The soul is in *every part* of that being, and it is the source (as formal principle) of all of that being's actions, operations and capacities (root capacities [natural capacities] as well as immediately exercisable capacities) (Aquinas, *Questiones Disputatae de Anima* (QDA) a.10, *Summa Theologiae* (ST), I., q.76, *Summa Contra Gentiles* (SCG) II, 72)." Melissa Moschella, "Deconstructing the Brain Disconnection-

organismal, there can be no there can be no rational, sensitive, or vegetative capacities in an integrated body of human descent without that body being a composite of prime matter and rational soul.³⁴⁹ Thus, the existence of an integrated human body that displays any living operations at all (whether rational, sensitive, or vegetative) is sufficient evidence for the existence of at least one human being (and thus, at least one human person, animal, and organism).³⁵⁰

Brain Death Analogy and Clarifying the Rationale for the Neurological Criterion of Death,” *Journal of Medicine and Philosophy* 41, no. 3 (2016): 284.

³⁴⁹ I added the integration requirement since a fresh corpse is a material body of human descent in which some organismal functions take place, I added that the activities of the body must be integrated rather than merely coordinated. The organismal functions taking place in a corpse are not directed by the corpse as a whole, but are the coordinated activities of living parts of the corpse. Second, in defining an integrated organic body, Maureen Condic distinguishes between coordinated activities and integrated activities. For example, “while cells, tissues, organs, and organ systems engage in extremely complex coordinated activities, in nature they are not in themselves organisms because they are integrated into, at the service of, and globally regulated by the organism of which they are part and by which they were formed. In isolation from the whole, these parts lack the autonomous capacity to sustain their own functions, and can remain alive only with the aid of artificial interventions, such as culture medium or, in the case of organs, the perfusion of oxygenated blood.” Organisms, though, are integrated wholes. According to Condic, “all of the activities of an organism are globally and autonomously integrated to promote the continued life, health, and maturation of the organism as a whole. Thus, what differentiates genuine organismal integration from the coordination which occurs at the cell and tissue levels is that organismal integration is both global and autonomous. It is global in the sense that the activities of all the vital parts are regulated and organized to promote the health and survival of the whole (rather than just the survival of the parts themselves). It is autonomous in the sense that this regulation and organization is carried out by the organism itself.” Maureen Condic, “Determination of Death: A Scientific Perspective on Biological Integration,” *Journal of Medicine and Philosophy* 41, no. 3 (2016): 260.

³⁵⁰ I do not want to claim that this is sufficient evidence for at most one human being because I want to leave open the possibility that human beings can overlap. I’d like to thank David Hershenov for giving me the strategy of inferring the presence of a rational animal by the presence of either the rational or animal functions. Maureen Condic and Melissa Moschella also use this strategy, but in order to determine if a human being is living or dead: “Determination of Death: A Scientific Perspective on Biological Integration,” 264; Melissa Moschella, “Deconstructing the Brain Disconnection-Brain Death Analogy and Clarifying the Rationale for the Neurological Criterion of Death,” 290.

At a certain point in development, human organisms develop a brain, which then serves as the central integrator of the human body.³⁵¹ Since the soul is the principle of life in human beings, there can be no functioning human brain, which carries out organismal functions in an integrated body, without the presence of the soul. Given this, on hylomorphism, the following epistemic principle is true: the presence, in an integrated body of human descent, of a functioning brain (a central integrator) that regulates organismal function is good evidence that the body is a human being.³⁵² Furthermore, since human beings are animal and rational by nature, the presence of organismal, animal *or* rational functions that are regulated by a central integrator in an integrated body of human descent is good evidence for the presence of a human person – a rational animal. So, the presence of a brain that supports rational, animal, or organismal functions in an integrated human body is sufficient evidence for the presence of a human person – a rational animal. Furthermore, if each human being has only one central integrator (at a time), then the existence of two brains that support separate rational functions in an integrated human body is sufficient evidence that the body houses two human persons and thus two human organisms and animals.

Now, the brain as a whole (brain stem and cerebrum) serves as the central integrator, but in the absence of the cerebrum, the brain stem is able to serve as the central integrator, controlling vegetative functions such as circulation and respiration in a

³⁵¹ Maureen Condic makes the metaphysical claim that a centrally integrated human body that carries out organismal functions is necessary and sufficient for the persistence of a human being.

³⁵² Though she thinks that the brain is the central integrator of the human body, she doesn't think we begin when our brain develops. Rather, she thinks that other organs take on the role of the central integrator before that point. Maureen Condic, "Determination of Death: A Scientific Perspective on Biological Integration," 262.

human being.³⁵³ So the presence of a functioning brain stem that supports vegetative functions in an integrated human body is sufficient evidence for the presence of a human organism, and thus, a human person (and animal). And, as above, if each human being possesses only one central integrator, the presence of two brain stems in an integrated human body is sufficient evidence for the presence of two human organisms, and thus, two persons (and animals). If it cannot be shown that each human being has only one central integrator, the presence of two central integrators – “two distinct capacities for coordinating and regulating the various life [vital] processes” – that control different portions of an integrated body seems to be good evidence of two human organisms (and thus, two persons and animals) in that body.³⁵⁴

The non-hylomorphic animalist can use similar reasoning to argue that the brain and brain stem are the control centers and integrators of the body and are therefore indicative of the presence of an organism. Furthermore, given that they claim that all human persons are organisms, the non-hylomorphic animalist can claim that the presence of a person in an integrated human body is sufficient evidence of the presence of a human organism. However, given that organisms (on non-hylomorphic animalism) can survive without being persons, the non-hylomorphic animalist cannot claim that the presence of a human organism is sufficient evidence for the presence of a human person.

Now that I have given the above hylomorphic principles for detecting human organisms, I can apply these principles to conjoined twins. Consider craniopagus

³⁵³ Moschella, “Deconstructing the Brain Disconnection-Brain Death Analogy and Clarifying the Rationale for the Neurological Criterion of Death,” 292.

³⁵⁴ Liao, “The Organism View Defended,” 340

parasiticus first. Campbell and McMahan think such cases present a problem for the animalist because they involve the possibility of two persons in one organism. On their hypothetical case of craniopagus parasiticus, the parasite head is completely rational, and thus, qualifies as a person. So does the host twin. However, they “reside” in one organism. I contend that there are indeed two persons, and that the two persons are each organisms in their own right. First, on hylomorphism, if the parasite twin is rational, then it qualifies as a person and possesses a rational soul. If it possesses a rational soul, then it possesses the natural potential for the vegetative and sensitive functions even if it is unable to exercise certain of those functions or if the non-parasitic twin carries on certain vegetative functions for the parasite twin. Furthermore, setting aside the metaphysical commitments of hylomorphism, in the case of the Bengali twins mentioned early, it seems true that the parasite twin was an animal in its own right (though a seriously malformed one). Consider, again, the report of the parasitic twin’s capabilities:

When the boy cried or smiled, the features of the upper-head were not always affected, their movements seem to have been reflex: a pinch in the cheek produced a grimace, and when it was given the breast, its lips attempted to suck. The natural head and body were perfectly normally developed, but a number of anomalies were noted on an examination of the parasitic head: the corneal reflexes were missing and the eyes’ reaction to light was weak. When the child slept, the eyes of the parasitic twin might be open and moving, but when it was first awakened, the eyes of the two heads moved in the same direction; the heads’ eye-movements were normally independent. The lower jaw was rather small, but capable of motion.³⁵⁵

It looks as though the parasitic twin in this case had – however limited – the capacities of sensation and voluntary movement, which are capacities that mere organisms lack. The parasite’s movements were sometimes independent of the host’s control, which means

³⁵⁵ Jan Bondeson and Elizabeth Allen, “Craniopagus Parasiticus,” 428.

that the source of some of the parasite's movements were internal to it. Furthermore, the host twin had its own brain that was "separate and distinct" from the host twin's brain and "enveloped in its proper covering."³⁵⁶ Thus, the parasite twin had a brain of its own that seemed to support the animal functions of sensation and (limited) locomotion. Given this, the parasite twin seems to be a distinct human animal.

To further support the case that the parasitic head is an animal, consider two other cases in which it seems that an animal can exist as a head. First, in an example envisioned by Campbell and McMahan, a human's head is severed from the the body and kept alive artificially. Campbell and McMahan suppose that it is metaphysically possible for this to happen and for the severed head to exercise rationality. As in the case of the parasitic head, this severed head would presumably be able to sense as well – it retains the cranial nerves that attach to the brainstem and send sensory information to the cerebrum. (Cranial nerves "control [smell, vision,] hearing, eye movement, facial sensations, taste, swallowing and movement of the face, neck, shoulder and tongue muscles." Ten of twelve cranial nerves stem from the brainstem; the other two stem from the cerebrum.³⁵⁷) Furthermore, if it can move its eyes around (as in the Bengali twins case) and adjust its gaze, which it presumably can do because of the cranial nerves, then it seems that it can see (barring some deficiency in the eyes). If this is possible, then on hylomorphism, since the head is able to exercise rationality and sensation, it possesses a rational soul, and thus,

³⁵⁶ Ibid, 428.

³⁵⁷ "Brain Anatomy, Anatomy of the Human Brain."

is a human being.³⁵⁸ It may be unable to exercise certain vegetative functions and require life support, but in virtue of possessing the rational soul, it possesses the natural potential for the vegetative functions.

Now consider cases of high cervical spinal cord transection (SCI), a spinal cord injury as a result of which a patient shows “limited or absent autonomous integration of bodily functions” such as respiration and circulation.³⁵⁹ Given this, an SCI patient needs life support to survive. Even still, since such patients retain their capacity for rationality and sensation, they possess a rational soul. Given that they possess a rational soul, they still possess the natural potential for vegetative functions (including the potential to integrate the body) even if they require life support and are unable to exercise their capacity for vegetative functions because of a material deficiency—“in this case, the severing of the connections that would enable the brain to communicate with the rest of the body below the site of injury.”³⁶⁰ Finally, and most importantly, if they possess a rational soul, they are human beings, though highly maimed ones. If severed heads and SCI patients are human beings, it seems the parasitic head is a human being in spite of the fact that it requires life support from its twin and does not exercise its natural potential to

³⁵⁸ If the head is severed from the body, is the severed head the original human being or not? This question is not important for my purposes here, since I am simply attempting to show that human beings can exist as a head. However, I would argue that it is the original organism. Since, as Campbell and McMahan would presumably say, the severed head possesses the same psychology as the original person (it possesses the same memories, beliefs, etc.), the best explanation is that the rational soul continued to inhere in the matter of the head after it was severed from the body.

³⁵⁹ Condic, “Determination of Death: A Scientific Perspective on Biological Integration,” 264, 268-269.

³⁶⁰ Condic, “Determination of Death: A Scientific Perspective on Biological Integration,” 268.

integrate the body. If this is true, it follows that exercising the capacity to integrate the body is not necessary for the persistence of a human being.

The non-hylomorphic animalist can give a similar response to craniopagus parasiticus, arguing that the parasitic head is a maimed organism. But if the animalist, as Campbell and McMahan claim, requires organisms to be self-regulating and self-sustaining for their existence, the parasitic head is not an organism. I would recommend that animalists reject that requirement. In addition, I would recommend that they claim that the presence of a rational being in an organic body of human descent is sufficient for the presence of an organism. After all, the parasitic head seems to be a human person, and on animalism, every human person is an organism.

Next, consider cases of dicephalus. I agree with Campbell and McMahan that the Hensel twins appear to be two persons:

they are clearly separate and distinct persons. Each has her own private mental life and her own character, each feels sensations only on her own side of the body, and each has exclusive control over limbs on her side.³⁶¹

If it is true that the presence of two brains supporting separate rational functions entails that there are two human persons, then dicephalus involves two human persons. If there are two persons, then there are two animals and organisms, on hylomorphism. But there is another reason for thinking that such cases involve two distinct persons (rather than, say, a single person with a divided mind) – as I argued earlier, human beings can survive as detached heads. If we detached one of the heads in a case of dicephalus or even both of them and kept them alive, there would be two distinct centers of consciousness in two

³⁶¹ Jeff McMahan and Tim Campbell, "Animalism and the Varieties of Conjoined Twinning," 286.

clearly distinct substances (unless a single substance can exist as a scattered object). If each of these distinct substances is self-conscious, can make decisions, can engage in trigonometry, etc., then it seems they are two distinct persons of human descent. But if so, then this is good evidence that they are two distinct human beings, and thus, two distinct human animals and organisms.

We do not need to rely on the hylomorphic inference from persons to animals/organisms to support the claim that there are two human organisms and animals present in cases of dicephalus. First, there are two organisms. Since there exists in these cases two central integrators – “two distinct capacities for coordinating and regulating the various life [vital] processes” – that control different portions of the body, it seems there are two distinct, but overlapping organisms that together integrate the entire body mass.³⁶² Second, there are two animals. Each twin only feels on one side of the body and controls the movements on one side of that body. This is because they each have a distinct brain – an internal source for their sensations and movements – that supports the animal functions of sensation and locomotion only on their own side of the body. Given this, I suggest we take them as two distinct animals that overlap. And if there are two organisms, then there are two persons according to hylomorphism. So these observations support the existence of two persons in the cases under review. Thus, I do not think that dicephalus is a clear counterexample to hylomorphic animalism (or even Olson’s animalism).

³⁶² Liao, “The Organism View Defended,” 340.

Regarding cephalopagus, the hylomorphist should say that there are two clearly distinct organisms, and thus, two distinct persons. The non-hylomorphic animalist is at a disadvantage here: she cannot make the inference from human organisms to human persons because not every human organism is a human person. But why think there are two organisms present? As Campbell and McMahan say themselves, each of the two brain stems “is connected to the central nervous system below it in only one half of that mass. Each, in short, has regulatory capacities with respect to only one of the two organisms.”³⁶³ That is, there are two central integrators (two brain stems), each integrating and regulating different portions of the body mass. This suggests that there are two distinct organisms in these cases. But if there are two organisms, there are two animals and persons according to the hylomorphist.

That there are two persons sharing a cerebrum might strike the reader as obviously false. But such a phenomenon may be possible. Consider the craniopagus twins Tatiana and Krista Hogan.³⁶⁴ Although they each possess their own brain, their brains partly overlap (through a bridge connecting each twin’s thalamus). As a result, they share sensory information. When one twin sees something, the other can see it even if her eyes are covered. When one tastes something, the other can taste it as well. When one feels pain, so does the other. But they are two distinct persons. Or consider the craniopagus twins Lori and Reba (George) Schappell. They each share 30% of their brain with their

³⁶³ Jeff McMahan and Tim Campbell, “Animalism and the Varieties of Conjoined Twinning,” 300.

³⁶⁴ Susan Dominus, “Could Conjoined Twins Share a Mind?,” *New York Times Magazine*, May 25, 2011, www.nytimes.com/2011/05/29/magazine/could-conjoined-twins-share-a-mind?_r=0 (accessed July 9, 2016).

twin, yet they are clearly distinct persons.³⁶⁵ If two people can have partly overlapping cerebra and remain numerically distinct, perhaps they can come to have completely overlapping cerebra and remain numerically distinct.³⁶⁶ David Hershenov gives a thought experiment in which two people with partly overlapping cerebra come to have completely overlapping cerebra. He compares this to partly overlapping roads that come to overlap completely through an earthquake. This situation, he thinks, is best described as two numerically distinct roads that come to share all the same material rather than two roads that merge into one since merging typically involves two objects coming together to form one larger object. Now, suppose that two conjoined twins each have their own brains, but their cerebra partially overlap. Suppose further that surgeons cut away the non-overlapping brain matter so that the twins' cerebra completely overlap and the brain matter remaining is sufficient to support consciousness. In such a case, it seems that there are two people who remain numerically distinct even though their cerebra completely overlap.³⁶⁷ But if this is so, then why can't the hylomorphist claim that cases of

³⁶⁵ Ronald Schulz, *Environmental Literacy in Science and Society: From Knowledge to Decisions* (Cambridge: Cambridge University Press, 2011), 181.

³⁶⁶ I got this idea from David Hershenov, "Who Doesn't Have a Problem of Too Many Thinkers?," *American Philosophical Quarterly* 50, no. 2 (April 2013): 203–6.

³⁶⁷ Alternatively, one might say that one or neither of the twins survive the merging process. And one might say something analogous about Hershenov's road example: that the merging of the roads results in one road (which may or may not be numerically identical to one of the original road). I would respond to this alternative reading of the "twin merger" case as follows. Even after the merger, there are two separate brain stems. Thus, there are two separate central integrators, each integrating and regulating different portions of the body mass. On the principles I laid out above, this means there are two organisms (and thus, for the hylomorphist, two persons). As for Hershenov's road example, intuitions differ on whether or not the merged roads are one road or two numerically distinct roads. Hershenov has the intuition that they are distinct roads. But others do not have this intuition. So, perhaps Hershenov's road example does not shed much light on the hypothetical case of the merging twins.

cephalopagus like those described by Campbell and McMahan involve two persons who share a cerebrum?

Even if this response is a satisfactory account of the number of human animals and persons involved in this case of cephalopagus, this case still seems to lead to the various problems of too many thinkers for the hylomorphist and the non-hylomorphic animalist.³⁶⁸ First, it results in a version of the overcrowding problem. The overcrowding problem occurs when there are two or more numerically distinct thinkers who are co-located and thinking the same thoughts. Though the thinkers are not co-located in this case of cephalopagus, it seems that they would share all the same thoughts. Thus, for the hylomorphist and the non-hylomorphic animalist, there is more than one thinker thinking the thoughts taking place in the shared cerebrum. Further, for the animalist who denies that both cephalopagus twins are persons, this case leads to the epistemic problem of too many thinkers. The epistemic problem occurs when a view entails that there are two numerically distinct thinkers – one of which is a person and the other of which fails to be a person – who are co-located and psychologically indistinguishable. Given this, the person cannot know whether it is the person or the non-person. Such is the case in

³⁶⁸ David Hershenov, “Who Doesn’t Have a Problem of Too Many Thinkers?” 204. The problems of too many thinkers do not apply to the Hogan and Schappell cases. The overcrowding problem requires two thinkers who share the same thoughts and the epistemic and personhood problems require that two thinkers are co-located and psychologically indistinguishable. However, it is (empirically) evident that Tatiana and Krista do not share all the same thoughts and are psychologically distinguishable. The same goes for Lori and Reba. Furthermore, must we suppose that cephalopagus twins share all the same thoughts and are psychologically indistinguishable? Indeed, in actual cases of cephalopagus, each twin has a separate cerebellum, brainstem, and spinal cord. Perhaps these neural differences are significant enough that they would result in a difference in psychology – e.g., some difference in beliefs, thoughts, feelings, desires, personalities, etc. if the twins actually survived long enough to possess such developed psychologies. However, no cephalopagus twins have survived long enough for us to tell if they are psychologically indistinguishable and share all the same thoughts. Thus, the psychological character of such twins remains an open question.

cephalopagus if only one twin is a person. For the animalist like me who says that both twins are persons, a version of the epistemic problem of too many thinkers arises: if the twins share all the same thoughts, they will not be able to tell if they are the person on the left or the person on the right. For the animalist who denies that the twins are persons, this case leads to the personhood problem of too many thinkers. The personhood problem occurs when a view entails that there are two numerically distinct thinkers who are co-located and psychologically indiscernible, but only one qualifies as a person. Such is the case in cephalopagus if only one twin is a person. For the animalist like me who says that both twins are persons, this problem does not arise.³⁶⁹

For their final criticism based on cases of conjoined twinning, Campbell and McMahan argued that the animalist has faces an intractable problem when the implications of both dicephalus and cephalopagus are considered. This is because they argue that the animalist cannot claim that there are two organisms in cases of dicephalus and one in cephalopagus or two in cephalopagus and one in dicephalus. But on my response, I claim that both cases of dicephalus and cases of cephalopagus involve two organisms. So, their criticism does not apply.

³⁶⁹ Though it does not take away the problems of too many thinkers from the animalist, it is worth noting that Campbell and McMahan suffer from a similar problem. They think that we are the size of brains. But if two different, partially overlapping brains can come to overlap completely while remaining numerically distinct, then there will be two of us sharing the same thoughts. See David Hershenov, "Who Doesn't Have a Problem of Too Many Thinkers?" 203–6.

Multiplication Problems Unique to Hylomorphism

Hylomorphism has the resources to answer the various multiplication problems that have been raised against animalism in the philosophical literature. But there are some multiplication worries for hylomorphism that are not problems for Olson's animalism: the problem of the thinking soul and the problem of thinking accidental unities.

Eric Olson raises the problem of the thinking soul against *compound dualism*, on which "each of us is made up of both a simply immaterial substance and a material organism."³⁷⁰ On this view, human beings think because their souls think (which means that human beings think in a derivative sense). But if souls can think and human beings can think (in virtue of the soul), then there are too many thinkers.³⁷¹ The same problem arises on hylomorphism if souls can think.³⁷² How should the hylomorphist respond? First, note that the problem of the thinking soul is similar to the problem of thinking parts, in that a proper part of an organism seems to be candidate for thought just as much as the human being herself. Thus, the hylomorphist can respond to this problem in the

³⁷⁰ Eric Olson, *What Are We?* 168.

³⁷¹ Trenton Merricks, *Objects and Persons*, 48, n.9; Eric Olson, "A Compound of Two Substances," in *Soul, Body, and Survival*, ed. Kevin Corcoran (Ithaca, NY: Cornell University Press, 2001), 73–88. In addition to the problem of too many thinkers, it is problematic to say that the human being thinks only in a derivative sense. As Chisholm points out: "There is no reason whatever for supposing that I hope for rain only in virtue of the fact that some other thing hopes for rain . . . If there are thus two things that now hope for rain, the one doing it on its own and the other such that its hoping is done for it by the thing that now happens to constitute it, then I am the former thing and not the latter thing"; Roderick Chisholm, *Person and Object*, 104.

³⁷² David Hershenov, "Soulless Organisms?"; Eric Hagedorn, "Is Anyone Else Thinking My Thoughts: Aquinas's Response to the Too-Many Thinkers Problem," *Proceedings of the American Catholic Philosophical Association* 84 (2010): 275–86; Patrick Toner, "St. Thomas Aquinas on the Problem of Too Many Thinkers," *The Modern Schoolman* 89, no. 3/4 (October 2012): 209–22.

same way, by denying that the proper parts of human beings are substances and claiming that only substances can think.³⁷³ Since the rational soul is a proper part of an organism, it is not a substance in itself. Rather, it comes together with prime matter to form the substance. If only substances can think, then the soul cannot think. At best, it contributes to the thinking that is done by the human being herself. The compound dualist cannot respond in the same way since he or she thinks that human souls are substances in their own right.

Second, Aristotle's and Aquinas's particular view of human cognition rules out the soul as a subject of thought. For them, thinking is a complex act that requires various components of the human person, including the intellect (a power of the soul) and various physical parts of the human body.³⁷⁴ Given this, the soul in itself cannot think. Neither can any other individual component involved in the production of thought. Rather, human beings themselves think.³⁷⁵ Thus, the soul is not a thinker in addition to the human being, but merely contributes to the production of thought.³⁷⁶

³⁷³ Aquinas denied that embodied souls can think. Instead, thinking is a compound act that is done by the substance and involves both body and soul: Toner, *St. Thomas Aquinas on the Problem of Too Many Thinkers*, 216-218.

³⁷⁴ For the details of their view, see Victor Caston, "Phantasia and Thought," 322-34; Eric Hagedorn, "Is Anyone Else Thinking My Thoughts: Aquinas's Response to the Too-Many Thinkers Problem," *Proceedings of the American Catholic Philosophical Association* 84 (2010): 275-86; Normann Kretzmann, "Philosophy of Mind," 128-159; Robert Pasnau, *Thomas Aquinas on Human Nature*, 267-329; Christopher Shields, *Aristotle*, Routledge Philosophers (London: Routledge, 2007), 293-305; Stump, *Aquinas*, 244-276; Patrick Toner, "St. Thomas Aquinas on the Problem of Too Many Thinkers."

³⁷⁵ Aristotle, *De Anima* 1.1.403b7-10; Aquinas, *Summa Theologica* 1.75.2.2; Stump, *Aquinas*, 273; Toner, "St. Thomas Aquinas on the Problem of Too Many Thinkers," 216-218.

³⁷⁶ A special problem of the thinking soul arises for those who hold that the soul of a human being survives the biological death of the human being. (Some who hold to this view are *survivalists*, according to which, the human being survives in a disembodied state with her soul as her only proper part. Others are *corruptionists*, according to which the soul survives disembodiment but the human being

Now consider the problem of thinking accidental unities. On hylomorphism, there are two sorts of matter-form composites. The first is a substance – a composite of prime matter and substantial form. The second is an accidental unity – a composite of secondary matter (i.e., a substance) and accidental form. The accidental unity of a substance and an accidental form is co-located with that substance. For example, Socrates is a composite of a chunk of prime matter and the substantial form *human being*. When Socrates sits, an accidental unity *seated-Socrates* is formed – a unity of Socrates and the accidental form *being seated*. Given this, one might think that a problem of too many thinkers arises. If seated-Socrates is co-located with Socrates and is psychologically identical to Socrates, since Socrates can think, shouldn't Seated-Socrates be able to think as well? But seated-Socrates is one of many accidental unities that is located where Socrates is. If seated-Socrates can think, then every other accidental unity that is located where Socrates is should be able to think as well: pale-Socrates, snub-nosed-Socrates, philosopher-Socrates, teacher-of-Plato-Socrates, etc. If so, then there are many more thinkers where Socrates is than we originally thought. Further, if Socrates is a person, then all these accidental unities should count as persons as well. Finally, if these accidental unities are psychologically indiscernible from Socrates, how can Socrates tell that he's the person rather than one of the accidental unities?

This objection to hylomorphism is based on an ontological confusion. Accidental unities are not entities that are numerically distinct from the substances that serve as their

does not. For a discussion of these views, see Patrick Toner, "On Hylomorphism and Personal Identity.") They believe that the soul can think in such a state. But if the soul can think when disembodied, why can't it think when embodied? And if it can think when embodied (and if the human being thinks), then the problem of the thinking soul arises. Olson, *What Are We?* 174-175.

matter. Rather, they are modifications or properties of substances.³⁷⁷ The accidental form *being seated* is a property of the Socrates that he possesses when seated and lacks when standing. Thus, no new thinker is added to the world when Socrates sits down. Instead, the same thinker, Socrates, thinks while existing in a different form. Perhaps an analogy will help to clarify things. On Olson's animalism, the human organism thinks and the human person thinks. But there is not a problem of too many thinkers because persons are numerically identical to organisms. Human persons just are organisms in a certain phase of their existence. When the organism becomes a person, there is no duplication of entities, just a modification of the single entity. Similarly, the substance Socrates thinks and the accidental unity seated-Socrates thinks. But there is not a problem of too many thinkers because there is no duplication of entities. Seated-Socrates is numerically identical to Socrates. Seated-Socrates just is Socrates in a certain form.

³⁷⁷ Robert Pasnau, "Philosophy of Mind and Human Nature," 360.

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