The Thomist 86 (2022): 1-51

ENERGY AND FORM

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IN DISCUSSING EVOLUTION, St. John Paul II wrote that "the elaboration of a theory like that of evolution, while obeying the requirement of homogeneity with observational data, incorporates certain notions from the philosophy of nature."[1] John Paul II then went on to speak of evolution in the plural, of "theories of evolution." The different theories are distinguished not only by positing different mechanisms of evolution but also by incorporating different philosophies.[2] Theories such as evolution must draw upon some principles of natural philosophy, and different philosophies make for different evolutionary theories. Since incorporating some natural philosophy is necessary not only for evolution but also for scientific theories more generally, we can also speak of other scientific theories in the plural since they are or could be diversified by the different philosophies that they incorporate or could incorporate. Thus, the notion of energy, one of the most important physical principles in modern science, could be formulated through incorporating different philosophies, and we could speak of theories of energy, depending upon the different natural philosophies that such theories of energy draw upon.

I propose an Aristotelian/Thomistic theory of energy, a theory of energy that would incorporate general principles of Aristotelian/Thomistic natural philosophy to better understand

[1] John Paul II, "Message du Saint-Père Jean Paul II aux membres de l'assemblée plénière de l'académie pontificale des sciences" (1996), no. 4 (https://www.vatican.va/content/john-paul-ii/fr/messages/pont_messages/1996/documents/hf_jp-ii_mes_19961022_evoluzione.html); my translation.

[2] Ibid.

nature. It would involve a general philosophical framework or lens in and through which energy and its corresponding notions could be further understood and it would also offer a much more highly specified Aristotelian or Thomistic way of understanding the natural world. The task of developing such a theory of energy is made easier since some general principles of Aristotelian/Thomistic natural philosophy are already, in a way, part of the science of energy and are implicit within it.[3] In a previous article in this journal I argued that the scientific notion of energy is a specific instance of the Aristotelian/Thomistic principles of act and potency.[4] In this article, I shall consider "form." I shall argue that "form" as it is used with respect to the different forms of energy is a specific instance of form in the Aristotelian or Thomistic sense.

The term "form" has different and complex uses that present some complications that are relevant to the discussion of the forms of energy. These will be addressed in the course of the argument. At the moment, I may indicate that by "specific instances of form in the Aristotelian or Thomistic sense" I mean first that the forms of energy are different kinds or species of energy, and second that they are accidental forms by which things have these kinds and quantities of energy. The former usage is quite explicit in the sciences while the latter is not. An

[3] According to William Rankine, who introduced the term "potential energy" into physics, "The step which I took in 1853, of applying the distinction between 'Actual Energy' and 'Potential Energy,' not to motion and mechanical power alone, but to all kinds of physical phenomena, was suggested to me, I think, by Aristotle's use of the words δύναμις and ενέργεια" (William Rankine, "On the History of Energetics," *The London, Edinburgh, and Dublin Philosophical Magazine and Journal of Science*, 4th series, 28, no. 190 [1864]: 404). Rankine also asserts that the scientific meaning of "energy," which was first introduced by Thomas Young in 1807, harmonizes "perfectly with the etymology of ενέργεια" (William Rankine, "On the Phrase 'Potential Energy,' and on the Definitions of Physical Quantities" (1867) in *Miscellaneous Scientific Papers*, ed. W. J. Millar [London: Charles Griffin and Co., 1881], 230).

[4] Thomas McLaughlin, "Act, Potency, and Energy," *The Thomist* 75 (2011): 207-43. For a further development of this project that includes the Principle of Least Action and final causality, see John Brungardt, "The Action and Power of the Universe, Pt. 1" (https://johngbrungardt.com/2018/11/16/the-action-and-power-of-the-universe-2/) and "The Action and Power of the Universe, Pt. 2" (https://johngbrungardt.com/2018/11/30/the-principle-of-least-action-chile/) (accessed 1/28/2021).

example may help. "Musical" is an accidental formal cause by which a person is musical or is a musician as opposed to being a painter, a dancer, or a sculptor. Thus, "musical" can mean either the accidental formal cause or a kind of art or art form. The two different meanings are closely related. Sometimes, we distinguish them by inventing a word for the accidental formal cause, such as "musicalness" or "musicality." Similarly, "form of energy" can, and usually does, mean a kind of energy, but it can also mean or imply an accidental formal cause in a subject. "Chemical energy" usually means a kind of energy but can also mean or imply the accidental formal cause by which a subject, such as coal, has chemical energy.

In arguing for my thesis, I shall focus on the Law of the Conservation of Energy and the discussions on energy by several physicists, especially Richard Feynman. I shall then discuss the forms of energy with respect to order in nature and the universe.

I. Form, and Feynman on Energy

I begin with the Law of the Conservation of Energy. The Nobel-prize winning physicist Richard Feynman describes this law as follows:

> Energy has a large number of *different forms*, and there is a formula for each one. These are: gravitational energy, kinetic energy, heat energy, elastic energy, electrical energy, chemical energy, radiant energy, nuclear energy, mass energy. If we total up the formulas for each of these contributions, it will not change except for energy going in and out.[5]

Feynman lists the forms of energy at what might be called a generic level. The forms of energy may also be considered more specifically.[6] Hybrid cars, for example, use two different forms

[5] Richard P. Feynman, Robert B. Leighton, and Matthew Sands, *The Feynman Lectures on Physics* (Reading, Mass.: Addison-Wesley Publishing Company, 1963), vol. 1, chap. 4, p. 2.

[6] "More precisely, there are as many kinds of energy as kinds of processes" (Mario Bunge, "Energy: Between Physics and Metaphysics" in *Scientific Realism, Selected*

of chemical energy: that of a battery and that of gasoline. ATP (adenosine triphosphate) is an organic compound that provides a fundamental form of chemical energy for living things. We also speak of the energy of coal or dynamite or food, or of solar panels. We speak of wind energy or the energy of a flowing river or of a reservoir behind a dam, or of lightning, or of steam. We may consider the binding energy of uranium or helium atoms, or the binding energy of various oxygen or other kinds of compounds. We also speak of particular things, such as *this* thunderstorm, *this* hunk of coal, *this* light bulb, *this* orange, *this* atom, *this* windmill, *this* magnet, *this* heater, or *this* x-ray as having definite quantities of various forms of energy. Any massive thing has a definite quantity of mass energy. A massless particle of light, such as *this* photon, has a definite quantity of radiant energy. Indeed, all known physical things have some form or forms of energy. Thus, we look upon a world composed of a multitude of things each possessing various particularized forms of energy. This suggests an Aristotelian view of the world as consisting of a multitude of diverse things each possessing accidental and substantial forms.

We sometimes speak of different kinds or different species of things as different forms of things. This is the primary way in which scientists speak of the forms of energy. By the forms of energy, they especially mean the different kinds of energy. Aristotle and Aquinas also speak of "form" in this sense as species.[7] In regard to energy, "form" in this sense is an es-

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Essays of Mario Bunge, ed. Martin Mahner [Amherst, N.Y.: Prometheus Books, 2001], 51).

[7] "Species is compared to the individual, dog to this dog, as form to matter; and for this reason, form is frequently taken as meaning the whole species or essence, that is, the composite of matter and form. Form in this sense means that by which a thing is what it is, dog, copper, man, etc. This use of the term 'form' to mean the whole species is a legitimate and valuable one. It is an extremely useful definition in many ways even in our own science of nature" (Vincent Edward Smith, *The General Science of Nature* [Milwaukee: Bruce Publ. Co., 1958], 175). Smith cites *De Pot.*, q. 9, a. 1; V *Metaphys.*, lect. 2 (Maretti ed., 764); VII *Metaphys.*, lect. 9 (Marietii ed., 1467-69); *STh* I, q. 85, a. 4, ad 4; II *Phys.*, lect. 11 (St. Thomas Aquinas, *Commentary on Aristotle's Physics*, trans. Richard J. Blackwell, Richard J. Spath, and W. Edmund Thirlkel [Notre Dame, Ind.: Dumb Ox Books, 1999], 4 and 8).

pecially appropriate term. Part of what makes energy such a difficult as well as such an encompassing and fundamental physical notion are the wide-ranging differences in the kinds of energy as well as their convertibility, combined with the distinction of energy from force. The many different units in which energy has been measured—joules, calories, barrels, Btu's, kilowatt-hours, and so forth—not only distinguish energy from force but also reflect the diversity in the forms of energy and the many different subject areas and researchers involved in the discovery and development of the conservation of energy. Even since Feynman wrote, a new form of energy, dark energy, has been discovered. Many of these forms initially appear to be unrelated. Mass, for instance, is not obviously energetic or transformable. The term "form" has sufficient breadth to encompass this diverse range of things. We especially speak of kinds as forms when asking what kind of thing something is in comparison to other related kinds. In ordinary usage, we speak of diverse kinds of things that have some basic, broad commonality as different in form, the form specifying the kind of thing.[8] We speak thus of different life forms or of different forms of minerals.

"Form" also has a different but closely related meaning. "Form," according to Aquinas, is also the principle of the species.[9] It is that by which a thing is the kind of thing it is and is distinguished from other kinds of things. In this sense, "form" means formal cause.

The two senses of form are closely related and are often used interchangeably, for we often identify or speak of something through its principal part, and the formal cause is the primary principle of the species. Similarly, a formal cause is inseparable from its effect, and we sometimes speak of a cause by its effect. Thus, to use "form" in one way implies the presence of form in the other way. To say that the different forms of energy are

[8] Richard J. Connell, *Nature's Causes* (New York: Peter Lang, 1995), 78.

[9] "Operation follows upon the form which is the principle of the species" (*ScG* II, c. 75). All English quotations from Aquinas's *Summa contra gentiles* II are from Thomas Aquinas, *Summa contra gentiles*, book 2, trans. James F. Anderson (Notre Dame: University of Notre Dame Press, 1991).

different kinds of energy implies that the kinds have formal causes that cause them to be the different kinds of energy that they are.

Furthermore, not only does a diversity of species result from a diversity of forms, but from these different forms different operations follow.[10] A thing acts according to its form because everything acts inasmuch as it is in act and everything is in act through its form.[11] The conservation of energy and the diversity of the forms of energy indicate this Aristotelian understanding of form as the principle of the species and of operation. The Law of the Conservation of Energy not only describes the interrelations of the different forms of energy but also distinguishes them and emphasizes their differences while exhibiting a profound unity among them. Each form of energy has its own determinate character, formula, and pattern of activity that distinguishes it from other forms of energy.[12] A thing acts according to the kind of energy it has, according to its form of energy. We know what the different forms of energy do and what they do reveals something of what they are. For example, we are keenly aware of the very different and distinctive ways in

[10] "Now, the mode of acting peculiar to each thing results from its form, which is the source of action" (*ScG* III, c. 73). All English quotations from Aquinas's *Summa contra gentiles* III are from Thomas Aquinas, *Summa contra gentiles*, book 3, trans. Vernon J. Bourke (Notre Dame: University of Notre Dame Press, 1991).

[11] "Everything acts in accord with its form" (*STh* I, q. 4, a. 3). All English quotations from Aquinas's *Summa theologiae* are from *The Basic Writings of St. Thomas Aquinas*, ed. Anton Pegis (New York: Random House, 1945). "Now, from the diversity of forms by which the species of things are differentiated there also results a difference of operations. For since everything acts insofar as it is actual (because things that are potential are found by that very fact to be devoid of action), and since every being is actual through its form, it is necessary for the operation of a thing to follow its form" (*ScG* III, c. 97).

[12] "The investigation of energy in physical systems is, to this day, an inquiry into its forms. According to Maxwell, 'in the study of any new phenomenon our first inquiry must be, How can this phenomenon be explained as a transformation of energy? What is the original form of energy? What is its final form? and What are the conditions of the transformation?'" (Benedikt W. Harrer, "On the Origin of Energy: Metaphors and Manifestations as Resources for Conceptualizing and Measuring the Invisible, Imponderable," *American Journal of Physics* 85 [2017]: 458). Harrer quotes from J. C. Maxwell, "Herman Ludwig Ferdinand Helmholtz," *Nature* 15 (1877): 390.

which nuclear and solar energy and fossil fuels and gravitational energy operate and do work. We often convert these forms of energy into electrical energy or into heat, forms of energy that are often more useful to us. Since, for Aristotle, the way something acts follows from the way it is, and the way something is follows from its form, form for Aristotle is a cause, a formal cause. This suggests that, since the various forms of energy characterize the way things are and the way they act, the forms of energy are also formal causes that determine things to be such as they are.

However, the forms of energy seem to be accidental even in changes that are arguably substantial, for though some forms of energy, such as mass, would seem to be essential for many kinds of bodies, nevertheless they do not make a body be absolutely but only make a body be such and so much. In this regard, the forms of energy, considered as different kinds of energy, are not like different life forms or the different forms of minerals, for minerals and living things are substances or things. Like colors, the forms of energy are different kinds of accidents. Further, though an accident must be in a subject, an accident is not itself composed of matter and form. The accident is a form, an accidental formal cause.[13] Thus, since a form of energy, such as

[13] "In the case of an *accident* of a composed substance, if we can speak of what is *in* it, we must not think that it has a matter and a form; an accident has no intrinsic causes. To speak of what is in it is to speak only of what the accident itself is, for the accident is a form, a form such that matter is no part of what it is, a form such that (unlike a substantial form) it does not come to be in matter as in a subject, a form such that it comes to be in a complete substance as in a subject. The substance in which an accident comes to be is related to that accident as matter is related to substantial form. Just as matter must be such by its nature that it can acquire and maintain the substantial form received in a change, so too the substance must be such by its nature that it can acquire and maintain the accident received in a change. Thus, we can speak of a form and of a matter *both* in the case of a substance *and* in the case of an accident, but it is only in the case of a substance that both the matter and the form are *intrinsic* causes. In the case of an accident the form can be said to be *intrinsic to*, though not an intrinsic cause of, the accident in the sense that it is identical with the accident itself; the matter, however, is an *extrinsic* cause, for the matter is the substance . . . in which the accident exists, and apart from which the accident does not exist. Only that can be defined by intrinsic causes which has them, and an accident does not have them (nor does a substantial

chemical or mass energy, is an accident, it is an accidental form since accidents are not composed. However, the definition of an accident includes being in a subject. Thus, a form of energy is an accident by which a subject has a kind of energy. Further, the subject is the principle of individuation of an accident. To say, then, that a piece of coal has various particularized forms of energy is to say that a subject, namely, *this* piece of coal, has these accidents, namely, the various accidental forms of energy by which the coal has energy. Consequently, the form of energy is itself not only a kind of energy but also is an accidental formal cause in a subject. It modifies a subject and makes it to be such.

In further explaining the Law of the Conservation of Energy, Feynman writes,

> It is not a description of a mechanism, or anything concrete; it is just a strange fact that we can calculate some number and when we finish watching nature go through her tricks and calculate the number again, it is the same. . . . Since it is an abstract idea, we shall illustrate the meaning of it by an analogy.[14]

We shall return to the analogy and to Feynman's claims that energy and the Law of the Conservation of Energy are abstract and mathematical. For now, I want to note that a change from one form of energy to another or a change in the amount of a form of energy is not a description of a mechanism. It is not a specific type of process, such as a chemical reaction, that certain things undergo. It is a change of the form of energy in which a certain quantity is conserved. Similarly, just as the conservation of energy is a general law but not a description of a mechanism, for Aristotle and Aquinas, generation and corruption are not mechanisms but are general descriptions of substantial and accidental change in terms of form.[15] Likewise, just as

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form)" (Joseph Bobik, *Aquinas On Being and Essence: A Translation and Interpretation* [Notre Dame: University of Notre Dame Press, 1991], 245-46).

[14] Feynman, *Feynman Lectures on Physics*, vol. 1, chap. 4, p. 1. Feynman also says that the conservation of energy "is a mathematical principle; it says that there is a numerical quantity which does not change when something happens" (ibid.).

[15] "Because generation is motion to form, there are two kinds of generation corresponding to the two kinds of form. . . . There are two kinds of corruption opposed

mechanisms are certainly involved in the physical processes to which the Law of the Conservation of Energy applies, such as photosynthesis or nuclear fusion, Aquinas thought that there were mechanisms involved in the physical processes to which generation and corruption applied, such as the combining of elements in definite ratios to make a mineral.[16] The Law of the Conservation of Energy and Aquinas's understanding of generation and corruption both treat change in terms of form, and both abstract from the specific and detailed mechanisms involved in physical processes, although they also apply to the mechanisms in such processes. The Law of the Conservation of Energy, however, is also quantitative whereas Aquinas's general account of generation and corruption was not formulated quantitatively.

In addition, Aristotle and Aquinas maintain that in all generation and corruption, whether substantial or accidental, forms are gained and lost or things are increased or decreased according to their forms.[17] Further, the gain of one form is necessarily the loss of another and conversely:

> The corruption of this is the generation of something else, and vice versa . . . for although that which is corrupted becomes non-being, yet something else remains, namely, that which has been generated. Accordingly matter 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. Consequently, there is in generation and corruption a certain cycle which gives it the aptitude to last forever.[18]

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to these two kinds of generation" (*De Princ. Natur.*, c. 1 [Joseph Bobik, *Aquinas on Matter and Form and the Elements: A Translation and Interpretation of the "De Principiis Naturae" and the "De Mixtione Elementorum" of St. Thomas Aquinas* (Notre Dame, Ind.: University of Notre Dame Press, 1998), 8-9]).

[16] See, for example, Aristotle, *On Generation and Corruption* II; Aristotle, *Meteorology*; Albertus Magnus, *Book of Minerals*, trans. Dorothy Wyckoff (Oxford: Clarendon Press, 1967).

[17] "In order, therefore, that there be generation, three things are required: namely, being in potency, which is matter; non-being in act, which is privation; and that through which a thing comes to being in act, namely form" (*De Princ. Natur.* c. 1 [Bobik, trans., 10]).

[18] I *Gen. et Corrup.*, lect. 7 (Thomas Aquinas, *Commentary on Aristotle's Generation and Corruption*, trans. Pierre Conway and R. F. Larcher [Columbus, Ohio: College of St. Mary of the Springs, 1964], 57). Unpublished but circulated in photocopied form. I

When something is destroyed, it is not annihilated so that nothing at all remains. Its matter persists and something new comes to be that has another form. A thing can lose the form by which it exists or exists as such, "but at once its matter takes on another form. There is always matter. And there is always form, though not always the same form."[19] The reason for this is that matter cannot be without form.

We see a parallel to this Aristotelian principle in the Law of the Conservation of Energy. The conservation of energy is a law to which there are no known exceptions and which governs all known natural phenomena.[20] Thus, all physical processes involve gaining and losing forms of energy, or increasing or decreasing the quantity of a form of energy, or moving something having a form of energy to a different location. Heating water on a stove increases and transfers its thermal energy. Burning gasoline is a change from one kind of chemical energy to another kind of chemical energy and to thermal and other forms of energy as well. Adding mass increases a system's energy. Power plants involve changes in forms of energy, as

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thank Fr. Stephen L. Brock for bringing this text to my attention in connection with the Law of the Conservation of Energy.

[19] Stephen L. Brock, "Aquinas' Third Way of Proving a God: Logic or Love?" (Cardinal Stafford Lecture given at St. John Vianney Theological Seminary, Denver, Col., February 2015), 14.

[20] "There is a fact, or if you wish, a *law*, governing all natural phenomena that are known to date. There is no known exception to this law—it is exact so far as we know. This law is called the *conservation of energy*" (Feynman, *Feynman Lectures on Physics*, vol. 1, chap. 4, p. 1). However, some physicists maintain that energy is not conserved for the universe taken as a whole. See, for example, Geraint F. Lewis and Luke A. Barnes, *The Fortunate Universe* (Cambridge: Cambridge University Press, 2016), 193-95; Edward R. Harrison, "Mining Energy in an Expanding Universe," *The Astrophysical Journal* 446 (1995): 63-66; idem, *Cosmology: The Science of the Universe*, 2nd ed. (Cambridge: Cambridge University Press, 2000), 348-49; John Frederick Hawley and Katherine A. Holcomb, *Foundations of Modern Cosmology* (Oxford: Oxford University Press, 2005), 414-15. If indeed, energy is not conserved for the universe as a whole, then one possible implication is that the laws of nature vary with time. Another possible implication is that the physical universe is not a closed system. See John Brungardt, "Is Aristotelian-Thomistic Natural Philosophy Still Relevant to Cosmology?" *Proceedings of the American Catholic Philosophical Association* 93 (2019): 160.

when a hydroelectric plant changes the gravitational energy of a body of water to electrical energy.

Further, if the Law of the Conservation of Energy is a genuine law, then the gain or loss of one form is necessarily the loss or gain of another because any gain or loss must be compensated for, so that the amount of energy remains the same throughout some change.[21] Since the quantity of energy must remain constant, whenever a body or system loses energy, an equal amount of energy must be gained and vice versa. Consequently, there is in the change of the form of energy a certain aptitude to last forever, though not in a form that is useful and can do work.[22] Sometimes this is expressed in statements such as "Energy is neither created nor destroyed but only changes form." Thus, the Law of the Conservation of Energy treats physical changes in an Aristotelian way. While adding a precise quantitative mode to the necessary relation of generation-corruption of form in a physical motion, it parallels in a specific way the general Aristotelian principle that the corruption of one thing is the generation of something else, and conversely. Considered in the light of the Aristotelian principle, we understand something new, though very general, about the Law of the Conservation of Energy.

Feynman continues his discussion of energy and the Law of the Conservation of Energy by means of an analogy in which he compares blocks, like those with which a child plays, to energy. Unlike a child's blocks, however, these blocks are "absolutely indestructible and cannot be divided into pieces." They are also all the same. The idea is that the number of the child's blocks

[21] According to Noether's Theorem, the Law of the Conservation of Energy follows necessarily from time symmetry,"meaning that the fundamental laws of physics do not change over time, so that the results of an experiment with the same initial conditions are the same whenever the experiment is done. See Jennifer Coopersmith, *The Lazy Universe*, Appendix A 6.3 (Oxford: Oxford University Press, 2017), 222-24; Jozef Hanc, Slavomir Tuleja, and Martina Hancova, "Symmetries and Conservation Laws: Consequences of Noether's Theorem," *American Journal of Physics* 72 (2004): 428-35.

[22] According to the Second Law of Thermodynamics, "the *usable* energy in an isolated system is constantly decreasing." For a discussion of entropy and the Second Law of Thermodynamics, see Alan Lightman, *Great Ideas in Physics* (New York: McGraw-Hill, 2000), 59-115.

remains constant throughout the child's play no matter where the blocks go or how messy and rough the child's play may be. After describing the analogy, Feynman applies it to energy and, with some drama and astonishment, makes the following points:

> What is the analogy of this to the conservation of energy? The most remarkable aspect that must be abstracted from this picture is that *there are no blocks*. . . .
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> It is important to realize that in physics today, we have no knowledge of what energy *is*. We do not have a picture that energy comes in little blobs of a definite amount. It is not that way. . . . It is an abstract thing in that it does not tell us the mechanism or the *reasons* for the various formulas.[23]

Since the quantity of energy remains the same in energy transformations, we might expect energy to be a kind of substance. Because we find it easy to use analogies such as that of Feynman's indestructible, quantitatively identical blocks, we might be misled into thinking that in energy conservation some thing or stuff is being conserved. However, the current state of our science indicates that this is not the case. The analogy between blocks and energy and the failure of that analogy precisely on the point of the blocks' existence indicates that

[23] Feynman, *Feynman Lectures on Physics*, vol. 1, chap. 4, p. 2. Feynman makes the same points elsewhere as well: "Of all the conservation laws, that dealing with energy is the most difficult and abstract, and yet the most useful. It is more difficult to understand than those I have described so far, because in the case of charge, and the others, the mechanism is clear, it is more or less the conservation of objects. This is not absolutely the case, because of the problem that we get new things from old things, but it is really a matter of simply counting. The conservation of energy is a little more difficult, because this time we have a number which is not changed in time, but this number does not represent any particular thing. . . . What we have discovered about energy is that we have a scheme with a sequence of rules. From each different set of rules we can calculate a number for each different kind of energy. When we add all the numbers together, from all the different forms of energy, it always gives the same total. But as far as we know there are no real units, no little ball-bearings. It is abstract, purely mathematical, that there is a number such that whenever you calculate it it does not change. I cannot interpret it any better than that. This energy has all kinds of forms" (Richard P. Feynman, *The Character of Physical Law* [Cambridge, Mass.: MIT Press, 1965], 68-70). The problem of getting new things from old that Feynman also mentions in this lengthy quotation is precisely the problem form and hylomorphism were meant to solve.

energy is not a blob or quanta. Particles have energy, but energy is not a particle nor is it indestructible in an atomist sense. Though quantifiable, energy is not a thing nor is the conservation of energy about counting discrete units, such as charge or other such properties. This also seems to be the intuition of the physics community because physicists do not search for a fundamental energy particle or stuff as they did for quarks or the Higgs particle, or as they do now for axions, dark matter, or the nature of dark energy. Physicists sometimes speak of photons as having a certain quantum of energy. By this, they mean that photons possess radiant energy. They do not mean that photons are energy or energy quanta *simpliciter*.

Nevertheless, energy and the forms of energy are real. When Feynman says that energy and the Law of the Conservation of Energy are abstract, he does not mean that they are not real, for, of course, we can also speak of energy in very real and particular ways, such as the number of calories in our food and the work their energy enables us to do. Feynman is not an instrumentalist. He is not saying that energy is a useful fiction or that it does not exist in things.[24] The point rather, at least in part, is that energy, though real, is not a thing in the way that fluids, rocks, chemical compounds, atoms, and animals are definite things.[25] Energy is not the sort of reality discovered as "a paleontologist might find the first ichthyosaur or a prospector stumble across the Koh-i-noor diamond" or even like modern physicists detecting subatomic particles with a particle

[24] Throughout his *Lectures on Physics*, when Feynman speaks of the different forms of energy, he speaks of them in real and particular ways, such as: "The fact that the electromagnetic field can possess momentum and energy makes that field very real . . . and the field itself has such familiar properties as energy content and momentum, just as particles can have" (Feynman, *Feynman Lectures on Physics*, vol. 1, chap. 10, p. 9).

[25] Physicists influenced by Feynman's account have considerable difficulty understanding the way in which energy is real yet is neither a thing nor even a discrete property: "Energy is a property of matter interacting with matter, not a thing in and of itself. There is no such thing as energy set free, energy without matter, just as there is no such thing as free momentum. Physical entities (including light, the most tenuous form of matter) can produce change—and undergo change—and hence possess energy" (Eugene Hecht, "Energy and Change," *The Physics Teacher* 45 [2007]: 90). Feynman might not agree without qualification that energy is a property.

accelerator.[26] On this account, energy as such is not extended in three dimensions but is only extended *per accidens* insofar as what has energy is extended.

Thus, energy is better thought of in Aristotelian terms as a principle of things in the way that form, act, potency, essence, and nature are principles. Like form, energy is not a thing. It is a principle that we understand by what comes from it. Just as reifying form is a mistake, so too is reifying energy a mistake.[27] We may imagine something like lightning when we think of energy, but lightning is not energy, though it has energy or is energetic. So too, part of what Feynman means by saying that energy is abstract is that it is not strictly imaginable. In this, energy is like form, for, properly speaking, we cannot imagine forms.

Furthermore, eliminating the blocks implies a more elevated role for the form of energy. The form cannot be a superficial overlay or merely the manifestation or avatar of some underlying energy. Since there are no blocks, nothing energetic is further determined by the form of energy. Consequently, the form is that by which something has energy. It is the act by which something has energy. This is the key implication of Feynman's denial that there are energy "blocks". Since energy is not a thing, a particle, a stuff, or a property like charge, then, as far as we know, there is nothing besides the form of energy which is that whereby something has energy and energy of a certain kind. Thus, it is the form of energy that makes something be energetic and energetic in a certain definite way. Consider the following interpretation of Feynman's "there are no blocks" claim: "By that [Feynman] means we can't say which of the various forms in which energy manifests itself represents what energy 'really' is."[28] The statement is acceptable insofar as is it says that there is no one energy that is what energy really is,

[26] Coopersmith, *Energy, the Subtle Concept* (Oxford: Oxford University Press, 2015), 357.

[27] On the distinction between a principle and a thing and the tendency to reify principles, see James A. Weisheipl, O.P., *The Development of Physical Theory in the Middle Ages* (Ann Arbor, Mich.: University of Michigan Press, 1971), 37-40.

[28] Robert H. March, *Physics for Poets* (New York: McGraw-Hill, 1970), 77.

that there is no "block." The problem is in retaining the language of the forms of energy as "manifesting" and "representing," for if there are no blocks, then there is no energy to manifest or represent besides what is caused by the form. Though a form of energy is an accident, and the subject of an accident must be in potency to receive it, accidents are not composed of matter and form but are just forms. An accidental form is not a thing but a secondary principle of a thing, for its very essence is to inhere in a subject and make a subject be not absolutely but in a qualified sense. The subject is the principle of individuation of accidents, and an accident in a subject is that which is measured and that through which the subject acts. Consequently, the form of energy modifies a subject and makes it be such, or so great, or in some particular condition, much as the accidental form "musical" makes a man be musical. Thus, if there are no blocks, the form of energy is an accidental formal cause in a subject.

Changes in energy as such are not exchanges of "blocks." Consequently, the statement that energy is neither created nor destroyed, which in Feynman's example is the point of saying that the blocks are indestructible, obscures an important issue and easily misleads. Most likely, "neither created nor destroyed" is not meant in the proper metaphysical and theological sense of creation *ex nihilo* and annihilation but instead is used to mean that energy "neither comes to be nor passes away" or is "neither generated nor corrupted." The phrase is true if it is taken to mean that the total amount of energy of a closed system remains the same, but it can easily be taken to mean that in receiving or losing a given form and amount of energy a subject does not come-to-be such or cease-to-be such. What "there are no blocks" implies is that a subject's change of energy is an actualization of a potency. Some subject has a potency for a form and a quantity of energy that when actualized must be matched by a corresponding but opposite actualization of a potency in a subject so that the net change in the amount of energy is zero (for a closed system). To speak improperly for emphasis, when a subject undergoes a change in energy, energy

comes to exist and ceases to exist but does so in such a way that the total amount of energy remains the same.[29]

Since in a change of energy a body or some subject undergoes a change so that it gains or loses some accidental form of energy or some amount of a form of energy, the form of energy in such changes is a principle of change and of being. It is a principle of change because a form of energy is the new term (considered simply) that is acquired through the change. What undergoes the change in energy comes to be formed accidently according to its new form of energy, and the newly acquired form or forms of energy limit the change in energy to a determinate outcome. The form of energy is a principle of being because, in making a thing have a certain quantity of a given kind of energy, it makes it be and continue to be such, and thus it is a cause, an accidental formal cause. Thus, the Law of the Conservation of Energy combined with its treatment of the forms of energy and with Feynman's "there are no blocks" claim supports the view that the various forms of energy not only are kinds of energy but also are accidental formal causes that determine things to be such as they are.

II. ENERGY, ABSTRACTION, AND MATHEMATICS

Feynman does not develop his thoughts about energy in this direction. Instead, he claims that we do not know what energy is and focuses on the abstract, mathematical character of energy and of the Law of the Conservation of Energy. Energy and the conservation of energy are undoubtedly mysterious, and they are certainly quantifiable and are formulated mathematically. Without the use of mathematics, we would not have discovered

[29] Strictly and properly speaking, only the composite and not its form or its matter is generated or corrupted, though we may speak of forms coming to be or passing away *per accidens* insofar as the composite is a subject of change *per se*. Therefore, strictly speaking, energy does not come to be or pass away since energy is not a composite. Saying that a form of energy comes to be and passes away or that the energy changes means that a body or some subject undergoes a change so that it comes to be not absolutely but accidentally by gaining or losing some accidental form of energy or some amount of a form of energy. Energy is also not a subject of change since it is an accident, though we sometimes speak improperly of accidents as subjects of change.

the Law of the Conservation of Energy.[30] However, we should be careful not to think of them as merely abstract mathematical notions. Feynman's claims are usefully contrasted with those of another physicist, A. P. French, writing for the MIT Introductory Physics Series of textbooks:

> Of all the physical concepts, that of energy is perhaps the most far-reaching. Everyone, whether a scientist or not, has an awareness of energy and what it means. Energy is what we have to pay for in order to get things done. The word itself may remain in the background, but we recognize that each gallon of gasoline, each Btu of heating gas, each kilowatt-hour of electricity, each car battery, each calorie of food value, represents, in one way or another, the wherewithal for doing what we call *work*. We do not think in terms of paying for force, or acceleration, or momentum. *Energy* is the universal currency that exists in apparently countless denominations; and physical processes represent a conversion from one denomination to another.[31]

French tells us that scientists and nonscientists alike all have "an awareness of energy and what it means," whereas Feynman tells us that "we have no knowledge of what energy *is*." Both quotations are taken from authoritative and respected textbooks. The issues here are undoubtedly difficult, but, clearly, we must at least make some distinctions.

In contrast to Feynman's analogy of blocks, French likens energy to a "universal currency" that occurs in "countless denominations." The universal-currency analogy captures the breadth of the notion of energy, the convertibility of its forms, and its conservation. It also implies, though it does not state so explicitly, that energy is not like a coin that can be passed around. The "universal currency" analogy is an abstraction similar to Feynman's blocks. Just as there are no blocks, so too,

[30] "Feynman shows us that it is *only* by uncovering the individual mathematical formulae that energy will be uncovered. We shall, therefore, track the emergence of these formulae—the non-existent 'blocks of energy'—through the history of their discovery" (Coopersmith, *Energy, the Subtle Concept*, 4).

[31] A. P. French, *Newtonian Mechanics* (New York: W. W. Norton & Co., 1971), 367. French remarks on the passage quoted above that "The above remarks do not really *define* energy. No matter. It is worth recalling once more the opinion that H. A. Kramers expressed: 'The most important and most fruitful concepts are those to which it is impossible to attach a well-defined meaning'" (ibid.).

there is no real universal currency. A universal currency is not one of the real currencies in which energy exists. Real currencies, like the forms of energy, are specific, and they come in many denominations.[32] Similarly, just as there are only different currencies and their ratios, so too there are only different forms of energy and their ratios, ratios that are fixed in nature and not subject to fluctuations. Consequently, on French's currency analogy, the form is also that by which something has energy.

Energy and the Law of the Conservation of Energy are abstract in the sense that they can signify a commonality that leaves out many specific and individual features without rejecting them. "Energy," considered just as such, does not exist as a thing or stuff in nature any more than "animal" exists as a thing in nature. Of course, just as "animal" is not a mere generic abstraction because we can also speak of this kind of animal and of this particular animal, so too the term "energy" can be used by itself in a very abstract way but also can be used to signify a specific form of energy or the energy of a particular thing, as French does in the passage quoted above. Aristotle likewise can use the term "form" in a very abstract way or in more specific or particular ways, as when he speaks of the form "musical" or of an individual musician. The Law of the Conservation of Energy says that for all the forms of energy some commonality is conserved throughout all changes in energy even though what is conserved is not a thing, a mechanism, or a unit of some kind. The commonality itself, like a universal currency, does not exist as such except in a mind. This is indeed abstract, but we can nevertheless speak of energy and the forms of energy in very specific, particular, and physical ways.

French's currency analogy includes a quantitative and mathematical understanding of energy and the conservation of energy,

[32] In addition, French's claim that energy exists in "apparently countless denominations" indicates that we can think of forms of energy in specific as well as generic ways in keeping with the claim made earlier in this article. Similarly, when French speaks of "each gallon of gasoline, each Btu of heating gas, each kilowatt-hour of electricity, each car battery, each calorie of food value" he is also affirming that we can think of the form of energy in particular or individuated ways as well.

but unlike Feynman, French does not say it is "abstract, purely mathematical, that there is a number such that whenever you calculate it it does not change." He emphasizes a physical understanding as well. Feynman's difficulty would seem to be that there is no thing that *is* energy. Consequently, since there is no thing, we do not know to what the mathematics is referring, and so he says that it is a purely mathematical, abstract law. It is purely mathematical because the number that is conserved does not refer to a known thing or a discrete countable property of things, at least not for the sort of realities with which Feynman is familiar. "There are no blocks" means that we do not know of an underlying physical reality that is energy. What we know is the mathematics. However, as French and other scientists point out, we do have some physical awareness and understanding of energy.[33] We could not treat energy mathematically if we did not know something about it and have some physical understanding of it—unless we were to regard energy and the conservation of energy as something like Ptolemy's epicycles, which Feynman does not do.

Energy is identified with activity, for, like currency, it is that by which things get done. The currency analogy is dynamic, is related to work, and captures the active sense of energy; blocks, by contrast, are not energetic but static and do not suggest work. Our manner of speaking indicates this understanding, for we say that gasoline, electricity, and food have energy and do things in virtue of that energy. We are aware of the *energeia* of a lightning bolt, and we do not walk under ladders because we are aware of the potential *energeia* of heavy bodies. Likewise, physicists have a discipline called high-energy physics and speak of gamma rays as high-energy photons and of cosmic rays as high-energy particles. Astronomers speak of the energy source of quasars and active galaxies and of nuclear energy as the energy that powers the stars. Similarly, in ordinary usage, we speak of "energy drinks" and "energy bars." We talk about

[33] "Although energy was and is considered an imponderable concept, physicists (and scientists in other disciplines) were still able to develop a sophisticated understanding of it that goes beyond a mere mathematical description and formalism" (Harrer, "On the Origin of Energy," 454).

"energy resources," an "energy crisis," and an "energy policy." We speak of inequities in the availability of energy to different peoples. The notion of energy is deeply woven into agriculture, engineering, economics, public policy, business, industrialization, and international relations. It is important even in sciences such as paleontology and neuroscience. The early scientific development of the notion of energy and the conservation of energy was deeply connected to the rise of the machine age.[34] Energy is foundational for human civilization, and part of human history can be written as the increasing mastery that human beings have gained over energy.[35]

Many of these uses of the term "energy" are continuous with the use of the term in the hard sciences. Indeed, the breadth of its use, including uses beyond the hard sciences, indicates that the notion of energy is more general than its specific scientific meanings. Thus, we should not think of energy and of the Law of the Conservation of Energy as mere abstractions or as only mathematical notions, for scientists and nonscientists both speak of energy as determinate, particular, physical, and active. In trying to understand energy, just as we do not want our familiarity with it to make us think we know more than we do, so too we do not want to deny or lose our ordinary and basic understanding of the meaning of the term, however rough, vague, and crude, it may be. We do not move from what is evident and intelligible *quoad nos* to what is evident and intelligible *per se* by denying what we know *quoad nos*.[36]

[34] "A mathematical description of nature, leading to the eventual discovery of energy, emerged slowly, over millennia, and was prompted, more than anything else, by one endeavor—the construction of devices. These were tools, simple machines, and 'engines', discovered independently, again and again, all over the world" (Coopersmith, *Energy, the Subtle Concept*, 5). "There were also mathematical advances arising from astronomy, warfare, and trade—but those arising from machines had an especial relevance to energy" (ibid., 377).

[35] "The history of man's conquest of his material environment can be written as the story of the mastery of energy. This single concept is probably the foremost bridge between the abstract world of physical theory and the practical one in which men try to get things done" (March, *Physics for Poets*, 67).

[36] "Through things better known we arrive at a knowledge of things unknown. Now things are said to be better known in two ways. Some are better known in regard to us

In sum, French speaks about our familiarity with energy and its different forms and how we use the term. Certainly, as he points out, we know something about energy and its different forms. Feynman would seem to mean, especially since he italicizes the word "is" ("we have no knowledge of what energy *is*") that we do not know what energy is in some fundamental or absolute sense and that it is not like other realities that we do know. He is making a philosophical point in a pedagogically and rhetorically effective way. His point, especially since he states his claim in the negative, may also be that we do not even know what kind of reality energy is, for he does not say what kind of knowledge we are lacking. Feynman's discussion might be regarded as an important admission of the limits of our current scientific understanding, but it may also reflect the limits of his own prior, general natural philosophy, a natural philosophy to which energy may not conform and which lacks a notion of formal causality.

III. Energy and Matter

Although Feynman does not draw out the hylomorphic implications of his understanding of energy, another Nobel-prize-winning physicist, Murray Gell-Mann, unintentionally goes further in this direction. Since energy comes in different forms and because of the Law of the Conservation of Energy, some thinkers have taken the notion that "energy is neither created nor destroyed" to mean that energy is a special substance and that the different forms of energy are different manifestations of this substance. In addition, viewed against the nineteenth-century background of the laws of Conservation of Matter and of Conservation of Energy, Einstein's famous equation $E = mc^2$ may seem to suggest that matter and energy

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such as the composite and the sensible; others are better known absolutely and in themselves, as the simple and the intelligible. Because we acquire knowledge by reasoning, we must proceed from what is better known to us" (I *Nic. Ethic.*, lect. 4 [Marietti ed., 52; Thomas Aquinas, *Commentary on Aristotle's Nicomachean Ethics*, trans. C. I. Litzinger, O.P. (Notre Dame, Ind.: Dumb Ox Books, 1993)]).

are two distinct substances that can be mutually converted into one another. According to Gell-Mann, this view is an error:

> All matter possesses energy, and all energy is associated with matter. When people refer carelessly to matter being converted into energy (or vice versa), they mean simply that certain kinds of matter are converted into other kinds. For example, an electron and a related (but oppositely charged) particle called a positron can come together and turn into two photons, a process often described as "annihilation" or even "annihilation of matter to give energy." However, it is merely the transformation of matter into other matter, of certain forms of energy into other forms.[37]

An electron is a negatively charged atomic particle of very low mass. A positron is the antimatter counterpart of the electron. Unlike an electron, it has a positive charge.[38] When an electron and a positron meet, they are transformed into two gamma-ray photons, a form of very high energy electromagnetic radiation. Gamma-ray photons, unlike electrons and positrons, do not possess mass.[39]

The transformation of an electron and a positron into a pair of gamma rays is often called, however improperly, "annihilation" for at least two very significant reasons. In the transformation, the entire mass of the electron/positron pair is converted into the energy of the gamma-ray photons.[40] Since mass was historically

[37] Murray Gell-Mann, *The Quark and the Jaguar* (New York: W. H. Freeman and Co., 1994), 124. Gell-Mann received the 1969 Nobel Prize in Physics for his contributions and discoveries concerning the classification of elementary particles and their interactions. He is a codiscoverer of quarks and quark theory.

[38] "The generalization of this, that for each particle there is an antiparticle, turns out to be true. In the case of electrons, the antiparticle has another name—it is called a positron, but for most other particles, it is called anti-so-and-so, like antiproton or antineutron" (Feynman, *Feynman Lectures on Physics*, vol. 1, chap. 2, p. 8).

[39] "The quanta of electric and magnetic energy in a radio wave or a light wave are called photons. . . . Photons display particle properties: they have energy, momentum, and spin-angular momentum. Their mass is zero, as is required by the theory of relativity, according to which only a zero-mass particle can move at the speed of light yet have finite energy" (Hans C. Ohanian, *Physics*, vol. 2, Interlude G [New York: W. W. Norton & Co., 1985], G-5). Ohanian is a former associate editor of the *American Journal of Physics*.

[40] "This theory of equivalence of mass and energy has been beautifully verified by experiments in which matter is annihilated—converted totally to energy: An electron and a

identified with matter, the complete transformation of mass into the energy of massless particles was often conceived of as the "annihilation" of matter or as the transformation of matter into energy.[41] However, mass is now understood as a form of energy and, as Gell-Mann states, photons are a kind of matter and have a different form of energy. The "annihilation" of mass does not increase the amount of energy. The amount of energy remains the same throughout the interaction, but the subject undergoes a change in which one form of energy, mass, is lost, and another form of energy, that of the gamma-ray photons, is gained.[42] Gell-Mann does not say what matter and energy would then be, though his account strikingly raises that question, especially since massless particles are regarded as matter.

In addition, the transformation of an electron/positron pair into gamma-ray photons is not the rearrangement of more fundamental particles. Unlike molecules (which are composed of atoms) and atoms (which are composed of protons, neutrons, and electrons), and protons and neutrons (which are composed of

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positron come together at rest, each with a rest mass m_0. When they come together they disintegrate and two gamma rays emerge, each with the measured energy of m_0c^2. This experiment furnishes a direct determination of the energy associated with the existence of the rest mass of a particle" (Feynman, *Feynman Lectures on Physics*, vol. 1, chap. 15, p. 11).

[41] The reverse process is called particle creation: "Antimatter is not readily available in large amounts. On Earth, antiparticles can only be obtained from reactions induced by the impact of beams of high-energy particles on a target. These collisions occasionally result in the creation of a particle-antiparticle pair. Such pair creation is the reverse of pair annihilation" (Ohanian, *Physics*, 1:186). The "annihilation" and "creation" interactions of electrons, positrons, and gamma rays are not so simple as indicated here. They also involve drawing upon the quantum vacuum. Also, in nuclear and chemical reactions, a percentage of the mass of the original reactants is also "lost," that is, changed into other forms of energy. The conversion is quite small in chemical reactions but dramatic in nuclear ones.

[42] "A photon is not just 'energy.' There is no such thing as 'pure energy.' Rather, the photon is the particle of the electromagnetic field. It does possess the *attribute* of energy. The electron and positron possess the property of rest mass (as well as energy), but they are not 'mass' (in the sense of '*being* inertia'). Perhaps, because they are 'matter,' the electron and positron are mass in the sense of 'lump of stuff.' That sense of mass, however, is different from the sense in which the word mass is used in the equation $E = mc^2$" (Ralph Baierlein, "Does Nature Convert Mass into Energy?," *American Journal of Physics* 75 [2007]: 323).

quarks), electrons, positrons, and gamma-ray photons are not composed of particles or any other formed parts. The old atomistic forces-and-rearrangement-of-particles model of physical change has seemingly been abandoned. Instead, the transformation of an electron/positron pair into gamma-ray photons is like the change of one Aristotelian element into another, such as air into fire. On an Aristotelian account, what persists through the change so that the change is not annihilation or creation is not something that is a kind or that has form. It is prime matter.

Gell-Mann's account suggests hylomorphism: that matter is an underlying potentiality and that energy is a form. The transformation of one kind of matter and one form of energy into another and of massive bodies into massless bodies implies that energy and matter are not things or substances but coprinciples of things. Like Aristotle's matter and form, matter and energy are presented by Gell-Mann as distinct but correlative. Matter and energy are not given apart from each other but are always together and related. There is always matter, and there is always energy, though not always the same form of energy. The impression of hylomorphism is furthered inasmuch as the energy of the electron's and positron's mass and the photons' energy are identified with form whereas matter is left unspecified, except in saying that it can possess different forms of energy and that matter, such as electrons, positrons, and photons, comes in different kinds. Gell-Mann thereby strengthens, develops, and compliments the points made in discussing the Feynman and French accounts of energy.

Although Gell-Mann does not explicitly acknowledge the Aristotelian principles of matter and form or act and potency, Heisenberg famously applied these principles to particle physics. However, he identified energy with prime matter and potency and not with form and act. According to Heisenberg,

> All the elementary particles are made of the same substance, which we may call energy or universal matter; they are just different forms in which matter can appear.
>
> If we compare this situation with the Aristotelian concepts of matter and form, we can say that the matter of Aristotle, which is mere "potentia," should

be compared to our concept of energy, which gets into "actuality" by means of the form, when the elementary particle is created.[43]

Energy, according to Heisenberg, is comparable to mere potentiality, a formless indeterminate, universal principle that is open to gaining or losing different forms and out of which all the different kinds of elementary particles are made. On Heisenberg's account, energy is like prime matter.[44] Form is understood in an Aristotelian sense, since by means of form, energy, regarded as potentiality, is actualized in making elementary particles. The different kinds of elementary particles are due to different forms that actuate the underlying energy. Since Heisenberg says that form is that by which energy gets into actuality, form would also be an act and as such would be a principle of the elementary particles' activity. Form, on Heisenberg's view, would seem to function as a formal cause. Of course, the statement "they are just different forms in which matter can appear," especially with its use of the words "just" and "appear," might suggest a weaker account of form. In any

[43] Werner Heisenberg, *Physics and Philosophy* (New York: Harper & Brothers, 1958), 160. See also idem, "Planck's Discovery and the Philosophical Problems of Atomic Physics" and "Discussion of the Lecture of Werner Heisenberg," in *On Modern Physics* (New York: Collier Books, 1962), 16-17, 23-24, 27, 40, 43-44; and idem, *Across the Frontiers*, trans. Peter Heath (New York: Harper & Row, 1974), 21-22. Heisenberg's view was embraced by William Wallace. For Wallace's view and Heisenberg's response to an inquiry by him, see William A. Wallace, O.P., "Elementarity and Reality in Particle Physics," in *From a Realist Point of View*, 2nd ed. (Washington, D.C.: University Press of America, 1983), 206-8. Wallace later modified his view in response to Wolfgang Smith, *The Quantum Enigma: Finding the Hidden Key* (Peru, Ill.: Sherwood Sugden & Company Publishers, 1995). See William A. Wallace, O.P., "Thomism and the Quantum Enigma," *The Thomist* 61 (1997): 455-68. In this review, when discussing atomic physics, Wallace says that "'form' (*morphe*) functions as an energizing and stabilizing principle in an inorganic nature." This statement closely relates energy with form and implies that energy is an act and not a potentiality since the form is energizing. See, however, David S. Oderberg, "Is Prime Matter Energy?," *Australasian Journal of Philosophy* (January 12, 2022), published online at https://doi.org/10.1080/00048402.2021.2010222. Oderberg's article appeared after the present article was prepared for publication.

[44] "Primary matter does not exist by itself in nature, since it is not actually being, but potentially only; hence it is something concreated rather than created" (*STh* I, q. 7, a. 2, ad 3).

case, assuming that for Heisenberg the elementary particles are substances, then the forms that bring them into actuality are substantial forms.

Since, according to the Law of the Conservation of Energy, a quantity of energy is conserved in the transformation of something from one form of energy to another, identifying energy with prime matter might seem plausible because in Aristotelian natural philosophy matter persists through a change while forms are gained and lost. Matter, to use the language of physics, is conserved. Also, at least some energy transformations seem to involve substantial changes in which a new kind of thing comes to be, which would also require an underlying prime matter. Prime matter, of course, is not a thing, and so, Heisenberg's position might also seem to fit with some points that Feynman makes, such as the claim that there are no blocks.

We can be sympathetic to Heisenberg and maintain that he is correct to draw upon Aristotle and hylomorphism, and be appreciative of his use of Aristotle's notion of potentiality in understanding quantum mechanics. However, energy cannot be prime matter, and the conservation of energy cannot be the conservation of prime matter.[45] The conservation of energy is even one reason that energy cannot be prime matter. According to the Law of the Conservation of Energy, for a closed system, a particular quantity of energy is the same at the beginning of a physical process as it is at the end of the process. This means that a particular quantity is conserved. However, prime matter, as such, is not quantified. Unlike energy, it cannot be measured in joules. Consequently, a particular quantity of prime matter cannot be conserved in a physical process, and energy cannot be prime matter. Someone might object by pointing out that we must distinguish between prime matter considered in itself and prime matter considered as it exists.[46] Considered in itself,

[45] "I must, however, add the reservation that neither my studies of Aristotle nor of Aquinas have been thorough enough to permit me the formulation of a well-founded opinion concerning the concepts 'potency' and 'prime matter'" (Heisenberg, "Appendix" to Wallace, "Elementarity and Reality in Particle Physics," 259).

[46] *STh* I, q. 7, a. 2, ad 3; *STh* I, q. 14, a. 2, ad 3; *STh* I, q. 15, a. 3, ad 3; *STh* I, q. 84, a. 3, ad 2.

prime matter is pure potency without any form or actuality. In itself, it is potency to substantial form and lacks all composition. As such, prime matter cannot exist on its own and cannot be quantified. However, considered as it exists, prime matter is never without (substantial) form and actuality. It exists only with and actuated by some form as a principle of a composite substance.[47] Prime matter, so considered, would then exist in some corporeal quantity.[48] Thus, the objector might argue that we can speak of a quantity of prime matter not as prime matter is in itself but as it exists in things. We might then speak, for instance, of 160 joules of prime matter and of those 160 joules of prime matter being conserved.

However, even if we consider prime matter as it exists in things, energy cannot be prime matter since the different kinds of energy are accidents. There are two broad classes among the kinds of energy, kinetic energy and potential energy.[49] Kinetic energy is the energy of motion and potential energy is the energy of position. Mass energy might be treated as a third class. Thus, all forms of energy depend on motion or on position or mass. However, motion, position, and mass do not exist on their own but depend upon a body or a system that is moving, is in a position, or has mass. Therefore, energy is a dependent or secondary reality, and, thus, it is an accident and not a substance or a fundamental principle of a substance, such as prime matter. Identifying energy with prime matter is a category mistake.[50]

[47] *Quodl*. III, q. 1, a. 1.

[48] I *Gen. and Corrup*., lect. 14 (Conway and Larcher, trans., 99).

[49] "Upon careful examination, all these various forms fall into just two main types of energy: kinetic, the energy of motion; and potential, the energy of the interaction of parts of a system" (Coopersmith, *Energy, the Subtle Concept*, 355).

[50] At this point, someone might reasonably ask, given that the forms of energy are accidents, in which of the categories should they be classified? The question goes beyond the scope of this paper, which is limited to arguing that the forms of energy are accidental forms in the Aristotelian/Thomistic sense. If I were to speculate, I would say that the forms of energy would in some sense be classified in the categories of quantity and quality since something's energy is so much of a certain kind. We say, for instance, that a certain lump of coal has 10,000 joules of chemical energy. However, except as a manner of speaking, we do not want to assert that energy itself has a quantity since

Since the forms of energy, such as electromagnetic or chemical energy, are accidents, they are in a substance or subject and make a substance be such. They do not actuate prime matter to make something be, but instead presuppose a substance or system that they further actuate. Energy might be regarded as what is sometimes called secondary matter (see below), but substantial, not accidental, forms actuate prime matter and compose substances. On Heisenberg's view, the form of energy would not be correlative to the underlying energy understood as prime matter, for the forms of energy are not substantial forms. Similarly, the claim that the elementary particles are made of energy would be rather unusual in physics, for physicists say that particles *have* energy, not that they *are made of* energy. As indicated in the discussion of Gell-Mann, electrons and positrons have mass energy, and gamma-ray photons have radiant energy. Their "annihilation" and "creation" may give the appearance that energy is prime matter, but it would be a mistake to say that an electron is or is made out of mass energy or that a gamma-ray photon is or is made out of radiant energy. Likewise, the forms that Heisenberg says actuate energy to create an elementary particle do not correspond to known forms of energy, and Heisenberg does not say what kinds of energy the particles themselves would be. Perhaps one day physics may advance to the point where substances or substantial forms may be understood as forms of energy, but that is not now the case.

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energy is not a subject. The coal, not the energy, has the quantity. Furthermore, since energy is active and, in the case of potential energy, also receptive, the forms of energy in some way would be in the categories of action and passion as well. Since potential energy is the energy of position, it might also belong in the categories of relation and place. Energy is perhaps fundamentally in the category of quality, since it is tied up with powers and their acts. These are dependent upon substance, through quantity, and qualities also ground relations as well as actions and passions. Kinetic energy poses a special problem. We might wonder whether kinetic energy, the energy of motion, is truly a form in the Aristotelian/Thomistic sense, since for Aristotle and Aquinas, motion is not a form, which suggests that properly speaking neither is kinetic energy, and, thus, it does not belong in a category, except perhaps by reduction. However, these questions and issues must be left to future investigations.

The same point might be made in another way. The relevant change through which prime matter persists is a substantial change, but many changes in energy are not substantial changes, such as the change in the gravitational energy of an apple falling from a tree. The apple and the Earth persist through the fall, and at this level of explanation there is no need to invoke prime matter as the conserved energy. And in those changes in energy that do arguably involve substantial changes, such as the change of an electron/positron pair into gamma-ray photons or the generation of new particles in accelerator experiments, the forms of energy, as noted above, are not substantial forms, and so are not proportioned to prime matter. In these cases, alteration and substantial change are confused. Alteration is the way to generation and corruption, for it brings on and takes away the proper dispositions of things, but it is not substantial change. Consequently, though the change of an electron/positron pair into gamma-ray photons may be a substantial change, nevertheless mass energy and radiant energy are accidents. Finally, if energy were prime matter, then potential energy would be potential prime matter, a potential pure potentiality, a notion that is contradictory.[51]

Someone might maintain that energy is secondary matter, a body or substance already constituted by prime matter and substantial form, and that the Law of the Conservation of Energy parallels Aristotle's prime matter with respect to something secondary, a secondary potency, that persists through a change.[52] However, such a secondary potency would be in

[51] "If prime matter were generated, there would be a matter in it, out of which it came to be. There would, therefore, be a matter prior to prime matter, and so prime matter would not be prime. There would also be a form in it, by which prime matter would differ from that out of which it came to be. But, prime matter of itself is without any form" (Bobik, *Aquinas on Matter and Form and the Elements*, 29; the quotation is from Bobik).

[52] "For example, there is something that is in potency to being a man, like sperm and menstrual blood [ovum]; and there is something that is in potency to being white, like man. Both what is in potency to substantial existence, and what is in potency to actual existence, can be called matter; like sperm, the matter of man; and man, the matter of whiteness. But they differ in this: the matter which is in potency to substantial existence is called the matter out of which; and that which is in potency to accidental existence is

something, something that has a definite quantity of energy regarded as a kind of potency. It is not obvious how a definite quantity of potency, 200 joules for example, would not only retain its identity through a change but would also avoid Feynman's claim that "there are no blocks," especially since Feynman extends "blocks" to include countable properties, such as charge. Furthermore, if energy were regarded as a definite quantity of secondary matter that persisted through a physical process, potential energy would still be a potential potential, which is a problematic notion. Of course, an objector might reply that a potential potential would not be problematic since first potency implies second potency. The objection would appeal to the distinction between first and second potencies and first and second acts to argue that energy is secondary matter. To become a genuine counterargument, such an objection would require considerable development to formulate it intelligibly in a way that fits with the physics of energy. Only then could it be examined and addressed. This will not be attempted here.[53] Instead, a ready answer is at hand if energy is identified with act and form. "Potential" in potential energy is potentiality to actual energy, to a certain actuality and form. For example, "potential" in gravitational potential energy is potentiality to a certain form of energy, namely, a quantity of kinetic or gravitational energy. Potential energy would then be a potency of the secondary matter, a potency to a specific form by which something has energy. Unlike Heisenberg's interpre-

called the matter in which. Properly speaking, however, what is potency to substantial existence is called prime matter; whereas what is in potency to accidental existence is called a subject" (*De Princ. Natur.*, c. 1 [Bobik, trans., 4).

[53] Since the discussion concerns the hypothesis that energy is secondary matter, presumably the first potency would not be prime matter and the second potency secondary matter. The argument might be made by using the analogy to geometrical knowledge that Aristotle and Aquinas applied to heavy bodies falling. See Aristotle, *Physics* 8.4.255a30-255b31 and Thomas Aquinas, VIII *Phys*., lect. 8 (Blackwell, Spath, and Thirlkel, trans., 1029-36). Such an argument could also draw upon the definition of energy as the capacity for work or upon the notion of "the potential" in physics to argue that energy is potentiality and then attempt to make sense of potential energy as a potential potentiality.

tation, there is no odd separation of energy from its form. The form of energy is the source of the energy as a formal cause.

However, the main objection to interpreting energy as prime matter or secondary matter is that this is to identify energy with potentiality, and in ordinary and scientific use the meaning of "energy" is opposed to that of prime matter and potentiality. As the previously quoted passage from A. P. French indicated, "energy" means something active or actual. That is how scientists and ordinary people use the word. Similarly, Gell-Mann and others typically use the term "energy" in contrast to matter. Even a problematic phrase such as "pure energy" usually means an especially intense, raw, unformed activity, a kind of Heraclitian fire.[54] It is not meant to designate an underlying receptivity that lacks actuality. Energy, as argued previously, is best regarded as a general, abstract term signifying a certain commonality of all the different kinds of energy. Energy is energetic and should be identified with form and act and not

[54] Heisenberg likens energy to Heraclitus's fire: "All elementary particles are composed of the same substance, that is, energy. They are the various forms that energy must assume in order to become matter. Here the pair of concepts of 'content and form,' or 'substance and form,' from Aristotle's philosophy reappears. Energy is not only the force that keeps the 'all' in continuous motion, it is also—like fire in the philosophy of Heraclitus—the fundamental substance of which the world is made. Matter originates when the substance energy is converted into the form of an elementary particle" (Heisenberg, "Planck's Discovery," 23-24). He repeats this view in *Across the Frontiers*, 22. His view that energy is like Heraclitus's fire and that energy is "the force that keeps the 'all' in continuous motion" shows that he himself identifies energy with act and activity. Of course, energy cannot be both Aristotle's prime matter and like Heraclitus's fire, though perhaps Heisenberg conceives of Aristotle's "mere potentia" as a kind of underlying active substance. However, energy cannot be a substance and be prime matter because prime matter is not a substance but is a principle of a substance, nor does prime matter exist in and of itself as does a substance. Energy also cannot be both matter and "that which moves" because matter as such is a passive potency and not an active principle. Matter is not "that which moves." The conception of energy as like Heraclitus's fire and as "that which moves" also implies a weakened conception of form, since the activity of energy would not come from the form but from energy itself conceived as an element like Heraclitus's fire. Thus, Heisenberg contrasts form with "content" and "substance." Finally, the view that energy is a special substance also implies that the different forms of energy, and indeed all forms, including those of the elementary particles, are accidents of that energy substance, a view that Heisenberg himself does not seem to espouse.

with matter. Of course, someone might point out that we also speak of energy in passive ways when we speak of potential energy. This is certainly the case. Energy, in addition to being divided according to the forms of energy, is also divided according to potential and kinetic energy. However, when we speak of potential energy, we are speaking of something as having a potency to energy, as potentially energetic but not yet energetic. If Heisenberg did mean energy in some passive or potential sense, then he would need to say not "energy" but "potential energy," which would be interesting indeed. He would be identifying a new kind of potential energy.[55] Consequently, we can hold that energy transformations require an underlying matter, and yet deny that the underlying matter is energy. Energy cannot be simply identified with matter, either prime matter or secondary matter.

In his thinking about energy and the different forms of energy, Heisenberg has perhaps been misled in two ways. First, unlike animals, which are substances and matter/form composites, the forms of energy are accidents and so are not matter/form composites. The very nature of an accident is to be in a subject, but when we speak of accidents alone and conceived apart from a subject, we have to treat and speak of them as substances.[56] For example, "shape" is an accident in and of a subject, but we sometimes refer to shapes as things, as squares, cubes, circles, and spheres. However, "shape" is an accidental form. We emphasize it as an accidental formal cause by saying, awkwardly, that squareness is that by which something is square or sphereness is that by which something is spherical. Likewise, when we speak of the forms of energy, we are often speaking in the abstract, as if the forms of energy were things. Heisenberg has perhaps been misled by the way we speak of accidents in the abstract as things, as when, for instance, we speak of energy or a form of energy as having a quantity, as if energy were a subject.

[55] Heisenberg may have been thinking of quantum vacuum or zero-point energy. See Helge Kragh, *Quantum Generations: A History of Physics in the Twentieth Century*, rev. ed. (Princeton: Princeton University Press, 2002), 72-73, 158-59, 162.

[56] VII *Metaphys.*, lect. 1 (Marietti ed., 1254).

Second, Heisenberg has perhaps also confused the logical distinction between genus, species, and difference with the real distinction between a thing's composite principles, such as matter and form. Man is composed of matter and soul as two constituent principles that make up a third reality, but in the sentence "Man is a rational animal," "rational" and "animal" designate the difference and the genus and are not constituent parts that make up a third reality. We do say that the genus, in a way, is taken from matter and that the specific difference, in a way, is taken from form. But the genus is not matter and the difference is not form. The genus "signifies indeterminately everything in the species and not the matter alone. . . . The difference designates the whole and not the form alone."[57] Heisenberg may have been misled by this similarity into regarding the relationship of "forms of energy" to "energy" as an instance of the relationship of form to matter, whereas it is more like the relationship of species to genus. The mistake is easily made because matter and form, though really distinct coprinciples, are not separable like a ball and a bat or even like the wings of a bird.[58]

What is it, then, that is conserved and persists through a change governed by the Law of the Conservation of Energy? It cannot be the form, for the form is the very thing that is lost in a change and, strictly speaking, the form is not quantifiable. Since the form does not persist through the change, then, at least to some extent, something actual does not persist. We may rightly say that matter persists throughout any energy transformation, but, as argued above, that is not what the conservation of energy refers to as conserved. We must distinguish between the conservation of measured quantities and the

[57] *De Ente*, c. 2 (Thomas Aquinas, *On Being and Essence*, 2nd rev. ed., trans. and notes by Armand Maurer, C.S.B. [Toronto: The Pontifical Institute of Mediaeval Studies, 1968]). See also *STh* I, q. 50, a. 2, ad 1.

[58] Heisenberg may also have been misled by phenomena similar to those discussed by Gell-Mann: "For according to relativity theory, the high kinetic energy of the colliding particles can be transformed into mass, and is actually used in generating new elementary particles. In reality, therefore, there is no real splitting of the elementary particles, but rather an engendering of new particles of this kind, from the energy of motion of the incoming particles" (Heisenberg, *Across the Frontiers*, 21).

persistence of beings. "Conserved" and "persists" must be distinguished so that what is "conserved" with respect to the conservation of energy is not something that "persists" through a change. As Feynman describes the conservation of energy, there is no persisting thing, unit, or mechanism that is the energy that is conserved through an energy transformation. Though the same quantity of energy is present throughout a physical process, that quantity is not the quantity of a thing persisting throughout the process. Put in another way, if a system at the beginning of a process has, for example, 100 joules of energy, then, assuming the system is closed, it must have 100 joules of energy throughout and at the end of the process. However, the 100 joules at the beginning need not be the same 100 joules that are present at the end. What is conserved is the quantity of act or activity, but the identical act need not persist through the change. The energy of the form and act corrupted equals the energy of the form and act educed but not because of an underlying actuality that persists through the energy transformation. That is part of the way nature is ordered. Again, this is not to say that there is no matter that persists through a change in energy. It is just that whatever that matter may be, it is not the conserved energy. This seems to be part of the strangeness of the Law of the Conservation of Energy that Feynman was trying to describe. It also fits with Gell-Mann's treatment of energy as correlative to matter.

However, there is a difficulty with this solution. When scientists use the Law of the Conservation of Energy, they typically treat the conserved energy as the sum of the potential and kinetic energy. For example, a boulder at rest on top of a cliff has a certain quantity of potential energy with respect to the ground. As the boulder falls, its potential energy becomes kinetic energy. Ignoring the effects of the air and any heating, the sum of the boulder's potential and kinetic energy remains the same from its rest on the cliff and throughout its fall. However, if the potential energy is regarded as a passive Aristotelian potency and the kinetic energy is regarded as actual energy, then the energy considered according to the Law of the Conservation of Energy includes both what is actual and what is

potential. Phenomena such as a swinging pendulum or a roller coaster especially emphasize the problem. Consider an idealized roller coaster, one unaffected by the air or by friction with the rails. When a roller-coaster car is at a peak, its potential energy is at a maximum and its kinetic energy is zero. As the car drops to a trough, its potential energy decreases to zero and its kinetic energy increases to a maximum. As the car then rises up the track to the peak, the kinetic energy decreases to zero and the potential energy increases to a maximum. The pattern repeats over and over. The total energy, the combination of gravitational potential energy and kinetic energy, remains the same throughout the changes undergone by the car. The conserved energy is both potential and actual (kinetic). How then can it be maintained that what is conserved is the quantity of act or activity?

The physicist Anthony Rizzi gives a plausible solution to this objection, a solution that preserves the claim that act or activity is conserved in the Law of the Conservation of Energy:

> In summary, conservation of energy preserves overall activity (roughly by keeping track of the receptivity . . . and overall strength of action) . . . while conservation of momentum, keeps the net intensity of impetus . . . along any given line from gradually building in one direction in a line over another. It also keeps a body from moving arbitrarily.[59]

Here, consistent with the view for which I am arguing, Rizzi states that what is conserved is the overall activity. However, the way in which the conservation of energy does this is in part by keeping track of receptivity. What might this mean?

Here I want to distinguish between two ways of considering the energy that a body has in a given location.[60] A roller-coaster car at rest on a peak has gravitational potential energy with respect to a position that it does not occupy and with respect to a force of gravity that can move it but has not and by virtue of work that can be done on it but has not been done. However, I

[59] Anthony Rizzi, *Physics for Realists* (Baton Rouge, La.: IAP Press, 2008), 231.

[60] In making this argument and responding to the objection I have raised, I am drawing upon McLaughlin, "Act, Potency, and Energy," 207-43.

maintain that the car at rest on a peak also possesses actual gravitational energy in the place it actually occupies considered with respect to some other place, such as a trough of the track, in which it is not located and with respect to the force of gravity. I call the actual gravitational energy that the car has when located at the peak of the track "classical rest energy" to distinguish it from gravitational potential energy. It is an actual gravitational form of energy. This also may be thought of by considering the work that must be done on the roller-coaster car to raise it from the bottom of a trough to a peak of the roller coaster. This work equals the amount of potential energy that the car has at that height with respect to the trough.[61] The work done in raising the car to its position on the peak might be thought of as building actual gravitational energy into the car at its position. I call this "classical rest energy," by which I mean the actual (gravitational) energy that a system or a body possesses in virtue of the actual configuration that the system has or the actual position that the body occupies when at rest in a gravitational field or considered with respect to a gravitational force.

What I am calling classical rest energy is an instance of the Aristotelian principle of actuality or act. It is the act or activity of rest, but it is distinct from potential energy. The difference is that classical rest energy is the energy that the car actually has where it is located as opposed to the energy it potentially has in another location. Physicists do not make this distinction because they are quantitatively the same and because prerelativistic physics had no notion of rest energy or of a resting activity. Consequently, when, for example, physicists think of the energy stored in a system in virtue of its location, they regard it as actual but still call it potential energy.[62] However, quantitative

[61] "You will undoubtedly be familiar with another way of interpreting a potential energy such as *U(h)* in the last equation. It represents exactly the amount of work that we would have to do in order to raise an object through a distance *h*, against the gravitational pull, without giving it any kinetic energy" (French, *Newtonian Mechanics*, 378).

[62] "The potential energy of a system represents a form of stored energy which can be fully recovered and converted into kinetic energy" (David Halliday and Robert Resnick,

equality is not necessarily identity in nature, being, and intelligibility. A body or system can at the same time possess actual energy in a position and lack kinetic energy and location in another position, for they are in different respects. The roller-coaster car at some height above the Earth's surface has both classical rest energy and potential energy, but the two are distinct. As the car falls and rises, its kinetic energy comes to be from its potential energy and then passes away into the energy of its position. The car's position is both something actual and something from which the body has potential energy. Consequently, in tracking the potential energy, the physicist is also tracking the gain or loss in position and so the gain or loss in the actual energy of position, what I am calling classical rest energy. Therefore, since potential energy regarded as receptivity is quantitatively identical with classical rest energy, the sum of potential energy and kinetic energy will also give the total activity, since it is the same as the sum of the classical rest energy and the kinetic energy. What is conserved is act or

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Fundamentals of Physics [New York: John Wiley & Sons, 1970], 113); "We shall call this stored work the *potential energy V*" (Uno Ingard and William L. Kraushaar, *Introduction to Mechanics, Matter, and Waves* [Reading, Mass: Addison-Wesley Publ. Co. Inc., 1960], 164); "Every substance has a certain amount of energy stored inside it. The energy stored in the chemical bonds of a substance is called chemical potential energy. The kinds of atoms and the arrangement of the atoms in a substance determine the amount of energy stored in the substance" (Antony C. Wilbraham, Dennis D. Staley, Michael S. Matta, and Edward L. Waterman, *Chemistry* [Boston: Pearson Education, Inc., 2012], 556); "Maxwell's position appears to be that the word *potential* applies to the possibility of acquiring actual energy (*KE*), whereas today we would maintain that the word *potential* pertains to the possibility of delivering energy (e.g., in the form of *KE*) already stored in the system" (Eugene Hecht, "An Historico-Critical Account of Potential Energy: Is PE Really Real?" *The Physics Teacher* 41 [November 2003]: 488). "Energy 'stored' in this form is called potential energy. The sense of the word is self-explanatory. By raising the stone we have created a situation which has the potential of creating motion. Allowing the stone to return to its starting point will convert that potential to an actual motion. . . . Were gravity the only force that could store energy, the concept of potential energy would hardly seem worth the effort we have gone through. Fortunately, there are other forces that can store energy. For example, a spring or a rubber ball stores energy as it is compressed. . . . There are many other forces that have this property of storing energy; for each one it is possible to find a formula for the potential energy, and for each force the formula is different" (March, *Physics for Poets*, 72, 74-75).

activity but the activity is determined partly through calculating the receptivity of the potential energy, though there is also a sense in which one can say that the combined potential and actual (kinetic) energy is conserved. This may or may not be compatible with what Rizzi had in mind, but it does explain how the conservation of energy is conservation of activity even though scientists calculate the conserved energy by determining the sum of potential and kinetic energy.

Before moving to the last section, I want to acknowledge and very briefly reflect upon a question that might be raised in response to my claim that energy is an accident or accidental form and that what is conserved with respect to the conservation of energy is the quantity of act or activity. Someone might be surprised that what is conserved is not matter, or a substance, or a property such as charge. Feynman was surprised. This surprise may be especially keen in changes from one form of energy to a different form, for we might not expect a particular quantity to be conserved in such accidental changes or in accidental changes generally. And we might wonder that the universe has a certain definite and fixed quantity of energy, a number of energy as it were, even if, as time passes and because of entropy, less of that energy is available for work. We might want an account of or reason for how such is the case. How can it be that what is conserved is not something like wood or a block that persists through a change? To put the question hyperbolically, how is it that, on the understanding of the forms of energy for which I am arguing, the Law of the Conservation of Energy is not something Pythagorean or like a sort of Leibnizian preestablished harmony?

Earlier I argued that the Law of Conservation of Energy is a specified and more determinate application of the more general principle that the corruption of this is the generation of something else and vice versa. To this we might add the explanation offered by Julius Mayer, the codiscoverer of the Law of the Conservation of Energy: "We complete our thesis, which necessarily follows from the fundamental principle: *causa aequat effectum* and which stands in complete accord with all

natural phenomena."[63] Richard Connell also explains the conservation of energy in terms of the principle that every agent must be proportional to its effect:

> The first law [of thermodynamics] is only a particular formulation of a general philosophical principle that says *every agent must be proportional to its effect*; or to state the principle in a more traditional way, every agent acts in the measure of its actuality and cannot act beyond that actuality.[64]

Combining the proportionality principle of cause and effect and the principle that the corruption of this is the generation of something else, the basic idea is that when, for example, potential energy is actualized into kinetic energy, work is done on the body moved, which means that a force is exerted, and so an agency is acting. In doing work, that agency generates a new form, the kinetic energy, while a previous form, the classical rest energy, is necessarily corrupted. In the mutual interaction of bodies, because causes and effects are proportioned according to the measure of their actuality, the result of the work done is a gain in kinetic energy, the energy of motion, and an equal loss of potential energy, the energy of position, for the body is moved. The loss of position means the corruption of a corresponding amount of classical rest energy. Energy interactions show a distinction between mover and moved, and mover and moved are proportioned so that the effect in the moved equals the action of the mover. Throughout the interaction, there are proportionate causes of what comes to be and passes away.

Furthermore, Aquinas holds that form is a principle of order and that the form of the universe is its order.[65] In the next

[63] Julius Robert Mayer, "On the Forces of Inorganic Nature," trans. R. Bruce Lindsay, in *Energy: Historical Development of the Concept*, ed. R. Bruce Lindsay (Stroudsburg, Penn.: Dowden, Hutchinson, and Ross, Inc., 1975), 282. See also idem, "The Motions of Organisms and Their Telation to Metabolism," in ibid., 284-307. See also Coopersmith, *Energy, the Subtle Concept*, 336.

[64] Connell, *Nature's Causes*, 133. For an application of this principle to a different problem in natural philosophy, but one which also uses energy considerations, see Benedict M. Ashley, O.P., "Causality and Evolution," *The Thomist* 36 (1972): 199-230.

[65] See n. 82.

section, I shall argue that the Law of the Conservation of Energy is a formal ordering principle. Thus, the forms of energy and the Law of the Conservation of Energy are part of the formal order of the universe, a formal order that is related to time, for, according to Noether's theorem, the Law of the Conservation of Energy follows from the assumption of time symmetry.[66] In addition, as a formal ordering principle, the Law of the Conservation of Energy would be ordered toward a final cause. A teleological account of the Principle of Least Action would partly provide such final causality, for the forms of energy and the Law of the Conservation of Energy are closely related to the Principle of Least Action.[67] That the universe has a certain fixed quantity of energy is, perhaps, due to its form and final cause. Though requiring much more development, these considerations help us, so to speak, place the forms of energy and the Law of the Conservation of Energy in the broader context of the whole universe and indicate a greater intelligibility in them. Although the category of relation seems much more important in the universe as understood by contemporary science than in the cosmos of Aristotle, the Law of the Conservation of Energy does not reflect a kind of Leibnizian preestablished harmony. The conservation of energy is rooted in the natures, essences, powers, and inclinations of bodies and describes the grasp of broad commonalities among and across those bodies. The order of energy conservation is in things themselves and their mutual interactions.

Finally, whatever truth is present in the Pythagorean view of number, numerical ratios, and the universe, Aquinas holds, in his own way, that nature employs number as a principle. However, among the several analogies that Aquinas uses for understanding the perfection of the universe (house, army, well-ordered household, and microcosm/macrocosm), the

[66] See n. 21.

[67] See n. 4 and the following: Jozef Hanc and Edwin F. Taylor, "From Conservation of Energy to the Principle of Least Action: A Story Line," *American Journal of Physics* 72 (2004): 514-21; Jozef Hanc, Edwin F. Taylor, and Slavomir Tuleja, "Variational Mechanics in One and Two Dimensions," *American Journal of Physics* 73 (2005): 603-10.

Pythagorean/Platonic mathematical music/harmony analogy, which was common in the medieval period, is strikingly absent.[68] Later Thomists have noted Aristotle's minimal use of mathematical and experimental techniques in the investigation of nature.[69] We may debate to what extent Aquinas and later Thomists have in principle successfully captured and incorporated the insights of Pythagoreanism or of the modern sciences, but it does not follow that number is the principle of all things or that mathematics can capture the whole of nature or that energy and the Law of the Conservation of Energy are strictly mathematical principles. The interpretation argued for here, with its robust role for form, avoids that view. Indeed, the failure to see a strong role for form combined with a no-blocks view easily leads to a merely mathematical view of energy and the conservation of energy, but even with Feynman, energy and the conservation of energy are mysterious and abstract and do not reflect a Pythagorean/Platonic number realism. The development, working out, and unification of these and other ideas obviously goes well beyond the scope of this paper and is work that must be left to future investigations.

IV. The Forms of Energy and the Order of the Universe

The different forms of energy and the Law of the Conservation of Energy have additional explanatory roles that also indicate that they are forms in the Aristotelian/Thomistic sense. Matter and efficient causes, or to use the language of physics, forces, are insufficient for understanding nature and the natural order of the universe. Principles that give specificity, structure, order, and pattern are required as well.[70] In Thomistic

[68] For analogies that Aquinas uses cosmologically, I am drawing upon Oliva Blanchette, *The Perfection of the Universe according to Aquinas* (University Park, Penn.: The Pennsylvania State University Press, 1992).

[69] William A. Wallace, O.P., "The Intelligibility of Nature: A Neo-Aristotelian View," *The Review of Metaphysics* 38 (1984): 33-56.

[70] I am drawing upon John Haldane, "A Return to Form in the Philosophy of Mind," in *Form and Matter: Themes in Contemporary Metaphysics*, ed. David S. Oderberg (Oxford: Blackwell Publishing, 1999), 40-64.

natural philosophy, this requirement is met by formal and final causality. Here I wish only to consider form.

Forms do not provide structure and regularity by acting as forces, for that would be to confuse formal with efficient causality. But without formal causes that determine things to be as they are, efficient causes could not operate in the regular, systematic, and determinate ways that they do. Efficient causality originates in things determined and ordered by form and produces things determined and ordered by form. Likewise, an actual form of energy is needed to account for a force.

Energy is distinguished from force, for though energy is an act and is associated with activity, it is not as such a force or efficient cause. Thus, we distinguish between gravitational force and gravitational energy, and nuclear forces and nuclear energy. The distinction between energy and force took centuries to achieve. Leibniz named what we now call kinetic and potential energy *vis viva* and *vis mortua* respectively. For Humboldt and others, "force" was the great unifying principle and was used to describe some things we now know as energy.[71] Julius Mayer, one of the codiscoverers of the Law of the Conservation of Energy, referred to energy as "force" (*Kraft*).[72] Hermann Von Helmholtz, in his great 1847 paper on the conservation of energy ("Über die Erhaltung der Kraft"), also refers to what we now call energy as *Kraft*.[73] The notion of energy and its forms developed in response to a conceptual need for something that is not a force, which implies that energy is not an efficient cause, and since, as already argued, energy is not a material or stuff, this supports the claim that the forms of energy are forms. In support of this claim, we see in the developing distinction

[71] See Andrea Wulf, *The Invention of Nature: Alexander von Humboldt's New World* (New York: Alfred A Knopf, 2015).

[72] Coopersmith, *Energy, the Subtle Concept*, 240-45.

[73] "From a similar investigation of all the other known physical and chemical processes, we arrive at the conclusion that Nature as a whole possesses a store of force which cannot in any way be either increased or diminished. And that, therefore, the quantity of force in Nature is just as eternal and unalterable as the quantity of matter. Expressed in this form, I have named the general law 'The Principle of the Conservation of Force'" (Hermann Von Helmholtz, "The Conservation of Energy" [1847], in *Classics of Modern Science*, ed. William S. Knickerbocker [Boston: Beacon Press, 1927], 286).

between energy and force the need for a notion of forms that describes different patterns of activity that must be expressed according to distinctive formulae.

In physics, energy is often defined as the capacity to do work. In classical physics, the work done on a body equals the force applied to it multiplied by the distance over which the force acts on the body.[74] For example, if someone pushes a box across a floor, the work done depends upon the magnitude of the force exerted on the box and the distance through which the force is exerted.[75] The box is moved by exerting a force on it and not by exerting energy on it. Thus, energy and force are distinguished.[76] In doing work, the person moving the box loses a certain quantity of energy and other forms of energy come to be.[77] The person exerts a force on the box in virtue of the energy he possesses, and the force communicates or causes a form of energy in the box and the other things acted upon, such as the floor. Forms of energy are present, so to speak, on the origin and delivery end of the force. A person who did not have the relevant form of energy could not exert a force on the box and move it. Without the relevant form of energy, we could do no work. An energy source is needed to bring about physical change, and the physical change results in a new form of energy or different amount of energy in the thing acted upon.

[74] Mathematically, this is expressed as $W = F \times x$ where W equals the work, x equals the distance over which the force acts on the body, and F equals the force acting on the body along x.

[75] Ohanian, *Physics*, 1:154-56.

[76] The different units in which they are measured further show this distinction. Work and energy are measured in the same units, whereas force is measured in different units. For example, in the SI system of units, the unit for energy and work is the joule whereas the unit of force in the same system of measure is the newton. A joule is a newton meter, so that the units of energy include the units of force but are not simply the same as the units of force.

[77] The box pushes back and does negative work on the person moving it. In A. P. French's analogy, we must pay for what we get.

Another example is helpful. A rock on the edge of a cliff has gravitational energy with respect to the Earth and its gravity.[78] When the rock falls from the cliff to the ground, the rock's gravitational energy decreases, and the work done by gravity equals the change in gravitational energy. The efficient cause of the rock's fall is the force of gravity and not the gravitational energy of the Earth/rock system. Nevertheless, the force of gravity originates in the gravitational energy, especially the mass energy, of the system, and the force changes the quantity of gravitational energy, and some gravitational energy is changed into other forms, such as kinetic energy. Forms of energy are present, so to speak, on the origin and delivery end of the force in what is a very ordered and regular process in nature. Further, the system cannot act gravitationally except insofar as it is in act gravitationally, and the system is in act gravitationally through having forms of energy.[79] Though we may think that the force determines the form of energy, on the source side, it is really the form that determines the force and its uniform and characteristic operation. The gravitational energy is the wherewithal for doing the work of moving the rock. An analogy with kinetic energy is helpful. A body in motion, in virtue of its kinetic energy, exerts a force and does work on another body that it impacts. A body with kinetic energy that does not act on something exerts no force and does no work. Kinetic energy is not a force but can be the source of a force. Likewise, gravitational energy is not itself a force but is the source of a force.

In addition to providing a source for the action of forces and a result produced by those forces, the form of energy also provides a pattern or structured order. With respect to the rock

[78] Though we typically speak of the rock's gravitational energy, gravitational energy belongs to the rock and the Earth together. It depends upon the configuration of the system. See Ohanian, *Physics*, 1:164-65.

[79] "Energy of any sort generates gravitational fields and is in turn acted on by gravitational fields" (Steven Weinberg, *Dreams of a Final Theory* [New York: Vintage Books, 1992], 225). "Now the question is, is it [energy] the source of the field? The answer is yes. Einstein understood gravitation as being generated by energy. Energy and mass are equivalent, and so Newton's interpretation that the mass is what produces gravity has been modified to the statement that the energy produces the gravity" (Feynman, *Character of Physical Law*, 77).

on the top of a cliff, a varying continuum of gravitational energy is present from the top of the cliff to the ground. This ordered structure or pattern is more evident if we think of the whole solar system in which the Sun largely defines a gravitational potential with planets and various minor bodies embedded within and having their own gravitational potentials.[80] This gravitational energy structure or pattern is often modeled by a gravity well in which the Sun's gravitational potential is represented by a large funnel and those for the planets and other bodies are represented by spikes within the larger funnel. Gravity wells are a commonplace in textbooks and in science museums.[81] We speak of using a certain amount of energy to escape such wells.

For Aristotle and Aquinas, to a considerable extent the orderly arrangement of the world is itself characterized by and follows from form.[82] The forms of energy function according to

[80] Every massive body makes a gravitational potential around it. The gravitational potential is the potential energy per unit mass. Joules per kilogram is a typical unit of measure. In Newtonian physics, the gravitational potential $V_G(r)$ equals $-GM/r$ where G is the universal constant of gravitation, M is the mass of the body generating the potential, and r equals the distance from the origin, usually the center of the body generating the potential. The addition of a further massive body m yields the general Newtonian expression for gravitational potential energy $-GMm/r$.

[81] Willem H. van den Berg, "The Gravitational Landscape of the Solar System," *The Physics Teacher* 46 (2008): 363-64.

[82] "Whoever possesses some form is related through that form to things in reality. For example, white wood is through its whiteness like some things and unlike other things" (*ScG* I, c.72). All English quotations from Aquinas's *Summa contra gentiles* I are from Thomas Aquinas, *Summa contra gentiles*, book 1, trans. Anton C. Pegis (Notre Dame, Ind.: University of Notre Dame Press, 1991). The importance of form in the order of the universe is also evident in the Aristotelian notion of natural place. The sublunar bodies themselves are not indifferently related to place but are ordered by their forms to a particular place or region in the universe that is proper to their natures. The least formal and most material element (earth) is ordered to the center of the universe and the most formal and least material element (fire) to the extremity of the universe. The bodies of the noblest natures occupy the outermost places in the universe, and the bodies of the least noble natures occupy the central position. See IV *Phys.*, lect. 6 (Blackwell, Spath, and Thirlkel, trans., 468-69 and 492-93) and I *De Caelo*, lect. 18 (Marietti ed., 181-82). My point concerns Aquinas's general view of the importance of form in the order of nature, which is distinct from the largely mistaken specific physics and cosmology that he held. I am not defending the four-element theory or Aristotle's

this explanatory requirement. In contemporary scientific accounts of the world, we see this in the remarkable natural order known through the different forms of energy and the laws governing them. In general, "conservation laws . . . represent one of the physicist's most powerful tools for organizing his description of nature."[83] This is especially the case for the Law of the Conservation of Energy. The Law of the Conservation of Energy, although it does not determine the way everything is in the universe, is an ordering principle that, as far as we know, applies to all the things in the universe. Not only is it the case that whenever energy is lost by a body or a physical system that something else gains an equal amount of energy, but also the Law of the Conservation of Energy involves the order of all the different forms of energy to each other. This includes and goes considerably beyond the already far-reaching order in the universe recognized through the common notion of mass. As discussed previously, each of the different forms of energy has its own determinate character, formula, and pattern of activity that distinguishes it from other forms of energy. These different forms of energy are themselves related to each other in very definite ways, and changes in the forms of energy occur in a very definite order. We exploit these relations to generate forms of energy that are useful to us, such as electricity, from other forms that are not so useful, such as running water or wind turbines. In a very profound and far-reaching way, the world is governed, so to speak, according to the Law of the Conservation of Energy.

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specific view of natural place. Further, in a multiplicity of things ordered together into a totality, the form of the whole is their order: "Now the form of any whole which is one through the arrangement of its parts is the order of that whole" (XII *Metaphys.*, lect. 12 [Marietti ed., 2627]; English translation from Thomas Aquinas, *Commentary on the Metaphysics of Aristotle*, trans. John P. Rowan [Chicago: Henry Regnery, 1961]). Aquinas uses the examples of an army, a household, a city, or a commonwealth: "For sometimes things are united merely by their arrangement, as the men in an army or the houses in a city; and then the whole has the role of a form which is designated by the term army or city" (V *Metaphys.*, lect. 3 [Marietti ed., 779]). Indeed, for Aquinas, the form of the universe is its order. See XII *Metaphys.*, lect. 12.

[83] French, *Newtonian Physics*, 368.

This is not essentially an order of material or efficient causes but an order of forms of energy. For some kinds of problems, especially those in atomic physics, physical interactions are more easily and usefully analyzed by measuring the forms and quantities of energy and ignoring the forces involved, especially if measuring the forces is extremely difficult or impossible. These interactions can be treated as changes in a formal order of energy. More significantly, the order shown by the Law of the Conservation of Energy is useful not only for its predictive and retrodictive power but also as an instrument of discovery. Apparent failures in the law reveal gaps in our understanding of the order of nature. This sometimes results in striking discoveries, as in the case of the neutrino.[84] New forms of energy have also been discovered in this way.[85] In other cases, as in the case of the Sun and of other stars, a recently discovered form of energy explains the energy source of something in nature.[86] The discovery of nuclear energy finally led to the discovery of the Sun's energy source.[87] More recently, from the discovery that the expansion rate of the universe has been increasing, the existence of something called dark energy has been inferred as an explanation.[88] Although the Law of the Conservation of

[84] "In fact, we would sooner invent new forms of energy than sacrifice the law of the conservation of energy. This is exactly what did happen in 1930. Wolfgang Pauli (1900-1958) was troubled by the problem with the ß-decay spectrum, and . . . invented a new particle, the neutrino, as 'a desperate remedy to save . . . the law of conservation of energy'" (Coopersmith, *Energy, the Subtle Concept*, 336).

[85] "And whenever a situation has arisen in which it seemed that energy had disappeared, it has always been possible to recognize and define a new form of energy that permits us to save the conservation law" (French, *Newtonian Physics*, 368). "The inquiry into the various manifestations of energy is a powerful way of analyzing systems according to the fundamental law of energy conservation. On rare occasions, physicists propose revolutionary new fundamental forms of energy when the principle of energy conservation seems violated while using only the currently agreed upon energy forms" (Harrer, "On the Origin of Energy," 458).

[86] George O. Abell, *Exploration of the Universe*, 3rd ed. (New York: Holt, Rinehart, and Winston, 1975), 545-47.

[87] "The discovery that some of the energy locked up in the nuclei of atoms is released in the interiors of stars is perhaps the most significant contribution of astronomy in the twentieth century" (Abell, *Exploration of the Universe*, 547).

[88] Richard Panek, *The 4% Percent Universe* (New York: Mariner Books, 2011).

Energy does not determine the places of the different natures of things in the same way as does form in the Aristotelian theory of natural places, it nevertheless enables us to deepen our understanding of the natural order and fill in gaps in what we know of that order as we come to know ever more diverse natural phenomena as different kinds of energy. We discover an ever-deepening and ever-more-general pattern, and the Law of the Conservation of Energy and the forms of energy are principles of the pattern.

Through the different forms of energy, their interrelations, and the Law of the Conservation Energy, we grasp a profound and pervasive unity throughout the universe. In providing a quantitative relation between very different and seemingly unrelated kinds of things, the Law of the Conservation of Energy has a profoundly unitive and ordering role in nature. Cosmologically, dark energy increases the expansion rate of the universe as a whole. The overall behavior of the whole universe follows the Second Law of Thermodynamics. As the universe expands and its contents interact, the "flow" of energy is from a low-entropy state to a higher-entropy state. We see a pattern even in the growing disorder of the universe.[89] The forms of energy and the Law of the Conservation of Energy manifest a formal order in nature.

I shall end with an example that briefly sketches an order of different forms of energy. The example begins with the Sun.[90] Except for nuclear, geothermal, and the larger portion of tidal energy, most of the energy we use ultimately comes from the

[89] Lightman, *Great Ideas in Physics*, 59-115. See also John W. Keck, "The Natural Motion of Matter in Newtonian and Post-Newtonian Physics, *The Thomist* 71 (2007): 529-54.

[90] "We mention that the large difference in temperature between the sun and space plays a vital role in keeping us alive. . . . But the second law decrees that our bodies, or any machines, must inevitably run out of *usable energy* if isolated. To stay alive we must get a constant infusion of energy at high temperatures and release our wasted body heat into something cold. The cold-temperature heat sink is space. The high-temperature heat source can be traced to our food and then to the sun. . . . Either directly or indirectly, the sun keeps us alive. If the sun were the same temperature as space, our body-machines would grind to a halt" (Lightman, *Great Ideas in Physics*, 98).

Sun.[91] As the Sun came to be, some of its gravitational potential energy was converted to nuclear energy in its core, where the Sun is a kind of fusion reactor. As in the case of other stars, nuclear reactions in the Sun's core produce thermal and radiant energy. The Earth receives some of the Sun's radiant energy, a portion of which becomes thermal energy and thereby heats the Earth's atmosphere and surface and drives much of the Earth's winds, atmospheric circulation, evaporation and precipitation, ocean waves, and other phenomena, some of which we use as sources of energy. Since radiant energy from the Sun drives the water cycle, it is also a source of hydroelectricity.[92] By photosynthesis, plants convert the Sun's radiant energy into another form of energy, ATP, and use the Sun's energy to make cells from carbon dioxide, water, and various minerals. Humans and animals eat plants, which then provide thermal, chemical, and mechanical energy. Waste products from humans and other animals provide sources of energy for other living things. Some plants are burned, and their chemical energy is converted into heat. By various other processes, the energy stored in plants becomes the forms of energy we find in various fossil fuels, such as oil, natural gas, and coal.[93]

Similarly, the Sun's gravitational potential energy can be traced backward in an orderly way to the Big Bang and so provide both stability and orderly change through the various forms of energy: from the Big Bang, to heating the planet, to walking across a street. The forms of energy and the energy transformation processes are more complex than is described here, but the description given is sufficient to indicate that the forms of energy provide a pattern and a stable, intelligible order

[91] "The entire enterprise of your existence—using energy to turn food into more you and more descendants—draws on the bank of low-entropy radiation streaming from the Sun. *Some* source of low entropy is needed for any activity in the Universe, including life" (Lewis and Barnes, *Fortunate Universe*, 101-2).

[92] Michael E. Wysession, course guidebook to *The Science of Energy*, The Great Courses (Chantilly, Va.: The Teaching Company, 2016), 114.

[93] See Vaclav Smil, *Energies* (Cambridge, Mass.: MIT Press, 1999), xiii; Martin Goldstein and Inge F. Goldstein, *The Refrigerator and the Universe* (Cambridge, Mass.: Harvard University Press, 1993), 4-5, 56-57; Lewis and Barnes, *Fortunate Universe*, 100-108.

as well as sources for the action of forces and the forms of energy that are produced by those forces. This order not only includes the interrelations of the different forms of energy but covers an extraordinary scale—from the Big Bang and the whole universe, to a child eating lunch, to subatomic particles—all of which happens according to the conservation of energy.[94] This unified order is an order not of forces but of forms, forms that determine things to be as they are and determine forces to operate in the regular, systematic, and determinate ways that they do. We see here how the forms of energy function in nature in ways that indicate that they are Aristotelian forms.

SUMMARY

I have argued that the different forms of energy are specific instances of form in the Aristotelian or Thomistic sense. "Forms of energy" most commonly refers to the different kinds or species of energy, but it also means or implies that the forms of energy are accidental forms in things by which things have certain kinds and quantities of energy. My argument focused on the Law of the Conservation of Energy and the discussions of energy by several physicists, especially Richard Feynman. Each of the many different forms of energy has its own determinate character, pattern of activity, and formula by which it is known and distinguished from other forms of energy and in this way fits both the Aristotelian notion of form as kind or species and as a principle of the species from which distinctive operation follows. From Feynman's key claim that energy is not a thing or an underlying stuff, I argued that the various forms of energy, like form in the Aristotelian/Thomistic sense, are not things but principles of things. The forms of energy are accidents and are that by which something has energy, which indicates that the

[94] "Throughout the transformations that take place, the bookkeeping goes on: kilowatt-hour for kilowatt-hour, all the energy can be accounted for. The total amount remains the same regardless of the changes of form. According to the first law, the total energy of the universe will remain the same for all time, the same as it is today, and the same as it was in the distant past. Forward and backward, it makes no difference" (Goldstein and Goldstein, *Refrigerator and the Universe*, 4-5).

form of energy is an accidental formal cause and that when something acquires or loses a form and quantity of energy, such changes are actualizations of a potency and are the gain or loss of forms in an Aristotelian sense. I then argued against Heisenberg's claim that energy is prime matter. I maintained that energy is identified with activity, but is not a force, which supports the claim that the forms of energy are forms in the Aristotelian sense, since form is an act and things act insofar as they are in act, something that is characteristic of energy in its different forms. Finally, I argued that the Law of the Conservation of Energy and the forms of energy indicate a formal order in nature and thereby help provide the requirement for formal causality in nature where material and efficient causes are insufficient for explaining the natural world and its order. Thus, through the scientific notion of the forms of energy, the Aristotelian/Thomistic notion of form is present in the modern scientific understanding of nature. Future work could involve further investigations of energy and the principles of act, potency, form, matter, and end.[95]

[95] Earlier versions of this paper were read at the ACPA (2013), the Symposium Thomisticum (2016), and The American Maritain Association (2018). I wish to thank the participants of those conferences for their questions and comments. I would also like to express my gratitude to many colleagues who helped me with this paper, especially John Brungardt, Chris Blum, Carl Vater, Michael Gundzik, John Keck, Timothy Kearns, Alphonso Pinto, Fr. Andreas Hoeck, Fran O'Rourke, and Ed Houser.

The Thomist 86 (2022): 53-89

SAINT THOMAS AQUINAS ON THE INCOMPLETENESS OF THE HUMAN SOUL

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SAINT THOMAS Aquinas's metaphysical account of the human soul and its hylomorphic union with the body has long been lauded as a way to avoid substance dualism while affirming the immortality of the soul. Aquinas maintains that the human soul is an immaterial subsistent part of the human being that survives the death of the person.[1] It owes its metaphysical status to its role as the intellective principle in the human being. During life, it serves as the seat of our intellective acts, and even in its postmortem, separated state it continues to carry out intellective operations.[2] Yet despite this existential and operational independence from the body, Aquinas argues that soul and body are not two substances accidentally united. The human being is not an aggregate or accidental unity.[3] Instead, he maintains that the soul is the substantial form of the body and argues that the hylomorphic unity this provides renders the human being a single, unqualifiedly unified substance, that is, a substantial unity.[4]

[1] For the soul's immateriality and subsistence, see *STh* I, q. 75, a. 2. For its incorruptibility and postmortem existence, see *STh* I, q. 75, a. 6.

[2] *STh* I, q. 75, a. 2; *Q. D. De Anima*, a. 1, a. 14; *STh* I, q. 77, a. 8.

[3] *STh* I, q. 76, a. 1.

[4] For further discussion of Aquinas's hylomorphic account of the human being see Donald C. Abel, "Intellectual Substance as Form of the Body in Aquinas," *Proceedings of*

For as long as it has been lauded, however, Aquinas's view has also been plagued with charges of incoherence. A thing that can exist and operate apart from a larger whole—a thing like the human soul—seems paradigmatic of a complete substance, and in Aquinas's metaphysics no complete substance can be united to anything further to form a substantial unity. Thus, the soul's existential and operational independence from the body generates, at the very least, a *prima facie* tension with the human being's substantial unity.[5] But if Aquinas is not philo-

the American Catholic Philosophical Association 69 (1995): 227-36; B. C. Bazan, "The Human Soul: Form and Substance? Thomas Aquinas's Critique of Eclectic Aristotelianism," *Archives d'histoire doctrinale et littéraire du moyen-âge* 64 (1997): 95-126; J. E. Brower, *Aquinas's Ontology of the Material World: Change, Hylomorphism, and Material Objects* (Oxford: Oxford University Press, 2014); C. Brown, *Aquinas and the Ship of Theseus: Solving Puzzles about Material Objects* (New York: Continuum, 2005); Gregory Coulter, "Aquinas on the Identity of Mind and Substantial Form," *Proceedings of the American Catholic Philosophical Association* 64 (1991): 161-79; J. Eberl, "Aquinas on the Nature of Human Beings," *The Review of Metaphysics* 58 (2004): 333-65; idem, "Varieties of Dualism," *International Philosophical Quarterly* 50 (2010): 39-56; G. Klima, "Man=Body+Soul: Aquinas's Arithmetic of Human Nature," in *Thomas Aquinas: Contemporary Philosophical Perspectives*, ed. B. Davies (Oxford: Oxford University Press, 2002): 257-74; idem, "Thomistic 'Monism' vs. Cartesian 'Dualism,'" *Logical Analysis and History of Philosophy* 10 (2007): 92-112; idem, "Aquinas on the Materiality of the Human Soul and the Immateriality of the Human Intellect," *Philosophical Investigations* 32 (2009): 163-82; idem, "Aquinas on the Union of Body and Soul" *Quaestiones Disputatae*, special issue on *Hylomorphism: Ancient, Medieval, and Contemporary Approaches* 10 (2020): 31-52; Robert Pasnau, *Thomas Aquinas on Human Nature: A Philosophical Study of Summa Theologiae, 1a 75-89* (Cambridge: Cambridge University Press, 2002); Eleonore Stump, "Non-Cartesian Substance Dualism and Materialism Without Reductionism," *Faith and Philosophy* 12 (1995): 505-31; idem, *Aquinas* (London and New York: Routledge, 2003).

[5] Other concerns regarding the coherence of Aquinas's account have been raised as well. Gregory Coulter argues that substantial form must have an inherent kind of existential incompleteness which allows for its union with matter and that this incompleteness is inconsistent with subsistence (Coulter, "Aquinas on the Identity of Mind and Substantial Form"). See Klima, "Aquinas on the Materiality of the Human Soul," for a response to this kind of concern regarding the compatibility of the inherence and subsistence of the soul.

sophically entitled to the substantial unity of the human being, his view inevitably collapses into the dualism he seeks to avoid.[6]

Aquinas recognizes the tension between the soul's independence and its union with the body but attempts to dissolve that tension by blocking any inference from the soul's capacity for separate existence and operation to its completeness as a substance. He argues that the soul ultimately fails to be a complete substance because it is not complete in a specific nature.[7] Human nature is only complete when the soul is united to matter to constitute the human body. But to a critic this may appear simply to beg the question. Presumably a thing that exists and operates on its own *ought* to count as specifically complete—perhaps not in human nature, but in some intellective nature of its own. In that case, the soul *ought* to count as a complete substance. Aquinas's claim seems ad hoc. Worse still, it seems to conflict with his broader metaphysical framework in which a thing's existence and its species membership derive from the same source.[8]

Aquinas has more to say in his defence. In particular, he provides two accounts meant to motivate the claim that the soul is specifically incomplete. In the first and more prominent of these, found in the disputed question *De anima*, he appeals to the soul's dependence on the body for its intellective operation as a marker of its specific incompleteness. During life, the soul relies on images stored in the brain to produce the intelligible forms through which it understands. Aquinas argues that a thing cannot be complete in a specific nature if it lacks within itself

[6] See *STh* I, q. 76, a. 1 for Aquinas's rejection of substance-dualist views. For comparison of Aquinas's hylomorphic account with dualist accounts see Richard Cross, "Aquinas and the Mind-Body Problem," in *Mind, Metaphysics, and Value in the Thomistic and Analytic Traditions*, ed. J. Haldane (Notre Dame, Ind.: University of Notre Dame Press, 2002), 36-53; Eberl, "Varieties of Dualism"; idem, "Aquinas on the Nature of Human Beings"; Klima, "Thomistic 'Monism' vs. Cartesian 'Dualism'"; Stump, *Aquinas*; idem, "Non-Cartesian Substance Dualism"; Van Dyke, "Not Properly a Person."

[7] See, for instance, *Q. D. De Anima*, a. 1, ad 1 and ad 4; *Q. D. De Anima*, a. 14, ad 21.

[8] For further detail, see below.

those things required for its essential and natural operations. Because the soul depends on the body for these images, on its own it lacks the means of producing the intelligible forms required for its natural and optimal mode of intellective understanding. It is, therefore, specifically incomplete.[9]

In a second account, from the disputed question *De spiritualibus creaturis,* Aquinas argues that the soul is incomplete because, on its own, it cannot fully express what it contains virtually, *qua* form. There are things of which it is the principle that cannot be realized apart from its union with matter to constitute the body—for instance, the sensitive and nutritive powers, which can only be realized in the body. Aquinas maintains that a thing cannot be complete in a specific nature unless it expresses that which it contains virtually. The fact that many of the powers rooted in the soul virtually cannot be realized through the soul's subsistence alone reflects the fact that it is, considered apart from its union with matter to constitute the body, specifically incomplete.[10]

In this article, I examine whether either of these accounts provides a compelling case for the soul's specific incompleteness. I argue that while the first appeals to considerations central to Aquinas's account of human nature, his characterization of the nature of the dependence of soul on body for its intellective operation ultimately undermines his claim that such a dependence renders the soul specifically incomplete. He characterizes the dependence as dependence *on an object*, but when one thing depends on another as an object in a given operation we do not typically think of the dependee as something without which the dependent is specifically incomplete.

Nevertheless, I contend that the second account, namely, that the soul fails to express those things of which it is the principle, is more promising. Although the soul does not depend on matter for its existence, it does depend on matter for

[9] *Q. D. De Anima*, a. 1.
[10] See *De Spir. Creat.*, a. 2.

the full realization of its formal character as the substantial form of the human being. This provides the theoretical resources for a principled account of how and why the soul fails to be specifically complete—and one that remains consistent with Aquinas's broader metaphysical framework.[11]

The article has five sections. In (I) I present Aquinas's hylomorphic ontology and situate the human soul within it. This is important for understanding the soul's peculiar status in his metaphysical system. In (II) I explain how the tension between the soul's independence and its substantial union with the body arises. In (III) I consider Aquinas's first account of the soul's specific incompleteness, namely, that it depends on the body for its intellective operations and argue that such an account is inadequate for establishing the soul as specifically incomplete. In (IV) I present his second account, namely, that the soul cannot express or realize all those things of which it is a principle when separated from matter. I contend that this explanation can provide the theoretical resources to secure his

[11] Recently, Daniel De Haan and Brandon Dahm have argued that the separated soul (what they refer to technically as the *anima separata*, which includes the rational soul—i.e., the soul insofar as it is the human substantial form, along with the *esse* in which it subsists, its individuating features, and the accidents and powers which it substands) ought to count as an incomplete person. See D. D. De Haan and B. Dahm, "Thomas Aquinas on Separated Souls as Incomplete Human Persons," *The Thomist* 83 (2019): 589-637; D. D. De Haan and B. Dahm, "After Survivalism and Corruptionism: Separated Souls as Incomplete Persons," *Quaestiones Disputatae*, special issue on *Hylomorphism: Ancient, Medieval, and Contemporary Approaches,* 10 (2020): 161-76. In many ways our projects are complementary and largely compatible (though our terminology sometimes differs). They are, nevertheless, distinct. De Haan and Dahm seek to emphasize just how complete (existentially, operationally, formally, etc.) and just how person-like the *anima separata* turns out to be for Aquinas—even if it fails, categorically speaking, to count as a person because of its specific incompleteness. They argue that, despite failing to be specifically complete, the *anima separata* nevertheless achieves four other kinds of completeness and in addition satisfies, to a significant degree, two other criteria for personhood. Given this, they contend that the *anima separata* ought to count as an incomplete person (even if it does not count categorically as a person, because it fails to be specifically complete). By contrast, my aim is to elucidate how and why Aquinas is entitled to maintain that the separated soul is specifically incomplete, despite the fact that it is, after all, complete in so many other significant ways (e.g., existentially and operationally).

commitment to the soul's separate existence and its unqualified union with the body. Lastly, in (V) I consider how the account offered in (IV) can be squared with the metaphysical principles of Aquinas's system.

I

Aquinas endorses a broadly Aristotelian hylomorphic ontology. In his view, material substances are composites of a principle of actuality (substantial form) and a principle of potency (prime matter). For Aquinas, prime matter is pure potency with no actuality in its own right.[12] But through their union as actualized potency, substantial form and prime matter constitute the substance.

Aquinas maintains that substantial form, as the actuality of a material composite, is a principle of existence. In his view, all created substances participate in being, *esse*.[13] But the *esse* they receive is limited and contracted according to their specific natures.[14] Substantial form is the principle by which created substances have *esse*. It is their *quo est*. In material substances, it communicates that *esse* to matter in the constitution of the substance. But while the form is that by which the composite exists (*quo est*), it is not, generally speaking, the subject of being or that which is (*quod est*).[15] That which is, is the form-matter composite. The composite is the subject of being, which has *esse* in its own right. For this reason, the composite is said to subsist or exist *per se*, but generally speaking, the form is not.[16]

[12] *De Princ. Natur.*, c. 2.

[13] *De Spir. Creat.*, a. 1.

[14] Ibid.

[15] *ScG* II, c. 54; *De Pot.*, q. 3, a. 8. The human soul is an exception. See discussion below.

[16] For Aquinas's use of the terms "subsist" and "exist *per se*," see, IV *Metaphys.*, lect. 1; *De Pot.*, q. 9, a. 1; *STh* I, q. 29, a. 2.

Aquinas's hylomorphism is distinctive because he believes that every substance has exactly one substantial form.[17] (This is known as the doctrine of the unity of substantial form.[18]) In material substances, substantial form is the first form united directly to prime matter and it accounts for the existence *simpliciter* of the material composite, the substance.[19] Since only one form can be the first form, only one form can be a substantial form. Thus, an animal is not three-dimensionally extended by means of one form, living by means of another, and sensitive by means of a further substantial form. Instead, numerically the same form accounts for the substance existing at all and for its existing as a particular species member in the category of substance.[20] All subsequent forms are accidental.

This doctrine also entails that while material substances may have many integral parts (hands, eyes, hearts, limbs, etc.) all of these exist by means of one and the same substantial form. Substantial form, as the first form, takes us from the pure potency of prime matter to an actually existing substance. It is the actuality, therefore, of the whole and of any and all parts that the whole comprises.[21] This has two significant ramifications. First, whole substances are ontologically prior to their parts. In other words, a substance's parts (e.g., my hands, or heart, or eyes) do not exist by means of their own unique *esse* brought to them by their own unique substantial forms. Instead, they receive *esse* insofar as they are parts of the whole which

[17] *Q. D. De Anima*, a. 9.

[18] II *De Anima*, lect. 1; *STh* I, q. 76, a. 4; *Q. D. De Anima,* a. 9. For discussion of the debate concerning the unity vs. plurality of substantial forms see Robert Pasnau, *Metaphysical Themes 1274–1671* (Oxford: Clarendon Press, 2011), 574-96; J. Wippel, "Thomas Aquinas and the Unity of Substantial Form," in *Philosophy and Theology in the Long Middle Ages*, ed. K. Emery, R. Friedman, A. Speer (Leiden: Brill, 2011), 117-54; Emily Michael, "Averroes and the Plurality of Forms," *Franciscan Studies* 52 (1992): 155-82; Daniel A. Callus, "The Origins of the Problem of the Unity of Form," *The Thomist* 24 (1964): 257-85.

[19] *STh* I, q. 76, a. 4; *De Spir. Creat.,* a. 3; *Q. D. De Anima*, a. 9.

[20] *De Ente*, c. 1; *ScG* III, c. 7; *De Spir. Creat.*, a. 1, ad 24; *STh* I, q. 5, a. 5; *Q. D. De Anima*, a. 1, ad 12.

[21] *Q. D. De Anima*, a.10; *STh* I, q. 76, a. 8.

receives *esse*.[22] Whole substances are, thus, the proper subjects of *esse*. And yet the integral parts of a substance are, in some sense, subjects of *esse*, too, though in a qualified way.[23] They have *esse* by means of substantial form, but that substantial form (and the *esse* which they possess) is not uniquely their own.

Aquinas recognizes such parts, as subjects of *esse*, as ontologically distinct from accidental or material forms. The latter are not subjects of *esse* in any sense, but only principles by which a composite has *esse*. For this reason, Aquinas considers parts like the hands, eyes, heart, and so on, to be subsistent in some sense.[24] Although they are incomplete substantial parts they are still, in some sense, subjects of *esse*. This means that they have *esse per se*, that is, that they subsist.[25] Nevertheless, Aquinas reserves the strict notion of subsistence or existence *per se* for that which is a subject of *esse* and complete in a specific nature. Incomplete subsistent parts are just that: incomplete.

The second ramification of the doctrine of the unicity of substantial form is that it renders substantial form the principle of substantial unity in a substance as well as a principle of being. A whole is unified by its single substantial act of existence, communicated to the whole (and thus any parts comprised by the whole) by a single substantial form.[26] Anything that exists by

[22] *Q. D. De Anima*, a.10; *STh* I, q. 76, a. 8.

[23] *STh* I, q. 75, a. 2, ad 1 and 2.

[24] See ibid.; *Q. D. De Anima*, aa. 1 and 14. For Aquinas, subsistence does not, on its own, imply the capacity for separate existence. The soul owes its capacity for existence apart from the human substance as a whole to both its subsistence and its status as substantial form (*STh* I, q. 75, a. 6; *Q. D. De Anima*, a. 14). For further discussion of the nature of subsistence in Aquinas's metaphysics, including his characterization of parts like the hand or eye as subsistent, see Kendall A. Fisher, "Operation and Actuality in St. Thomas Aquinas's Argument for the Subsistence of the Rational Soul," *The Thomist* 83 (2019): 185-211; idem, "Saint Thomas Aquinas and the Too-Many-Thinkers Problem," *Quaestiones Disputatae*, special issue on *Hylomorphism: Ancient, Medieval, and Contemporary Approaches*, 10 (2020): 106-24; Pasnau, *Thomas Aquinas on Human Nature*, 48-57.

[25] For further discussion of the identification of that which has *esse per se* and that which is a subject of *esse*, see Fisher, "Operation and Actuality."

[26] *Q. D. De Anima*, a. 10; *STh* I, q. 76, a. 8.

means of the same substantial form is unified into a single substance. Anything, however, that exists by means of multiple forms (substantial or accidental) will be at most an accidental unity or an aggregate.[27] In this way, substantial form accounts for the existence of a substance as well as its unity.

From the foregoing discussions we can see that, for Aquinas, substantial form is the principle by which the *esse* received by the form-matter composite is determined to a specific substantial nature. Indeed, all forms, substantial and accidental alike, determine matter or their subject to exist in a particular kind of way. Substantial form takes us from pure potency to an individual in the category of substance. There is, then, something about form that is responsible for this determination. I will call this its formal character. Substantial form determines a substance to a specific substantial nature in accordance with its formal character. Accidental forms qualify, quantify, and relate their subjects in accordance with their formal characters. When substantial form and prime matter are united as actualized potency, the substantial form's formal character is realized in the matter.

Aquinas's ontology includes created immaterial substances as well as material ones. These immaterial substances, which he identifies with the angels, are subsistent forms. Like material substantial forms, subsistent forms are principles of *esse* and, as such, they determine *esse* to a specific nature in accordance with their formal characters.[28] But instead of communicating that *esse* to matter to constitute a material substance, they receive it in their own right.[29] They themselves are the subjects of the being of which they are also principles,[30] and their formal characters are completely realized in their own immaterial subsistence (rather than in matter). Immaterial substances are, in

[27] For further discussion, see discussion of substantial unity in Pasnau, *Thomas Aquinas on Human Nature*, 78-88.

[28] *De Spir. Creat.,* a. 1.

[29] *STh* I, q. 50, a. 2, ad 3.

[30] *Q. D. De Anima*, a. 1; *STh* I, q. 75, a. 2; *De Spir. Creat.,* a.1. Such substances are not identical with their *esse*, however. That is true only of God (*ScG* I, c. 22).

Aquinas's view, intellective beings.[31] Thus, like material substances, they can and do serve as the subjects of further forms and powers (e.g., intellective and volitional powers, intelligible species).[32] These further forms are, however, accidental rather than substantial.[33] Like created material substances, created immaterial substances have just one form that accounts for their existence *simpliciter* and determines them to their specific nature.

The human soul is a hybrid of sorts between a material substantial form and an immaterial substance, in Aquinas's view. Like a material substantial form, it communicates *esse* to matter as a hylomorphic actuality—in this case, to constitute the human body.[34] But the soul is more than the actuality of the human body. Following Aristotle, Aquinas holds that intellective cognition must take place in an immaterial subject.[35] No part of the body (the soul-matter composite), therefore, can serve as the intellective faculty. Instead, Aquinas locates the

[31] *STh* I, q. 50, a. 1.

[32] For Aquinas, a power is a formal principle by which its subject operates. Immaterial substances can support such accidents because their natures are subjects of *esse*, and thus potencies for *esse*. This affords them a principle of potency that can be actualized by further forms (*STh* I, q. 54, a. 3, ad 2).

[33] In an important sense, Aquinas considers all subsequent powers and forms, even those that follow directly from the essential nature of a thing, *accidental*. This is not because they are necessarily all unrelated to the thing's essential nature (though some may well be). Rather it is because anything beyond the first form, which accounts for a thing's existence *simpliciter*, is accidental rather than substantial in Aquinas's metaphysical framework (*STh* I, q. 76, a. 4). Aquinas calls those accidents that flow from a thing's specific nature, "*propria*," to distinguish them from accidents that do not (*STh* I, q. 77, a. 1, ad 5*; Q. D. De Anima*, a. 12, ad 7). See below for further discussion of the powers of the soul.

[34] *De Spir. Creat.*, a. 2; *STh* I, q. 76, a. 1.

[35] *STh* I, q. 75, a. 2; *Q. D. De Anima*, aa. 1 and 14. For discussion of Aquinas's argument for the incorporeity of the intellect, see D. R. Foster, "Aquinas on the Immateriality of the Intellect," *The Thomist* 55 (1991): 415-38; David P. Lang, "Aquinas's Impediment Argument for the Spirituality of the Human Intellect," *Medieval Philosophy and Theology* 11 (2003): 107-24; Pasnau, *Thomas Aquinas on Human Nature*, 48-57.

intellect in the soul alone, apart from matter. This requires that the soul be the sort of thing that can serve as the seat of intellective operations, which, in short, requires that it be a subsistent part of the human being as well as her substantial form.[36]

This combination gives the human soul a peculiar ontological status. The substantial forms of all other material composites are principles by which the composite exists, but they are not subjects of being. As a subsistent part of the human being, however, the soul is. It exists *per se*.[37] This means that the soul is both a principle of *esse* and a subject of that *esse*.[38] In this respect, it is akin to an immaterial substance. Yet the soul is not the exclusive subject of its *esse*. It receives *esse* and communicates it to matter in the constitution of the human body. Thus, unlike the immaterial substances, the human soul is the actuality of more than its own subsistence.

Aquinas furthermore argues that, like an immaterial substance, the soul's metaphysical status as principle and subject of *esse* renders it incorruptible. Since it is the formal principle of the *esse* by which it subsists, it cannot be separated from existence any more than it can be separated from itself.[39] Once

[36] For further discussion of Aquinas's argument for the subsistence of the soul, see James P. Etzwiler, "Man as Embodied Spirit," *New Scholasticism* 54 (1980): 358-77; Fisher, "Operation and Actuality"; Norman Kretzmann, "Aquinas's Philosophy of Mind," *Philosophical Topics* 20, no. 2 (1992): 77-101; and Pasnau, *Thomas Aquinas on Human Nature*, 48-57. For specific discussion of Aquinas's inference from the soul's status as the seat of intellective operations to its subsistent mode of being, see Fisher, "Operation and Actuality."

[37] *STh* I, q. 75, a. 2.

[38] See Fisher, "Operation and Actuality"; Klima, "Aquinas on the Materiality of the Human Soul," for discussion of this aspect of Aquinas's view.

[39] See *STh* I, q. 75, a. 6; *Q. D. De Anima*, a. 14. The same is true for angels (*STh* I, q. 50, a. 5). For discussion of Aquinas's argument for the incorruptibility of the soul, see B. C. Bazan, "On Angels and Human Beings: Did Thomas Aquinas Succeed in Demonstrating the Existence of Angels?", *Archives d'histoire doctrinale et littéraire du moyen-âge* 77 (2010): 47-85; Richard Cross, "Is Aquinas's Proof for the Indestructibility of the Soul Successful?", *British Journal for the History of Philosophy* 5 (1997): 1-20; Eberl, "Aquinas on the Nature of Human Beings"; Joseph Novak, "Aquinas and the Incorruptibility of the Soul," *History of Philosophy Quarterly* 4 (1987): 405-21; Joseph Owens, "Aquinas on the Inseparability of Soul from Existence," *The New*

it has being, therefore, it simply cannot lose it.[40] By contrast, the matter to which the soul is united *can* be separated from the soul, and when it is, the body is corrupted. So, while the body will cease to be, the soul cannot. This, of course, distinguishes the soul from all other subsistent parts of the human being. No other subsistent human part is also the human substantial form, and thus the principle *quo*, by which it and the whole have *esse*. For this reason, no other subsistent part can exist separate from the whole.[41]

The human soul, then, survives death, and Aquinas maintains that it retains its capacity for intellective cognition. Before death it served as the seat of intellective acts and it continues to do so after. Although it no longer has access to the images in the body that it formerly used to produce intelligible forms, as a separated intellect it can now receive intelligible forms through divine influx.[42] Through these infused forms it continues to perform intellective acts as it awaits the resurrection.

With this account of Aquinas's ontology in place, we are now in a position to understand how the tension over the soul's independence arises and threatens the unity of the human being.

II

The soul's existential and operational independence generates a *prima facie* tension in Aquinas's account of human ontology. A form that subsists in its own right and can exist and operate separate from the body—a thing like the human soul—looks like a complete substance. If it is, it cannot be further united to anything else (including the body) to form a substan-

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Scholasticism 61 (1987): 249-70; Pasnau, *Thomas Aquinas on Human Nature*, 361-77; Patrick Toner, "St. Thomas Aquinas on Death and the Separated Soul," *Pacific Philosophical Quarterly* 91 (2010): 587-99.

[40] Naturally, that is. It could still be subject to divine annihilation (*De Pot*., q. 5, a. 3).

[41] *STh* I, q. 76, a. 8.

[42] *Q. D. De Anima*, a. 15; *STh* I, q. 89, a. 1.

tial unity. Aquinas is well aware of the problem and opens the first article in his disputed question *De anima* with the following objection:

> But if the human soul is a *hoc aliquid*, it subsists and has complete existence [*habens per se esse completum*] in its own right. But whatever comes to a thing after complete existence comes to it accidentally, as whiteness or clothing to a man. Thus the body, united to the soul, comes to it accidentally. So, if the soul is a *hoc aliquid*, it is not the substantial form of the body.[43]

The objector pits the soul's status as a subsistent thing, a *hoc aliquid,*[44] against its capacity to form a substantial unity with the body and serve as its substantial form. The objection relies on the following: (A) If the soul is a *hoc aliquid*, it is complete in being and has *esse* in its own right. (B) If it is complete in being, it cannot be united to anything further except accidentally. (C) If the soul is united accidentally to the body, it cannot serve as the substantial form of the body. This objection gains traction in Aquinas's metaphysics because of his commitment to the unity of substantial form. In his view, any created thing, if it exists at all, does so by means of substantial form. Substantial form not only confers *esse*, but determines that *esse* to a specific substantial nature according to its formal character. This leaves little room, ontologically speaking, for something that exists apart from a larger whole but remains specifically incomplete. The substantial form by which it exists ought to account for its

[43] *Q. D. De Anima*, a. 1, arg. 1 (Marietti 9th rev. ed., 2:281): "Si enim anima humana est hoc aliquid, est subsistens et habens per se esse completum. Quod autem advenit alicui post esse completum, advenit ei accidentaliter, ut albedo homini et vestimentum. Corpus igitur unitum animae advenit ei accidentaliter. Si ergo anima est hoc aliquid, non est forma substantialis corporis."

Aquinas's use of *"esse completum"* tracks his use of subsistence and existence *per se* (see nn. 16, 24). Sometimes he affirms it of things so long as they do not depend on a subject of inherence (II *De Anima*, lect. 1). Elsewhere, he reserves it for what subsists and is complete in a specific nature (*De Ente*, c. 5).

[44] Aquinas's use of the term *hoc aliquid* admits of the same strict and loose notions "subsistence" and "existence *per se*" (see nn. 16, 24). Consider II *De Anima*, lect. 1; *De Spir. Creat.*, a. 2 ad 16.

existing as a species member in the category of substance. In that event, it is a complete substance.

In fact, Aquinas himself relies on just this line of thinking when he articulates the doctrine of the unity of substantial form in connection with the human soul. He writes,

> Indeed anything that comes to a thing after it is complete in being [*post esse completum*], comes to it accidentally, since it is outside its essence. However, every substantial form makes a being complete in the genus of substance, for it makes a being in act, and a *hoc aliquid*. Therefore, whatever comes to a thing after its first substantial form will come to it accidentally.[45]

In this passage, Aquinas argues that anything united to a thing after that thing is complete in being (i.e., after it has *esse completum*) is, at most, united accidentally. This follows because any additions once a thing has *esse completum* fall outside its essence. Since a substance's existence *simpliciter* and completeness in a specific nature derive from the same principle, once the substance exists *simpliciter* it should be complete in a specific nature and anything to which it is subsequently united will fall outside of its essence. Thus, the soul's capacity to exist apart from the larger human whole seems to serve as a decisive indication that it is a complete substance in its own right. Its formal character ought to determine the *esse* of which it is a principle so that it exists as a species member in the category of substance. But if so, it will be complete in a specific nature and could be united only accidentally to the body.

Aquinas offers two replies to the objection in the disputed question *De anima*. First, he argues that the soul shares numerically the same *esse* with the body so that together they

[45] *ScG* II, c. 58 (Leonine ed., 13:409-10): "Omne enim quod advenit alicui post esse completum, advenit ei accidentaliter: cum sit extra essentiam eius. Quaelibet autem forma substantialis facit ens completum in genere substantiae: facit enim ens actu et hoc aliquid. Quicquid igitur post primam formam substantialem advenit rei, accidentaliter adveniet."

Here Aquinas seems to be using *esse completum* and *hoc aliquid* according to their strict notions (see n. 44).

form a single substance with a single act of being.[46] Second, he maintains that the soul's *esse completum* does not, in fact, entail that it is specifically complete.[47] Instead, he claims that the specific nature (human nature) is only complete when soul and body are united. It is worth noting that the success of the first reply depends on the second. Given the unity of substantial form, the only way for subsistent parts to be unified in a single substance is for them to share numerically the same act of being provided by numerically the same form. Because the soul is the principle of its own *esse*, to form a single substance with the body it must be the principle of *esse* in the body as well. In other words, it must be the body's substantial form.

But whether it can be the body's substantial form depends on whether it is specifically complete. If the soul were complete in a specific nature, it could not share its substantial act of being with the body because the body would fall outside its essence. Thus, Aquinas needs a plausible defense of how and why the soul fails to be specifically complete.[48] Moreover, such an account cannot run afoul of his metaphysical principles. For the theoretical reasons we have just examined, this looks difficult indeed.

III

Aquinas's first account of the incompleteness of the soul appeals to the soul's operational dependence on the body for its natural functioning. In his view, humans understand by means of intelligible forms that inhere in the soul.[49] During life, these

[46] *Q. D. De Anima*, a. 1, ad 1. See also *De Spir. Creat*., a. 2, ad 3.

[47] For discussion of the difference between existential completeness and specific completeness, see Coulter, "Aquinas on the Identity of Mind"; Patrick Toner, "Personhood and Death in St. Thomas Aquinas," *History of Philosophy Quarterly* 26 (2018): 121-38; VanDyke, "Not Properly a Person."

[48] For discussion of the sense of "body" involved when Aquinas says that the soul and body are united, see Klima, "Man=Body+Soul"; idem, "Aquinas on the Materiality of the Human Soul."

[49] *ScG* I, c. 53; *ScG* II, c. 98; *STh* I, q. 85, a. 2.

forms are produced from images, called phantasms, which are compiled through sensation and stored in the imagination (a brain-based faculty).[50] The process by which intelligible forms are produced from the phantasms is called "abstraction."[51] All embodied acts of understanding require that the soul turn toward the phantasms, either to abstract the intelligible form for the first time or to reconsider a universal by means of a previously abstracted intelligible form.[52] So, although the soul serves as the subject of the intellective powers and carries out acts of understanding without the coparticipation of a bodily organ, those intellective operations depend on the body for the phantasms.[53]

Aquinas takes the soul's dependence on the body as a sign of its specific incompleteness. In article 1 of the disputed question *De anima*, he writes,

> Yet in this [human souls] differ from these [higher intellective substances], since the intellect of the human soul has the nature of acquiring immaterial knowledge from material knowledge, which is had through sensation. But inasmuch as it is natural to the soul to acquire immaterial knowledge from material things, it is clear that the completion of its species cannot be achieved apart from union with the body. For a thing is not complete in species unless it has those things which are required for the proper operation of its species.[54]

[50] *STh* I, q. 79, a. 3; *STh* I, q. 84, a. 6; *STh* I, q. 85 a. 5; *Q. D. De Anima*, a. 4.

[51] *STh* I, q. 79, a. 3.

[52] *STh* I, q. 84, a. 7; *Q. D. De Anima*, a. 15; III *De Anima*, lect. 2 and 10; *ScG* II, c. 68.

[53] For discussion of the mechanisms of intellective cognition in Aquinas, see Therese S. Cory, "Averroes and Aquinas on the Agent Intellect's Causation of the Intelligible," *Recherches de théologie et philosophie médiévales* 82 (2015): 1-60; idem, "Rethinking Abstractionism: Aquinas's Intellectual Light and Some Arabic Sources," *Journal of the History of Philosophy* 53 (2015): 607-46; Kretzmann, "Aquinas's Philosophy of Mind." For the cooperation between intellective and sensitive powers, see Anton Pegis, "St. Thomas and the Unity of Man," in *Progress in Philosophy*, ed. J. McWilliams (Milwaukee: Bruce Publishing Co., 1955), 153-73; James Robb, "The Unity of Adequate Knowing in St. Thomas Aquinas," *The Monist* 69 (1986): 447-57.

[54] *Q. D. De Anima*, a. 1 (Marietti 9th rev. ed., 2:284): "In hoc tamen ab eis differunt, quod intellectus animae humanae habent naturam acquirendi cognitionem immaterialem ex cognitione materialium, quae est per sensum. . . . In quantum vero immaterialem

Aquinas explains that human souls differ from higher intellective substances because human intellects are naturally suited to understand from material things, which are known first through sensation. Here he has in mind the soul's reliance on phantasms in embodied intellective cognition. We acquire the means of forming phantasms through our sensitive operations. These phantasms, in turn, contribute to the production of intelligible forms for our intellective operations. Although the separated soul can understand through infused rather than abstracted intelligible forms, this is neither natural to it nor optimal, and such knowledge is imperfect.[55] Since the soul cannot carry out its natural or proper mode of intellectual cognition without access to the phantasms in the body, it does not have everything required for its natural or proper functioning. Hence, it cannot be complete in a nature.

The soul's operation is a natural place to look when considering its specific incompleteness. Throughout Aquinas's thought, there is a tight connection between nature and operation: What a thing does is a product of the operative powers it has, and the operative powers it has are a product of what it is.[56] However, his claim that something specifically complete must have all those things required for its natural and proper function is too broad to be compelling. Many operations essential to complete substances require things that are not part of the substance itself. If we turn to his account of vision, for instance, a colored object, light, and a transparent medium are all required for an animal to see.[57] But these are not parts of the animal, nor would we say that an animal is specifically incomplete without them. Plants and animals require food and water to carry out their nutritive functions. Angels require

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cognitionem ex materiali est nata acquirere, manifestum est quod complementum suae speciei esse non potest absque corporis unione. Non enim aliquid est completum in specie, nisi habeat ea quae requiruntur ad propriam operationem ipsius speciei."
See also *ScG* II, c. 68; *Q. D. De Anima*, a. 7.

[55] *Q. D. De Anima*, a. 15, corp. and ad 21.

[56] *ScG* II, c. 94.

[57] II *De Anima*, lect. 14.

intelligible forms from God for their intellective operations. Indeed, if we were to apply this criterion strictly, no created substance would count as specifically complete. All depend on God to sustain their being;[58] nothing can operate naturally and properly if it doesn't exist.

That said, there are some things required for natural and proper function that, if they were lacking, would, intuitively, render a thing specifically incomplete. For instance, if a thing lacked the powers by which its essential operations were performed, then even with the appropriate conditions, input, or objects it would be incapable of performing its essential operations.[59] When we turn to the soul, then, we need to look at the nature of its dependence on the body, since not every kind of dependence is sufficient to render the dependent specifically incomplete.

As it happens, Aquinas is very explicit about the nature of the dependence of intellective cognition on the body for phantasms. He explains that the kind of dependence involved is dependence on an object:

> To the first, therefore, it should be said, that the soul requires a body for its operation in two ways. In one way, as an organ through which it operates, just as it requires the eye in order to see. And in this way, it does not require any organ in order to understand, as has been proved. If, however, it required an organ in this way to understand, it would be corruptible and it would not be able to operate *per se*. In another way, the soul requires a body for operating as an object, just as to see requires a colored body. And in this way the rational soul requires phantasms for understanding, since phantasms are as sensible things for the intellective soul as is said in *De Anima* III. At first, however, operation which requires a body in this way cannot operate without this body, but afterwards it can; just as the sensitive soul cannot have any operation unless it is first moved by a sensible thing which is outside the soul. But afterwards, the act of the imagination remains even though the sensible thing

[58] *De Pot*., q. 5, a. 1.

[59] For discussion of powers in relation to the soul, see below.

is removed. Similarly, intellective operation can remain in the soul after the destruction of the phantasm.[60]

Here Aquinas distinguishes between an operation's depending on a body as an instrument, that is, as an organ in which that operation is performed, and its depending on a body as an object on which, or from which, it operates. Intellective cognition relies on a body—the human body—as an object. Just as the color on the surface of a visible object moves the eye so that the eye receives a species or form of that color whereby it sees, the body provides the phantasm by means of which an intelligible form is produced and received into the soul, through which the soul understands.[61] Thus, while Aquinas maintains that all embodied acts of understanding require the intellect's turning toward the phantasm, the phantasm serves as a kind of object in the process of abstraction.[62]

The analogy between phantasms and the color of a visible object is pervasive in Aquinas's discussions of intellective cognition. He routinely compares the phantasms and the body that houses them to the color of a wall or stone—especially in his

[60] *Quodl*. X, q. 3, a. 2, ad 1: "Ad primum ergo dicendum, quod anima indiget aliquo corporali ad suam operationem dupliciter. Uno modo sicut organo per quod operetur, sicut indiget oculo ad videndum; et sic ad intelligendum non indiget aliquo organo, ut probatum est. Si autem sic indigeret organo ad intelligendum, esset corruptibilis, utpote non potens per se operari. Alio modo anima ad operandum indiget aliquo corporali sicut obiecto, sicut ad videndum indiget corpore colorato; et sic anima rationalis indiget ad intelligendum phantasmate, quia phantasmata sunt ut sensibilia intellectivae animae, ut dicitur III de anima. Operatio autem quae sic indiget aliquo corporali, a principio non potest sine corporali illo, potest autem postea: sicut anima sensitiva nullam operationem habere potest nisi prius moveatur a sensibilibus quae sunt extra animam, sed praeterea remanet actus imaginationis, etiam sensibilibus abeuntibus. Similiter destructis phantasmatibus operatio intellectiva in anima remanere potest."

[61] For discussion of the analogy with vision, see Cory, "Averroes and Aquinas"; idem, "Rethinking Abstractionism."

[62] Aquinas refers to phantasms as the objects of the agent intellect in the process of abstraction, but neither they nor the intelligible species are the object which is understood. The object of our understanding is the universal nature of a material substance (see *STh* I, q. 85, a. 2).

anti-Averroist polemics.[63] There he insists that neither the phantasms nor their bodily organs are participants in the soul's act of understanding; they only provide the object for abstraction.[64] The analogy is also important in his discussion of the subsistence of the soul. To establish that the soul serves as the incorporeal subsistent part of ourselves with which we perform intellective acts, he maintains that the body plays no instrumental role in intellective cognition.[65] It is involved only insofar as it provides the phantasms as objects for abstraction.[66] Aquinas could not abandon this characterization of the soul's dependence on the body and phantasms as an object without undermining these important philosophical commitments. It is not, therefore, part of his view that can be jettisoned.

Yet this characterization of the soul's dependence on the body or phantasms as an object does not make for a particularly robust defense of the soul's specific incompleteness. On Aquinas's view, the soul *does* have the intellective powers required for performing intellective operations.[67] What it lacks is simply the input on which it performs its abstractive operation to produce an intelligible form—the *object* of this abstractive operation. Paradigmatic cases of complete substances, however, lack as parts those things on which they depend *as objects* to perform their essential operations. We do

[63] *De Pot.*, q. 3, a. 9, ad 22; *STh* I, q. 76, a. 1; *Q. D. De Anima*, a. 2; *De Unitate Intellectus*, c. 3; *ScG* II, c. 59; III *De Anima*, lect. 7; *De Spir. Creat.*, a. 2.

[64] *STh* I, q. 76, a. 1; *De Unitate Intellectus*, c. 3; *Q. D. De Anima*, a. 2; *De Spir. Creat.*, a. 2.

[65] *STh* I, q. 75, a. 2.

[66] This characterization of the dependence on the phantasms may suggest that the phantasm's role in abstraction is purely passive. Cory argues for a more active role for the phantasm—one in which it makes a genuine causal contribution through power-borrowing from the agent intellect (see Cory, "Averroes and Aquinas"; idem, "Rethinking Abstractionism"). On such an interpretation, however, the phantasm is still akin to the colored body in vision—indeed, Cory draws heavily on the role of color in vision in support of her interpretation. Adopting this interpretation, therefore, will not resolve the specific worry at hand.

[67] *STh* I, q. 77, a. 5, a. 8.

not consider the colored wall part of the animal, much less a part of the animal without which it would be incomplete. The objects on which or from which a thing acts are often external to a thing and can be lacked without compromising specific completeness. But if an animal can be specifically complete even though it does not have the object that contributes the sensible forms by which it sees, then it is not clear why the soul should count as specifically incomplete just because it depends on the body to provide the object for abstraction. Such an account is tenuous, at best.

We may think it fitting that the soul be part of something with the powers and faculties required to produce the phantasms, given that the soul's optimal and natural function involves abstraction from phantasms. I believe it is. But more must be said before we can provide a compelling argument for why the soul ought to count as specifically incomplete simply because it depends on the body for the objects it uses in order to produce the intelligible forms through which it achieves its natural and proper acts of understanding.

Before we turn away from this first account entirely, it is worth noting that, for Aquinas, being complete in a specific nature certainly seems to require the capacity to carry out, in principle, the operations essential to the relevant specific kind. His discussion here makes that evident.[68] As we have seen, this may not mean having *everything* required for the exercise of these essential operations, but at the very least, it would involve having the powers and faculties that enable a substance, when in suitable conditions and presented with an appropriate object (as required by the operation in question), to operate. The difficulty with Aquinas's present account of why the soul fails to be specifically incomplete, however, is that it happens to satisfy this criteria—at least with respect to intellective operations. On these grounds alone, therefore, we cannot rule out the

[68] This is also how specific completeness in Aquinas's thought has been understood in some contemporary literature. Patrick Toner, for example, characterizes what he calls *completeness in the line of a specific nature* as being able to discharge all the proper operations of one's natural kind (see Toner, "Personhood and Death").

possibility that the soul is specifically complete in some intellective nature of its own.

IV

Aquinas's second account of the soul's specific incompleteness—a more promising one, I believe—appeals to the soul's inability to realize all the essential operative powers attendant on it *qua* substantial form of the human being through its own subsistence alone. This, I will argue, provides us with the theoretical resources to offer a principled account of why the soul fails to be specifically complete in human nature, and moreover why it cannot be complete in some other intellective nature of its own.

As we have seen, in Aquinas's view specific completeness is closely connected with the ability to discharge the essential operations of a given specific nature. Human beings are rational animals, and as such they are essentially capable of rational, sensitive, and nutritive operations. As we have seen, to be rational, according to Aquinas, a human being must be at least partly incorporeal, because intellective operations require an incorporeal faculty. Following Aristotle, however, he believes that nutritive and sensitive operations must be carried out in bodily organs.[69] Thus, to discharge the full range of essential human operations, the human being must be partly incorporeal and partly corporeal.

In Aquinas's metaphysics of creaturely operation, a thing's capacity for its essential operations ultimately derives from its substantial form. This is not because substantial form serves as the immediate principle or power by which a substance operates, however.[70] Instead, created agents operate

[69] *STh* I, q. 75, a. 4; *STh* I, q. 76, a. 1; I *De Anima*, lect. 10; *STh* I, q. 75, a. 3; *STh* I, q. 77, a. 8; *Q. D. De Anima*, a. 19.

[70] Aquinas denies that any created agent operates immediately by means of its substantial form (*STh* I, q. 77, a. 1; *Q. D. De Anima*, a. 12; *De Spir. Creat*., a. 11).

immediately by formal principles of operation, that is, powers, which, though distinct from the substantial form, naturally flow forth from that form.[71] Though these are technically accidental forms (since only the first form is substantial, for Aquinas), he calls them *propria* or proper accidents because they follow on a substance's essential nature.[72] Generally speaking, these powers have as their subject the composite substance (or some subsistent part of it).[73] As further actualities inhering in the relevant bodily organs or parts, they serve as a thing's immediate formal principles of operation.[74]

Like other substantial forms, then, the human soul naturally gives rise to the powers essential to human life (which include intellective, sensitive, and nutritive powers). These powers flow forth from the soul as further actualities that perfect the various faculties and organs responsible for our essential human operations. The powers themselves inhere in the human being as formal principles of operation, and yet they do not necessarily inhere in the human being as a whole. Due to the incorporeal nature of intellective cognition, no bodily organ can carry out intellective operations. Aquinas maintains that "that which is able to operate is the subject of the operative power, for every accident denominates its proper subject."[75] Thus, the intellective powers cannot inhere in the body or a bodily organ. Instead, the soul, apart from matter, serves as the incorporeal, subsistent faculty in which we perform our intellective acts and, thus, as

[71] *STh* I, q. 77, a. 1; *STh* I, q. 54, a. 3; *Q. D. De Anima*, a. 12; *De Spir. Creat*., a. 11.

[72] *STh* I, q. 77, a. 1, ad 5.

[73] There is an exception in the case of the intellective and volitional powers in humans, which inhere in the human soul (*STh* I, q. 77, aa. 5 and 8). Sensitive and nutritive powers inhere in the composite (ibid.) and, in particular, in the relevant subsistent parts that serve as their organs (*STh* I, q. 76, a. 8, ad 4; *De Spir. Creat*., a. 4, ad 11; *Q. D. De Anima*, a. 2, ad 3; *Q. D. De Anima*, a. 10).

[74] *STh* I, q. 77, a. 1, ad 4; *Q. D. De Anima*, a. 12.

[75] *STh* I, q. 77, a. 5 (Leonine ed., 5:244): "illud est subiectum operativae potentiae, quod est potens operari, omne enim accidens denominat proprium subiectum." For Aquinas's location of the powers of the soul in their specific bodily organs, see *STh* I, q. 76, a. 8, ad 4; *De Spir. Creat*., a. 4, ad 11; *Q. D. De Anima*, a. 2, ad 3; *Q. D. De Anima*, a. 10.

the subject of inherence for the intellective powers by which those intellective acts are performed.[76]

Because sensation and nutrition involve corporeal motions and changes, however, sensitive and nutritive operations must be performed in corporeal organs.[77] By the same reasoning, therefore, the sensitive and nutritive powers must inhere in the soul-matter composite, that is, the body.[78] Indeed, in Aquinas's view, the sensitive and nutritive powers inhere in the specific body parts that serve as their organs.[79] Generally speaking, however, they are actualities proportionate to the potency of a material subject and cannot be realized in the soul apart from matter.

For instance, when considering whether such powers remain in the separated soul, Aquinas insists that they do so not actually, but only "virtually" (we will come back to this in the discussion below). The soul-matter composite is their subject, and no accident can remain after the destruction of its subject. Thus, the corruption of the soul-matter composite at death likewise entails the destruction of the powers.[80] So while the soul *qua* substantial form is the root, principle, or source of the various intellective, sensitive, and nutritive powers, *qua* incorporeal subsistent thing it can only serve as the subject of, and thus realize, the intellective ones.[81]

In *De spiritualibus creaturis* Aquinas appeals to the separated soul's failure to realize the full range of essential powers of

[76] *STh* I, q. 77, aa. 5 and 8; *Q. D. De Anima*, a. 10; *Q. D. De Anima*, a. 19.

[77] See *STh* I, q. 75, a. 3; *STh* I, q. 77, a. 8; *Q. D. De Anima*, a. 19.

[78] Aquinas often refers to this as the composite or the "conjoined being"; see *STh* I, q. 77, aa. 5 and 8; *Q. D. De Anima*, a. 19.

[79] *STh* I, q. 76, a. 8, ad 4; *De Spir. Creat*., a. 4, ad 11; *Q. D. De Anima*, a. 2, ad 3; *Q. D. De Anima*, a. 10.

[80] *STh* I, q. 77, a. 8; *Q. D. De Anima*, a. 19.

[81] Consider also *Q. D. De Anima*, a. 11, ad 17.

which it is the principle to account for its specific incompleteness, or as he puts it, its imperfection in nature.[82] He writes,

> To the fifth it should be said that no part has the perfection of nature when separated from the whole. Whence the soul, since it is a part of human nature, does not have the perfection of its nature except in union with the body. This is clear from the fact that certain powers flow from the soul itself which are not the actualities of a corporeal organ, insofar as it exceeds the proportion of the body; and at the same time there flow from it powers which are the actualities of organs inasmuch as they come to be from the matter of the body. However, a thing is not perfect in its nature unless it can actually express that which is virtually contained in it. Whence the soul, although it can exist and understand when separated from the body, nevertheless does not have the perfection of its nature when it is separated from the body.[83]

Here Aquinas points to the soul's failure to realize fully those things attendant on it as substantial form as a marker or indicator of its imperfection in nature: the soul *virtually contains* things that cannot be expressed apart from its union with matter. This, for Aquinas, provides a clear indication that the soul, on its own, is not complete in a specific nature.

Unfortunately, Aquinas does not offer much of an explanation of what it means for one thing to be virtually contained in another here. Nor do we find much of an explanation in his

[82] In this context and for our purposes, completion and perfection in nature are roughly interchangeable. Aquinas's description of the soul as part of human nature rather than something perfect in human nature echoes the many places where he explains that the human soul is part of human nature rather than something complete in human nature. Consider, e.g., *Q. D. De Anima*, a. 2, ad 11; *Q. D. De Anima*, a. 7; *De Pot.*, q. 3, a. 10; *STh* I, q. 90, a. 4.

[83] *De Spir. Creat.*, a. 2, ad 5 (*Disputed Questions on Spiritual Creatures*, trans. Mary FitzPatrick and John J. Wellmuth [Milwaukee: Marquette University Press, 1949], 37-38, modified; Marietti 9th rev. ed., 2:371): "Ad quintum dicendum quod nulla pars habet perfectionem naturae separata a toto. Unde anima, cum sit pars humanae naturae, non habet perfectionem suae naturae nisi in unione ad corpus. Quod patet ex hoc quod in virtute ipsius animae est quod fluant ab ea quaedam potentiae quae non sunt actus organorum corporalium, secundum quod excedit corporis proportionem; et iterum quod fluant ab ea potentiae quae sunt actus organorum, in quantum potest contingi a materia corporali. Non est autem aliquid perfectum in sua natura, nisi actu explicari possit quod in eo virtute continetur. Unde anima, licet possit esse et intelligere a corpore separata, tamen non habet perfectionem suae naturae cum est separata a corpore."

discussions of whether sensitive and nutritive powers remain in the separated soul.[84] Generally speaking, the phrases "*continetur virtualiter,*" "*continetur virtute,*" and their like appear in a number of contexts. They are sometimes used to describe the way that premises entail their conclusions or first principles entail an entire science.[85] Sometimes they are used to describe how effects preexist in their causes[86] or the way that elements remain in a mixture.[87] Although some of these discussions are quite removed from the discussion at hand, they do suggest a kind of prefiguring of the contained in the container. With regard to souls and substantial forms more generally, such phrases appear in discussions of how the formal character of a superior form includes the formal characters of inferior ones—for instance, how the rational includes that which is contained in the sensitive and nutritive,[88] and how semen or seeds include or prefigure, in a way, mature substance.[89] In such contexts, however, we do not find a precise working-out of what exactly this means either (and it seems to differ somewhat from context to context).

In the present context, Aquinas's use of the phrase calls to mind the human soul's status as the principle or source of a human being's essential nutritive, sensitive, and rational powers insofar as it serves as the actuality of the human being. But given his commitment to the real distinction between the essence of the soul and its powers, as well as his rejection of the

[84] *STh* I, q. 77, a. 8; *Q. D. De Anima*, a. 19; *De Spir. Creat.*, a. 11. In *Q. D. De Anima*, Aquinas does observe that the sensitive powers do not actually remain in the separated soul, but because the soul is of such a kind virtually ("sed quia anima separata est talis virtutis") it would cause these powers to exist actually once more, were it to be reunited to a body.

[85] *STh* I, q. 1, a. 7; *STh* I, q. 58, a. 4; *STh* II-II, q. 4, a. 1; *STh* II-II, q. 44, a. 2; III *Sent.*, d. 23, q. 2, a. 1, ad 4.

[86] *STh* I, q. 105, a. 1, ad 1.

[87] *ScG* II, c. 86.

[88] *STh* I, q. 76, a. 3, ad 4; *STh* I, q. 76, a. 4; *STh* I, q. 76, a. 6, ad 1; *De Spir. Creat.*, a. 3; *Quodl*. I, q. 4, a. 1.

[89] *ScG* II, c. 88.

view that all powers of the soul inhere in the soul alone as their subject, we may wonder in what sense they could be contained in the soul "virtually."

In his discussions of the relationship between the soul and its powers, Aquinas is explicit that the soul is not considered "rational," "sensitive," or "nutritive" simply *because* it gives rise to rational, sensitive, or nutritive powers respectively.[90] Rather the soul, already in its essence as substantial form, is a principle of rational, sensitive, and nutritive being.[91] That is, its formal character calls for the rational, sensitive, nutritive, and corporeal determination of *esse*.[92] Thus, the fact that the powers spring forth is a consequence of the realization of the soul's formal character and not the other way around. We might say that although the powers of the soul are distinct from the essence of the soul, they are contained in it virtually on account of the soul's formal character as that which determines *esse* according to rational, sensitive, and nutritive being. In this way, the powers of the soul are prefigured in the soul *qua* substantial form. Given Aquinas's metaphysics of operation, this naturally calls for the relevant powers to flow forth from the soul to enable the substance actually to carry out those operations essential to its specific nature.[93]

[90] *De Spir. Creat*., a. 11, ad 14; *STh* I, q. 77, a. 1, ad 7; *Q. D. De Anima*, a. 12, ad 8.

[91] See *De Spir. Creat*., a. 11, ad 14.

[92] For the distinction between the soul as principle of powers and the soul as substantial form of the body, see *Q. D. De Anima*, a.19.

[93] Raymond Hain proposes a Thomistic-inspired account of the separated soul meant to safeguard the survival of the human person as the disembodied soul between death and the resurrection; see Raymond Hain, "Aquinas and Aristotelian Hylomorphism," in *Aristotle in Aquinas's Theology*, ed. Gilles Emery, O.P., and Matthew Levering (Oxford: Oxford University Press, 2015), 48-69. Hain appeals to the soul's virtual containment of the sensitive and nutritive powers as evidence of the fact that the soul retains its essence as the actuality of an (at least partly) material being. His proposal differs from the current proposal in three important respects, however. First, it is not introduced in order to account for the specific incompleteness of the soul, but rather to emphasize the connection and continuity between the disembodied soul and the human being. Second, Hain's proposal departs from Aquinas's explicitly stated view, as Hain openly acknowledges. His proposal is not meant as an interpretation of Aquinas but as a Thomistic-inspired way of resolving concerns about the communion of saints and the

In his discussion of the specific imperfection of the soul in *De spiritualibus creaturis*, Aquinas observes that the soul cannot be perfect or complete in nature because some of the powers of which the soul is the principle are the actualities of bodily organs and cannot be realized through its own subsistence alone, apart from matter.[94] These, of course, are the sensitive and nutritive powers. Such powers are actualities proportionate to the potency of a material subject—that is, they require a corporeal subject of inherence and, thus, require the soul's union with matter to flow forth. Because the separated soul no longer communicates the *esse* of which it is the principle to matter, those aspects of its formal character that call for the sensitive and nutritive determination of *esse* cannot be realized and, as a result, there is no material subject to serve as the subject of inherence for the sensitive and nutritive powers. In the text, Aquinas appeals to the soul's failure to express certain things (presumably, the sensitive and nutritive powers) that it contains virtually as a clear indication of its specific incompleteness or imperfection. Nothing can be perfect in nature if it cannot express that which it contains virtually.

We may, of course, worry that this account suffers from a concern similar to the preceding one, namely, that it is too broad—particularly if we consider Aquinas's use of "contains virtually" or "is contained virtually" in other philosophical contexts, for example, as he uses it to describe the way an effect is prefigured in its cause. (Presumably a thing can be specifically complete—and complete as a substance—without actually

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fittingness of punishment of disembodied souls in purgatory for human purification. Third, and most substantive philosophically, Hain maintains that we should understand the separated soul as not entirely separate from matter since it retains the potency to interact and change in physical ways. This last aspect of Hain's proposal is incompatible with the present proposal. So, although we both recognize the significance of the soul's virtual containment of the sensitive and nutritive powers—which in my view reflects the soul's formal character and role with respect to determining *esse* according to sensitive and nutritive being—our proposals are quite different.

[94] *STh* I, q. 77, a. 5.

bringing about all of the effects of which it is capable.) But if we focus specifically on virtual containment as it relates to the role of substantial form as a principle of actuality in created substance, the account may fare better.

In particular, when Aquinas explains that something cannot be complete or perfect in nature unless that which it contains virtually is expressed, it seems to be a way of articulating that perfection or completeness in nature involves or consists in the full realization of formal character. When a form contains things virtually, those things are called for by the realization of its formal character or are attendant on the realization of that formal character. When the formal character is realized, the things contained virtually in it are expressed because that which immediately follows from such a realization (viz., the powers of the soul) can be realized.

The problem for the soul is that its own subsistence does not, and never could, fully realize its formal character. As a higher form, the rational soul virtually contains the formal characters of sensitive and nutritive souls as well as the corporeity of material substantial forms.[95] The soul is, therefore, an actuality at least partly proportionate to the potency of matter.[96] Apart from matter, however, none of those aspects of its formal character proportionate to the potency of matter can be realized. Thus, the full realization of its formal character requires more than the soul's own subsistence. Consequently, *qua* form, the soul is an incomplete actuality. It cannot express what it contains virtually apart from its union with matter to constitute the body.

Although Aquinas does not put the point in so many words, such a proposal fits with his discussions of perfection more broadly. For instance, he writes,

[95] *De Spir. Creat*., a. 3, ad 16.

[96] Because of its intellective nature, the soul exceeds the capacity of matter (*Q. D. De Anima*, a. 2; *De Spir. Creat*., a. 2, ad 2 and 4). But insofar as it calls for the corporeal, nutritive, and sensitive determination of *esse*, it is an actuality proportionate to the potency of matter.

Yet since each thing is what it is by its form, and since form presupposes certain things and from form certain things necessarily follow, for a thing to be perfect and good it must have form as well as that which comes before it and that which follows upon it.[97]

Here Aquinas tells us that to be perfect a thing must have form along with all it presupposes and all that follows from it. He does not restrict the perfection in question to perfection in nature, but, as a general account, it lends plausibility to the proposal that perfection or completeness in specific nature is tied to having and completely realizing the formal character of the form of the species along with those things attendant on the realization of that formal character. Having and completely realizing substantial form ensures that something is specifically complete.[98]

This, then, provides us with the theoretical resources to account for how and why the intellective soul fails to be specifically complete, despite its capacity for separate existence and operation. As we saw in Aquinas's first account of the soul's

[97] *STh* I, q. 5, a. 5 (Leonine ed., 4:63): "Cum autem unumquodque sit id quod est, per suam formam; forma autem praesupponit quaedam, et quaedam ad ipsam ex necessitate consequuntur; ad hoc quod aliquid sit perfectum et bonum, necesse est quod formam habeat, et ea quae praeexiguntur ad eam, et ea quae consequuntur ad ipsam."

[98] Someone may worry that there are certain essential human powers or *propria* that cannot be fully realized except in community with others (my thanks to an anonymous referee for identifying this potential concern). Or, likewise, there may be human beings who die prior to exercising certain of their essential powers. In such instances we may worry that such humans cannot fully realize everything attendant on their soul's formal character. In such cases, however, it is important to attend to the real distinction between the soul and its powers in Aquinas's account, and to the Aristotelian distinction he admits with respect to degrees of actuality (see *De Spir. Creat*., a. 11). An individual can serve as the subject of a particular power and thus attain a degree of first actuality with respect to it without exercising that power, that is, without ever actualizing that power fully. And given that the powers of the soul are, for Aquinas, really distinct from its essence (*STh* I, q. 77, a. 1), the actualization of the powers themselves (i.e., their actual exercise) is not required for the complete realization of the soul's formal character as substantial form. A human being cut off from society, or one who dies very young, may not actually exercise certain powers of the soul, but this does not mean that such powers fail to flow forth from the soul and inhere in the individual as they ought.

specific incompleteness, specific completeness involves being able, in principle, to discharge the essential operations of the given specific nature.[99] Even in a quite modest interpretation of such a claim, this requires that the individual in question serve as the subject of inherence for the essential operative powers. Things complete in human nature, therefore, must serve as subjects of rational, sensitive, and nutritive powers.

From the second account, we can see that a thing's capacity to discharge the essential operations of a given specific nature depends on the realization of the formal character of the substantial form by means of which it exists and those things immediately attendant on that realization. When a subsistent thing is only a partial realization of the substantial form by which it exists, it runs the risk of being unable to serve as a suitable subject for many of the operative powers attendant on its nature. If it cannot serve as the subject of the full range of essential powers, it is incapable, in principle, of discharging the full range of operations called for by its specific nature. The more incomplete a realization of the formal character a thing is, the more likely it is to lack those principles and powers required for its essential operation, and the more likely it is to be specifically incomplete.[100]

This is precisely what we find in the case of the soul, considered apart from matter. Despite having a formal character that *ought* to determine *esse* so that it exists according to rational, sensitive, nutritive, and corporeal being, the separated soul realizes only that which is rational. Those aspects of its formal character and those powers attendant on that formal character that are proportionate to the potency of matter, cannot be realized apart from its union with matter. It is, in other words, a (very) partial realization of its formal character. As a result, it cannot, in principle, discharge the full range of

[99] See also *ScG* II, c. 94.

[100] I offer a related proposal of the soul's substantial incompleteness as part of a defense of Aquinas against the "too many thinkers problem"—namely, the concern that where Aquinas should have only one thinker (the human being), he ends up committed to two (the human being and her soul). See Fisher, "Saint Thomas Aquinas."

operations essential to the specific nature called for by its formal character.

Moreover, the fact that the soul's formal character calls for nutritive and sensitive realization precludes the soul from being complete in some other intellective nature of its own. As the human substantial form, the soul has a given formal character, namely, that of a rational animal. Aquinas is clear that it does not lose this formal character, or its propensity to inform matter, even in its separated state.[101] Since it has the formal character that it does, its own subsistence cannot be a complete realization of any other form. It cannot, therefore, be complete in some *other* specific nature. It can, at most, very partially realize the formal character that it has *qua* substantial form. As a result, it remains specifically incomplete. When we grant that the soul is the human substantial form, therefore, we can coherently maintain that it is specifically incomplete, despite its unique capacity for separate existence.[102]

On the present proposal, the capacity to exist and operate independently from some larger whole, though correlated with specific completeness, is not a decisive indicator of specific completeness—or of completeness as a substance, for that mat-

[101] The soul retains its formal character as the actuality of a rational animal even when it is not actually united to matter to constitute a rational animal (*Quodl*. X, q. 3, a. 2, ad 4). Aquinas likens it to a lightweight body retaining its tendency to move upward even when it is held down (*Q. D. De Anima*, a. 1, ad 10).

[102] The success of this account requires that the soul is the substantial form of the human being. We might worry that this introduces some problematic circularity, since, as we observed in section II, the soul must be specifically incomplete in order to serve as the body's substantial form. Importantly, however, Aquinas does not appeal to the soul's specific incompleteness to argue that it is the substantial form of the body (see *STh* I, q. 76, a. 1). In the present proposal, therefore, we do not saddle Aquinas with using a first claim to establish a second and then that second to establish the first, which would indeed be philosophically problematic. So long as Aquinas has independent reasons for establishing that the soul is the substantial form of the body—and he does (see ibid.)—we avoid any pernicious circularity in reasoning. Instead, what we have shown is that the soul's being the substantial form of the body is necessary for its specific incompleteness, and its specific incompleteness is necessary for its serving as substantial form. In short, the claims are consistent; moreover, they will stand or fall together.

ter. Furthermore, although the soul is unique in comparison with the other subsistent parts of the human being (or the subsistent parts of other material substances more generally) because of its existential and operational independence from the larger whole of which it is a part, we can use the very same rationale to explain why it and other subsistent parts are specifically incomplete: Any subsistent part, whether existing as part of a whole or not (in the unique case of the separated soul) is but a partial realization of the formal character of that form by which it exists. Hearts, eyes, limbs, or livers partially realize the formal character of the soul by which they exist. But none of these completely realizes the formal character of the substantial form by which it has *esse*. These parts are such partial realizations of the formal character of the forms by which they exist that, on their own, they cannot realize and substand the range of essential powers that follow from the formal characters in question. As a result, they cannot discharge the full range of operations essential to the whole, and therefore, they fail to be complete in the relevant specific nature. By contrast, the whole substance *is* a full realization of the formal character of the form by which it exists. It can, therefore, realize those powers consequent on that formal character by serving as their subject of inherence. It is thus capable, in principle, of discharging its essential operations.[103]

[103] It may seem that there are cases that qualify under this account as specifically incomplete even though they should not—for instance, individuals early on in their life span that are immature and have yet to develop all that is called for by their formal character (e.g., a sapling vs. a mature oak). Likewise, we may worry that individuals who do not have, or have lost, limbs and organs do not fully realize their formal characters and therefore fail to be specifically complete.

In response to the first, Aquinas could maintain that a thing's formal character may be realizable in different ways given its maturity. A sapling may not have all the organs or features of a fully mature oak, but it nevertheless realizes the formal character of the form by which it exists in the way appropriate to its current stage of development. That which is contained in its substantial form, *qua* principle, is fully expressed relative to its developmental stage or maturity.

With regard to missing limbs or organs, most need not imperil the specific completeness of the substance, though the loss of some may, more than others,

constitute a significant failure to realize fully those things attendant on a thing's formal character—e.g., the loss of the sole faculty by which a particular essential operation is performed. For instance, the loss of one's nose and all related olfactory organs would involve the destruction of the power of smell which inheres in these organs. (This is importantly different from a case where someone's nose remains but no longer functions. In the latter case, Aquinas could maintain that the power remains, since its subject remains, but that there is a deficiency on the side of the material organ that renders it inoperative.) In the case of altogether missing organs, there seem to be three avenues for response consistent with the present proposal.

One could bite the bullet and respond that such individuals fail to realize the formal character of the form by which they have *esse* and, as a result, indeed fail to be specifically complete. Such individuals do not fully realize the formal character of the substantial form by which they have *esse* since not every power attendant on the sensitive being characteristic of humans can flow forth and be instantiated. This is because they have lost the requisite subject for the power of smell. As a result, the individual does not serve as the subject of all of the powers essential to human life and therefore cannot, in principle, discharge all the operations essential to human life. For this reason, the individual fails to count as specifically complete. We might worry that this means that such an individual is no longer a complete substance, and for metaphysical purposes, could now be united to other things substantially and not just accidentally, willy-nilly. But the latter does not necessarily follow. Such an individual could not be united to just anything to form a substantial union. Most other things would still fall outside of its essence. The only things to which it could be united substantially would have to be such that their union constitutes the complete realization of the individual's formal character. This would be limited to matter appropriately disposed to reconstitute the missing limb or organ which, once unified, would undergo a change in identity and exist by means of the soul. This may not be as counterintuitive as it initially seems.

If the bullet is too big to bite, then an alternative approach would be to maintain that such individuals fail to realize fully the formal character of the substantial form by which they have *esse*, since one of the powers attendant on that formal character cannot be realized (as in the first response), but do not, on that account, fail to count as specifically complete. This response acknowledges—in accordance with the present proposal—that existing as a partial realization of the formal character of the form by which one exists puts one at risk of specific incompleteness. (It puts one at risk of being, in principle, incapable of discharging the range of operations essential to the relevant specific nature since some of the requisite powers may lack a suitable subject). But it maintains that the partiality of the realization of the formal character in this instance, where an individual retains other sensitive powers, is not sufficient to threaten specific completeness. The fact that they can perform other sensitive operations allows them to satisfy the criteria of being able, in principle, to discharge the operations essential to human life, generally speaking, and this renders them specifically complete in human

V

One might worry that the account offered in section IV cannot be reconciled with Aquinas's claim that after a thing has *esse completum* it cannot be united to anything further except accidentally. If we take that claim baldly, then regardless of whether the soul is incomplete in some other way, the fact that it has *esse completum* apart from matter precludes it from forming something unqualifiedly one in its union with matter to form the body. However, even in the passage from *Summa*

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nature. On this view, human beings would have to lose all the sense organs and powers in their bodies before they would truly lack the capacity for discharging the sensitive operations essential to human life (and given the pervasiveness of the organ of touch, it isn't clear that any human being could survive such a loss). The soul, by contrast, cannot realize any of the sensitive or nutritive powers whatsoever. This indicates that those aspects of its formal character that call for the determination of *esse* to sensitive, nutritive, and corporeal being are not realized.

Finally, one might respond that such individuals neither fail to realize fully the formal character of the substantial form by which they have *esse* in the most relevant sense, nor fail to be specifically complete. According to this response, such individuals remain specifically complete because they can still, in principle, discharge rational, sensitive, and nutritive operations (as in the second reply). In this view, the presence of these powers indicates that the formal character is still fully realized, despite the fact that one of the sensitive powers typical of human sensitive being cannot flow forth as it normally would. Thus, the soul's formal character calls for the sensitive determination of *esse*, and the realization of other sense powers is sufficient indication of that realization. In other words, the soul's formal character, so far as it is the actuality of a human being, is fully realized. On this view, the full realization of the formal character of the substantial form does not require the realization of the powers that naturally flow from it (which admittedly distances it from Aquinas's discussion in *De Spir. Creat.*) However, this view takes the failure to realize *any* powers of a particular kind as an indication of a failure to realize formal character. In this regard, therefore, it would distinguish between the present case and that of the separated soul.

All three of these responses are consistent with the present proposal, though each involves a slightly different cashing out of what is involved in the complete realization of formal character (i.e., whether this involves only the realization of those powers attendant on it or not) and what it means to be, in principle, capable of discharging the operations essential to the specific kind (i.e., whether this should be understood generally as having the power to perform at least some rational, sensitive, and nutritive operations or more specifically as having the powers to perform exactly those operations characteristic of the specific kind).

contra gentiles quoted in section II, Aquinas does not identify *esse completum* as the fundamental barrier to further unqualified union.[104] The concern is that once a thing has *esse completum* it is complete in an essence, and so anything further to which it is united must fall outside that essence. The fundamental barrier is completeness in essence.

As we have seen, *esse completum* and completeness in essence or nature typically go hand in hand, so it is perhaps unsurprising that Aquinas would sometimes speak as though *esse completum* entails completeness in essence. But if the fundamental barrier to substantial union is completeness in essence, then a thing with *esse completum* could be united to something further to form a substantial unity so long as it is incomplete in essence and the union in question results in the completion of that essence and nothing more. This is precisely what we find in the case of the soul. Although the soul can exist apart from the larger human whole, it cannot completely realize its formal character. It has *esse completum* but it is not complete in its essence. Moreover, those aspects of the soul's formal character that require corporeal realization are realized through the soul's union with matter to form the body. The body, therefore, does not fall outside of the essence called for by the soul's formal character, but completes it.[105]

Furthermore, we can appeal to considerations from section III to explain why the human substantial form is the kind of thing whose formal character calls for corporeal and incorporeal realization and, likewise, why it is the principle of sensitive and nutritive powers as well as intellective ones. Because the human intellect is the lowest of the intellects and naturally suited to understand from material things, it is fitting that the human being have within herself the full range of powers for the proper and optimal functioning of her intellect.

[104] *ScG* II, c. 58.

[105] In some places Aquinas explicitly mentions the exception to this line of reasoning, namely, when two things are united by means of numerically the same act of existence (I *Sent*., d. 17, q. 1, a. 2; *STh* III, q. 2, a. 6, ad 2).

Only a partly corporeal, partly incorporeal being could have the requisite sensitive and intellective faculties to understand through abstracted intelligible forms. So, it is fitting that the substance with such an intellect be partly corporeal and partly incorporeal. These considerations help to explain why the human being—and the human soul—have the unique ontological status that they do.

CONCLUSION

The concern that the human soul ought to count as something complete in its own right depends on the intuition that separate existence and operation are sufficient to render a thing complete in a nature. But this is not the only account one can offer of specific incompleteness. Instead, Aquinas can maintain that a thing can fail to be complete in its specific nature by failing to realize the formal character of the form by which it exists. Doing so provides a means of reconciling the soul's capacity for separate existence with its union with the body.

In life and death alike, the soul is but a partial realization of its formal character—a realization that cannot, on its own, substand the full range of essential powers attendant on its nature. It is for this reason that the soul is specifically incomplete. Only when the soul is united to matter as the actuality of the body is the result something that fully realizes the soul's formal character as the substantial form of a rational animal, including the full range of powers essential to human life. Accordingly, only when the soul is united to the body as its actuality do we have something specifically complete. For this reason, the rational soul can be hylomorphically united to prime matter to constitute the human body and form with it a single substantial unity, the human being.[106]

[106] Special thanks to Kara Richardson for comments on and discussion of previous versions of this article. Thanks also to the participants at the Symposium on Medieval and Renaissance Studies (Saint Louis University, June 17, 2019) where I presented an earlier version of this article.

The Thomist 86 (2022): 91-117

PAIN MANAGEMENT, THEOLOGICAL ETHICS, AND THE PROBLEM OF REDEMPTIVE SUFFERING: A THOMISTIC ANALYSIS

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"Physical pain always mimes death and the infliction of physical pain is always a mock execution." – Elaine Scarry[1]
"Sorrow in the heart exceeds every external wound." – St. Thomas Aquinas[2]
"I am strapped up with a broken rib, of all things. I broke it coughing. I never knew such was possible but I warn you: if you get a cough, buy yourself some cough syrup, don't just sit around coughing." – Flannery O'Connor[3]

MOST CHRISTIANS believe that it is morally acceptable, within certain parameters, to minimize one's pain through medication. We find this affirmation especially in contemporary analyses of cases in which patients are in the process of dying. According to the *Ethical and Religious Directives for Catholic Health Services*, "[dying] patients should be kept as free of pain as possible so that they may die comfortably and with dignity," and, moreover, "Medicines

[1] Elaine Scarry, *The Body in Pain: The Making and Unmaking of the World* (New York: Oxford University Press, 1985), 31.

[2] "Tristitia cordis omnem plagam exteriorem excedit" (*STh* I-II, q. 35, a. 7, s.c., commenting on Sir 25:17). Quotations from the *Summa* are my own, based on the Corpus Thomisticum text of the Fundación Tomás de Aquino at www.corpusthomisticum.org. This text is based on the Leonine Edition, transcribed by Fr. Roberto Busa, S.J., and revised by Enrique Alarcón (Pamplona: Fundación Tomás de Aquino, 2012).

[3] Flannery O'Connor, Letter to Cecil Dawkins, December 9, 1958, in *The Habit of Being: Letters of Flannery O'Connor*, ed. Sally Fitzgerald (New York: Farrar, Straus and Giroux, 1988), 307.

capable of alleviating or suppressing pain may be given to a dying person, even if this therapy may indirectly shorten the person's life so long as the intent is not to hasten death."[4] Most moral theologians and Christian health-care ethicists would agree that pain is an evil to be avoided and that medical practitioners who help patients alleviate pain are doing good.

Yet, as we all know, pain medications are not always effective. Sometimes we may wish to alleviate a patient's pain, yet we are unable to do so. According to the *ERD*, "Patients experiencing suffering that cannot be alleviated should be helped to appreciate the Christian understanding of redemptive suffering."[5] In a similar vein, Benedict Ashley, Jean deBlois, and Kevin O'Rourke write, "Although suffering is to be alleviated whenever possible, it is not in itself a moral evil nor without supernatural benefits if rightly used. The Christian tradition holds that great spiritual good can come out of suffering when it is joined to the sufferings of Jesus."[6] On this account, it seems that (1) pain is an evil to be avoided, yet (2) there are specific goods that may be found in the suffering brought about through pain, and, (3) the goods brought about through pain are not necessarily greater than the goods brought about through the alleviation of pain.

To complicate matters further, Ashley, deBlois, and O'Rourke suggest that

> the opportunity to use suffering as a means of spiritual growth is not destroyed if pain-killing drugs are used. Rather, the individual and those who care for him or her have the right to use such drugs in a way that will permit the best use of the patient's remaining energies and time of consciousness, so that the patient can complete life with maximal composure.[7]

[4] *Ethical and Religious Directives for Catholic Health Care Services*, 6th ed. (Washington, D.C.: United States Conference of Catholic Bishops, 2018), 61. Hereafter referred to as *ERD*.

[5] Ibid.

[6] Benedict M. Ashley, Jean deBlois, and Kevin D. O'Rourke, *Health Care Ethics: A Catholic Theological Analysis*, 5th ed. (Washington, D.C.: Georgetown University Press, 2006), 198.

[7] Ibid.

This claim goes beyond the recommendation to seek redemption in the suffering brought about through pain when pain medication will not work. It suggests, rather, that the goods normally brought about through the experience of pain can be pursued while actively striving to alleviate one's pain. There is at least an apparent paradox here that warrants an explanation.

The aim of this article is to propose just such an explanation, and this explanation hinges on a particular account of pain as a passion of the soul known to the medieval Scholastic theologians as *dolor* (Latin, "pain"). On this account, pain is a postlapsarian response to the corruption of the body resulting from the loss of original justice.[8] I draw upon St. Thomas Aquinas's distinction between bodily pain (*dolor*) and sadness (*tristitia*) to illuminate pain's moral significance. I argue that this account allows for a qualified defense of pain management through medication, insofar as this practice aims to remove obstacles to the contemplation that is requisite for living a good life—and for dying a good death. I also argue that this account makes room for the notion of redemptive suffering, but it does so without fetishizing bodily pain, insofar as it delineates clear limits on one's "participation" in the suffering of Christ.

I. What Is Pain? A Neuroscientific View

The neuroscientific and clinical research on pain is vast, and I have no aspirations of contributing to—or adequately summarizing—that discourse here. My aim, rather, is to provide an analysis of bodily pain from the perspective of theological anthropology, and I take it for granted that any such analysis should be informed by (or at least in conversation with)

[8] See, for example, *STh* I-II, q. 85, a. 5, where Aquinas explains that certain bodily defects (i.e., those found in all human beings, not "deformities," in the colloquial sense of "defects") are the result of original sin. In *STh* I-II, q. 85, a. 6 he defends the view that God created the human body, in the original state of justice, to be incorruptible.

contemporary scientific research.[9] Even so, my aims are modest. The most I can do in a brief article is to sketch a preliminary theological analysis of pain that merely gestures at moral guidelines for clinical practice. This analysis will raise many important questions that will remain unanswered. Nonetheless, there is a great need for this kind of analysis, given the surprising dearth of contemporary theological work in this area.[10] As Christians, we cannot adequately reflect on the meaning of pain or the ethics of pain management without an adequate account of what pain *is* from the perspective of theological anthropology.[11] For the moral theologian, to ask what pain *is* is to ask what the experience of pain tells us about being human. Our answer to this question will be theologically inflected and will reveal additional philosophical and theological presuppositions along the way.

From one neuroscientific perspective, pain is the body's adverse response to stimuli.[12] Yet even this simplistic definition

[9] For a sophisticated and nuanced theological engagement with neuroscience, see Neil Messer, *Theological Neuroethics: Christian Ethics Meets the Science of the Human Brain* (New York: T&T Clark, 2017). Messer's book does not address the central concerns of this article, but it provides a helpful model for bringing theological ethics into conversation with contemporary scientific literature.

[10] For a helpful starting point on the theology of suffering (including but not limited to bodily pain) within the context of medicine, see the selections in chapter 9 of *On Moral Medicine: Theological Perspectives in Medical Ethics*, 3rd ed., ed. M. Therese Lysaught and Joseph Kotva (Grand Rapids, Mich.: Eerdmans, 2012); Jason Eberl, "Religious and Secular Perspectives on the Value of Suffering," *National Catholic Bioethics Quarterly* 12 (2012): 251-61; see also the essays in part 4 of *Suffering and Bioethics*, ed. Ronald M. Green and Nathan J. Palpant (New York: Oxford University Press, 2014).

[11] Perhaps the most important volume produced in the twenty-first century on the intersection of pain and theology is Sarah Coakley and Kay Kaufman Shelemay, eds., *Pain and Its Transformations: The Interface of Biology and Culture* (Cambridge, Mass.: Harvard University Press, 2007). While several authors in this volume propose promising paths for further exploration (some of which I engage in what follows), the scientific research it draws upon is already somewhat dated, and there has been little work on this topic since its publication. The present article is an attempt to remedy the situation.

[12] See Jörg Trojan et al., "Body, Space, and Pain," *Frontiers in Human Neuroscience* 8, no. 369 (2014): 1-3; Amelia Swift, "Understanding Pain and the Human Body's Response to It," *Nursing Times* 114, no. 3 (2018): 22-26.

is loaded with axiological assumptions. What makes the body's response "adverse"? Is it because we experience an unpleasant feeling when we sense pain? If so, then what are we to make of the fetishist who claims to find pleasure in painful sensations? Is it because pain serves an objective function—namely, our own survival? If so, then we can only say this unequivocally when we are describing the function of pain at the phylogenetic level; at the ontogenetic level, we know that pain often serves no meaningful function at all and in fact can inhibit many human activities, as is the case with many neurological disorders. It is also far from clear what counts as a "stimulus." While there is little doubt that a nail piercing through the sole of one's foot falls in this category, it is less clear whether something like a painful memory counts as stimulus, at least in the same sense. In the former example, an external physical event causes (or corresponds with) a mental or psychological state: stepping on a nail *hurts*.[13] But painful memories can also hurt. In the case of a painful memory, a mental state causes (or corresponds with) a physical condition (say, an upset stomach), which results in the sensation of bodily pain.

Howard Fields describes these different experiences of pain as a difference in "meaning." He writes, "Imagine the difference between a headache sustained after a bout of heavy drinking and an equally severe headache the week after learning that one's identical twin brother with a similar headache was diagnosed with a malignant brain tumor. In these two examples,

[13] These are highly contested debates within the philosophy of mind, touching on questions related to mind-brain identity theory, functionalism, epiphenomenalism, and the like. My purpose here is not to engage those debates, but I should note that the contentiousness of these issues only underscores how difficult it is to provide a philosophically neutral definition of pain. For a highly accessible introduction to these and related questions in philosophy of mind, see Edward Feser, *Philosophy of Mind: A Beginner's Guide* (Oxford: Oneworld, 2006). For a constructive, nonreductionistic account of the body-soul relationship and its relevance to contemporary mental health practice, see Paul C. Vitz, William J. Nordling, and Craig Steven Titus, eds., *A Catholic Christian Meta-Model of the Person: Integration with Psychology and Mental Health Practice* (Sterling, Va.: Divine Mercy University Press, 2020).

although a similar peripheral signal was at work, the meaning was completely different."[14] Of course, a painful memory may not involve the sensation of bodily pain. Reflecting on a traumatic experience may constitute suffering without the corresponding physical sensation, although this line is often blurred. As Stanley Hauerwas writes, "suffering, which is not the same as pain since we can suffer without being in pain, is nonetheless akin to pain inasmuch as it is a felt deficiency that can make us as miserable as pain itself."[15] But the point is that pain, often understood to be a mental state, can also be the *result* of a mental state, which renders pain's relationship to external stimuli even more opaque.

Clifford Woolf defines pain as "the conscious awareness of a sensory experience that is unpleasant, distressing, or disturbing."[16] Woolf is among the minority of pain theorists who believes that pain is ultimately reducible to scientific scrutiny and that it is "amenable to a deterministic dismantling of the molecular components of the nervous system."[17] He does not, of course, deny that pain can have many additional layers of subjective and cultural meaning. While he rightly observes that "what makes pain different from all other sensory experiences . . . is that the sensation is linked inescapably and integrally with a conscious awareness of its unpleasantness," he prefers a purely physiological model of pain that reduces its subjective or emotional experience to that of sensation.

Not all contemporary models of pain demand such reductivism. One of the most prominent contemporary models of

[14] Howard L. Fields, "Setting the Stage for Pain: Allegorical Tales from Neuroscience," in Coakley and Shelemay, eds., *Pain and Its Transformations*, 46.

[15] "Salvation and Health: Why Medicine Needs the Church," in Stanley Hauerwas, *The Hauerwas Reader*, ed. John Berkman and Michael Cartwright (Durham, N.C.: Duke University Press, 2001), 549.

[16] Clifford J. Woolf, "Deconstructing Pain: A Deterministic Dissection of the Molecular Basis of Pain," in Coakley and Shelemay, eds., *Pain and Its Transformations*, 27.

[17] Ibid.

pain is the biopsychosocial model,[18] which, as the name suggests, insists that pain "is best understood when biological, psychological, and social viewpoints are integrated."[19] Drawing upon this model, the International Association for the Study of Pain updated its definition of pain in July 2020, for the first time since 1979. The revised 2020 definition states that pain is "an unpleasant sensory and emotional experience associated with or resembling that associated with actual or potential tissue damage."[20] The previous definition omitted the clause "or resembling that associated with." By adding this designation, the new definition acknowledges that "pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons," and, furthermore, "Through their life experiences, individuals learn the concept of pain."[21] This definition of pain, informed by the biopsychosocial model, does not suggest that pain can have an additional, subjective layer added onto it, but rather that pain *is* an inherently multifaceted phenomenon that necessarily includes its subjective dimensions.

[18] This model of pain is a more specific application of the biopsychosocial model of illness, first articulated in the seminal essay by George L. Engel, "The Need for a New Medical Model: A Challenge for Biomedicine," *Science* 196 (1977): 129-36; For a recent assessment of this model and its reception and application within contemporary medical practice, see Derick T. Wade and Peter W. Halligan, "The Biopsychosocial Model of Illness: A Model Whose Time Has Come," *Clinical Rehabilitation* 31 (2017): 995-1004; For an example of this model's potential for practical applications in pain management, see Amarins J. Wijma et al., "Clinical Biopsychosocial Physiotherapy Assessment of Patients with Chronic Pain: The First Step in Pain Neuroscience Education," *Physiotherapy Theory and Practice* 32 (2016): 368-84.

[19] Mustafa al'Absi and Magne Arve Flaten, *The Neuroscience of Pain, Stress, and Emotion: Psychological and Clinical Implications* (San Diego, Calif.: Academic Press, 2016), xi.

[20] Srinivasa N. Raja et al., "The Revised International Association for the Study of Pain Definition of Pain: Concepts, Challenges, and Compromises," *Pain* 161 (2020): 1976-82.

[21] Ibid.

II. Pain as a Passion of the Soul: A Thomistic Account

A widely used textbook on the neuroscience of pain observes that the IASP definition helps us to conceptualize the emotional content of pain. As the authors explain, this definition

> also clarifies that negative emotions are a constituent of the pain experience, and therefore a close interaction or overlap between brain processes related to pain and emotions has to be expected. As a matter of fact, it may be argued that pain is an emotion, an emotion that requires the presence of a bodily sensation with qualities like those reported during tissue-damaging stimulation.[22]

What is remarkable about this description is its striking similarity to the medieval Scholastic understanding of the passions. While I am admittedly glossing over some significant conceptual differences, the two categories share similar features. The passions, while not quite synonymous with our modern concept of emotions, are understood as psychological processes that involve the body.[23] They are what we would call *psychosomatic*. The classic definition of the passions, frequently cited by later medieval authors, is attributed to John of Damascus. He defines a passion as "a movement of the sensitive appetite in which good or evil is imagined. Put another way, a passion is a movement of the irrational soul by means of a perceived good or evil."[24] We should not think of *good* and *evil* in grand metaphysical or cosmic terms here. Rather, they simply refer to

[22] al'Absi and Flaten, *Neuroscience of Pain, Stress, and Emotion*, 3. While the authors cite the older IASP definition of pain, their commentary is still relevant since it is highlighting the "unpleasant sensory and emotional experience" of pain, which was included in the previous definition.

[23] For a helpful analysis of Aquinas's theory of sense perception and its role in the passions, in conversation with contemporary psychology, see Benedict M. Ashley, O.P., *Healing for Freedom: A Christian Perspective on Personhood and Psychotherapy* (Arlington, Va.: The Institute for the Psychological Sciences Press, 2013), chap. 4.

[24] Quoted by Aquinas in *STh* I-II, q. 22, a. 3, s.c., citing *De Fide Orth*. 2.22: "Sed contra est quod dicit Damascenus, in II libro, describens animales passiones, *passio est motus appetitivae virtutis sensibilis in imaginatione boni vel mali. Et aliter, passio est motus irrationalis animae per suspicionem boni vel mali*."

good or bad things to be pursued or avoided. If one is on a hike in the woods and suddenly comes upon the edge of a steep cliff, this is an evil to be avoided. If on this same hike one is thirsty and comes upon a fresh stream of water, this is a good to be embraced. The fact that these movements belong to the "irrational appetite" underscores their similarity to animal instinct, although we should not lose sight of the fact that the passions are distinctly human.

Aquinas approvingly cites John Damascene's definition of the passions, but he also offers an important addendum: "Properly speaking, a passion is found where there is bodily transmutation, which is located in the act of the sensitive appetite. This is not only spiritual (as it is in sensitive apprehension) but also natural."[25] What this analysis captures is the irreducibly psychosomatic nature of the passions. They are neither mere bodily responses to stimuli nor purely mental occurrences. As Robert Miner explains,

> The passions are in the sensitive appetite, but the sensitive appetite itself belongs to the form/matter composite, since it requires a bodily organ for its operation. . . . Since the acts of the sensitive appetite necessarily involve a bodily organ, passions cannot be essentially attributed to the soul (unlike thoughts or volitions). And yet because they are formally shaped by the soul's apprehension, they are not simply acts of the body. Hence Aquinas concludes that their subject can only be the composite.[26]

Aquinas's understanding of the human being as a composite reflects his (along with many other Scholastics') commitment to the Aristotelian doctrine of *hylomorphism*. In the simplest terms, hylomorphism maintains that the soul is the form of the

[25] *STh* I-II, q. 22, a. 3: "Respondeo dicendum quod, sicut iam dictum est, passio proprie invenitur ubi est transmutatio corporalis. Quae quidem invenitur in actibus appetitus sensitivi; et non solum spiritualis, sicut est in apprehensione sensitiva, sed etiam naturalis."

[26] Robert Miner, *Thomas Aquinas on the Passions: A Study of Summa Theologiae, 1a2ae 22-48* (New York: Cambridge University Press, 2009), 32. Miner offers an illuminating analysis of Aquinas's definition of the passions in ibid., 29-57.

body. Soul and body can be distinguished, but they are not independent entities—this is not the dualism of Descartes.[27] Aquinas writes, "There is no passion . . . without a corresponding bodily transmutation. Thus, properly speaking, a passion cannot be said to reside in the soul unless we mean accidentally, insofar as the composite [of body and soul] is passive."[28] While passions are powers of the soul, the activity of the passions is not to be understood as the soul "acting" on the body (or vice versa) but rather as something that happens to *the human being*.

While the medieval Scholastics often developed their own highly detailed schematics of the passions, their writings reflect a broad consensus about the fundamentals. This is thanks in part to the systematizing efforts of Isaac of Stella, who articulated the four principal passions as joy (*gaudium*), hope (*spes*), fear (*timor*), and pain (*dolor*).[29] This classification was popularized through its inclusion in Philip the Chancellor's *Summa de bono* and serves as a starting point for others' work on the passions.[30] Aquinas's analysis of the passions in his

[27] Interestingly, Raja et al. observe that criticisms of the older IASP definition "have included that it is 'Cartesian,' ignoring the multiplicity of mind-body interactions" (Raja et al., "The Revised International Association for the Study of Pain Definition of Pain," 1977). The revised definition resonates more with a hylomorphic understanding of the human being.

[28] *STh* I-II, q. 22, a. 1: "Passio autem cum abiectione non est nisi secundum transmutationem corporalem, unde passio proprie dicta non potest competere animae nisi per accidens, inquantum scilicet compositum patitur." Nicholas Lombardo notes that in Aquinas's earlier works he describes some passions (including *dolor*) as *passiones corporalis* (passions of the body), as opposed to *passiones animalis* (passions of the soul). See Nicholas E. Lombardo, O.P., *The Logic of Desire: Aquinas on Emotion* (Washington, D.C.: The Catholic University of America Press, 2011), 44-46. Aquinas's later work downplays this distinction, however; what is important is the body-soul character of the passions. I am not convinced by Lombardo's claim (ibid., 228-29) that the *corporalis*/*animalis* distinction retains its significance in Aquinas's mature thought on the passions.

[29] Isaac of Stella, *Sermo* 17, ad 11: "De amore gaudium et spes, de odio timor et dolor oriuntur" (*Sermons I [Sermons 1-17]* [Sources chrétiennes 130], ed. Anselm Hoste and Gaston Salet [Paris: Cerf, 1967], 318).

[30] Philip the Chancellor, *Summa de bono*, ed. Nikolaus Wicki (Bern: Francke, 1985), 789. The development of this list can be traced even further back to Cicero, who

Summa is the most extensive in medieval literature, and while it is innovative in several respects, it too relies on this basic fourfold classification of joy (*gaudium*), pain (*tristitia*), hope (*spes*), and fear (*timor*).[31] In fact, Aquinas goes so far as to say that joy and pain are "are said to be principal because it is in them that all other passions find their completion and end."[32] On his account, pain belongs to a binary of passions (or "emotions," if we are careful to qualify this term) that lie at the heart of human experience.

In his analysis of the specific passion of pain, Aquinas makes a very important move. He observes that some authors use the Latin word *dolor*, while others use *tristitia*, but he finds both terms acceptable. While he acknowledges that *dolor* and *tristitia* share a common root and may be interchangeable in some contexts, he also believes that each term captures something different and important about the sensitive appetite. In the questions on the passion of *dolor* or *tristitia* (*STh* I-II, qq. 35-39), he designates *dolor* to mean "pain," which specifically refers to "bodily pain" (he notes that this "is its more usual meaning")[33] and *tristitia* to mean "sadness," which refers to an interior apprehension.[34] He writes, "only the pain that is caused by interior apprehension is called sorrow," and "pain that is caused

identified the four principal passions as pleasure (*laetitia*), desire (*libido*), fear (*metus*), and pain (*aegritudo*). See Cicero, *Tusculan Disputations* 4.11 (trans. J. E. King, Loeb Classical Library 141 [Cambridge, Mass: Harvard University Press, 1927]).

[31] *STh* I-II, q. 25, a. 4.

[32] Ibid.

[33] *STh* I-II, q. 35, a. 2, ad 3. It is likely that Aquinas is drawing upon the distinction Augustine draws between *dolor* and *tristitia* in *The City of God* (*De civitate Dei contra paganos*), 14.15. While Aquinas does not cite this specific passage, he does cite other portions of *De civ. Dei* 14 throughout question 35.

[34] Although he does not cite Aquinas, John Paul II makes a similar distinction between "physical suffering" and "moral suffering" in *Salvifici doloris* ("On the Christian Meaning of Suffering"), February 11, 1984, 5; http://www.vatican.va/content/ john-paul-ii/en/apost_letters/1984/documents/hf_jp-ii_apl_11021984_salvifici-doloris. html.

by exterior apprehension is called pain but not sorrow."[35] Thus, "pain" (*dolor*) can sometimes be used generically to refer to pain or sorrow, but properly speaking it refers to bodily pain.[36]

We must be careful, however, not to mistake *dolor* for a physical sensation and *tristitia* for a mental state. For Aquinas the passions always involve bodily transmutation. Suppose, for example, a person taking a stroll comes across a severely injured stray dog. She thinks, "Isn't that a shame," and looks away, carrying on with whatever she was doing. This person has not experienced the authentic passion of *tristitia*, because it has not taken hold of her. It has not affected her or caused her to feel anything.[37] Pain and sorrow are movements of the sensitive appetite and will always involve the body in some way. Aquinas explains, "The cause of pain is in the body, for instance when one suffers something harmful to the body. But pain's movement is always in the soul, since 'the body cannot feel pain without the soul feeling it,' as Augustine says."[38] The term "bodily pain" simply refers to pain whose origin lies in exterior apprehension, whether it be a paper cut or a herniated L4-L5 disc. The term "sorrow" refers to pain whose origin lies in interior apprehension and could arise from hearing some bad news or from simply reflecting on an unpleasant thought.

[35] *STh* I-II, q. 35, a. 2: "Et similiter ille solus dolor qui ex apprehensione interiori causatur, nominatur tristitia. . . . ita ille dolor qui ex exteriori apprehensione causatur, nominatur quidem dolor, non autem tristitia."

[36] Aquinas states that sorrow (*tristitia*) is a species of pain (*dolor*) (ibid.). He says this because *dolor* can be used in a general sense, to encompass *tristitia*, or in the more specific sense of bodily pain, whereas *tristitia* always refers to interior apprehension.

[37] Aquinas elsewhere draws a connection between sorrow (*tristitia*) and mercy (*misericordia*). In *STh* II-II, q. 30, a. 1 he defines mercy as a "heartfelt sympathy for another's distress, moving us to help the other person if we are able," and in the *sed contra* he defines mercy as a kind of sorrow. I am grateful to Jason Eberl for bringing this connection to my attention.

[38] *STh* I-II, q. 35, a. 1, ad 1: "Ad primum ergo dicendum quod dolor dicitur esse corporis, quia causa doloris est in corpore, puta cum patimur aliquod nocivum corpori. Sed motus doloris semper est in anima, nam *corpus non potest dolere nisi dolente anima*, ut Augustinus dicit."

III. The Moral Significance of *Dolor* and *Tristitia*

For Aquinas, all passions have inherent moral significance because they are the subject of the moral virtues.[39] *Dolor* and *tristitia* reside in the concupiscible appetite, and the concupiscible appetite is perfected by the virtue of temperance or moderation.[40] Here the distinction between *dolor* and *tristitia* comes into sharp relief. While it is perhaps not difficult for us to imagine how a virtuous person might moderate her sorrow (*tristitia*) or redirect it toward a fruitful end, most people would reject the idea that one's pain (*dolor*) is subject to psychological moderation in the same way. Granted, we might want to acknowledge that a virtuous person will be better equipped to cope with her pain than a person who does not possess the virtue of temperance. By the same token, we can imagine emotional grief so severe that even the most virtuous person could not bear it. For Aquinas, virtuous moderation of the passions is not synonymous with suppression of the passions. Even Christ himself began to sweat drops of blood at the mere thought of having to die on a cross (Luke 22:44). Nonetheless, there is something about the nature of *pain* that seems less voluntary than the nature of *sorrow*, even if neither of them can be described as fully subject to one's will.

On Aquinas's account, the passions do not have control over the will, because the will always acts upon what the intellect presents to it as good. But the passions play a powerful role in

[39] Aquinas states (in *STh* I-II, q. 59, a. 4) that not all moral virtues are about the passions, since justice is the virtue that perfects the will. Yet, in the next article (q. 59, a. 5), he highlights the close relationship between justice and the passions, insofar as an increase in the perfection of justice will lead to an increase in joy, which "overflows" into the sensitive appetite. On the importance of the passions for the moral life in Aquinas's thought, see Servais Pinckaers, "Reappropriating Aquinas's Account of the Passions," in *The Pinckaers Reader*, ed. John Berkman and Craig Steven Titus (Washington, D.C.: The Catholic University of America Press, 2005), 273-87; see also Eleonore Stump, "The Non-Aristotelian Character of Aquinas's Ethics: Aquinas on the Passions," *Faith and Philosophy* 28 (2011): 29-43.

[40] *STh* I-II, q. 56, a. 4.

human action, precisely because they can influence what the intellect perceives to be good.[41] As Aquinas describes this indirect influence, a passion can distract the soul's attention away from something it might otherwise perceive as good and worthwhile. "In the operations of the soul," he writes,

> certain attention is required, and if it is strongly focused on one thing, then less attention is given to another. Thus, by a kind of distraction, when the movement of the sensitive appetite is bolstered by some passion, there is necessarily a remission or impediment of the rational appetite (which is the will).[42]

It is difficult to focus on work when one's stomach is growling. While it might be possible to keep the hunger at bay for a while, there will eventually come a point when the will decides that eating is better than working. Those who suffer from migraine headaches or chronic pain know that it can be virtually impossible to accomplish other tasks when suffering such pain. This usually leads to the decision to medicate one's pain, assuming that medication is available and that it works.

This is where the true moral significance of the passions lies, and in this regard pain is paradigmatic. As Kevin White observes, "The moral significance of all passions is due to their capacity to attract, command, or absorb the soul's attention," and "the theme of attention is most prominent in [Aquinas's] discussion of delight and pain."[43] The right response to the passion of pain does not always involve what we would consider heroic acts of virtue. The natural remedy for pain,

[41] For Aquinas's understanding of the relationship between intellect, will, and appetite, see *STh* I-II, qq. 8-10. For a helpful exposition of Aquinas's account, see Eleonore Stump, *Aquinas* (New York: Routledge, 2003), 277-306.

[42] *STh* I-II, q. 77, a. 1: "Tum quia in operibus animae requiritur quaedam intentio, quae dum vehementer applicatur ad unum, non potest alteri vehementer attendere. Et secundum hunc modum, per quandam distractionem, quando motus appetitus sensitivi fortificatur secundum quamcumque passionem, necesse est quod remittatur, vel totaliter impediatur motus proprius appetitus rationalis, qui est voluntas."

[43] Kevin White, "The Passions of the Soul," in *The Ethics of Aquinas*, ed. Stephen J. Pope (Washington, D.C.: Georgetown University Press, 2002), 111.

Aquinas explains, is its counterpart: delight (*delectatio*) or joy (*gaudium*).[44] This can sometimes be achieved with such simple solutions as having a good cry, sharing one's grief with sympathetic friends, or taking a nap or a warm bath.[45] He writes, "Just as all bodily rest brings relief to all kinds of weariness arising from nonnatural causes, likewise every pleasure brings relief by mitigating all kinds of sorrow arising from various causes."[46] Although pain and sorrow demand a response from us—and some responses are morally good, while others are morally bad—they are not in themselves evil. "It is a sign of goodness," Aquinas writes, "if a person, suspecting the presence of something sad or painful, is in sorrow or pain on account of this present evil."[47] When we perceive and seek to avoid something that is known to cause pain, this testifies to the goodness of our created nature. When we feel sorrow at something evil, this is due to the rectitude of our reason and will. It is a testament to the fact that this is not the way things are supposed to be.[48]

Pain is the enemy of our good.[49] It distracts us, draws our focus toward itself, and becomes an obstacle to moral and

[44] For an illuminating survey of joy as an antidote to sorrow, drawing on a range of historical figures, see Robert C. Roberts, "Joys: A Brief Moral and Christian Geography," *Faith and Philosophy* 36 (2019): 195-222.

[45] These are addressed in *STh* I-II, q. 38 in aa. 1, 2, 3, and 5, respectively. There is an oft-repeated but apocryphal quotation from Aquinas that "sorrow can be alleviated by good sleep, a bath, and a glass of wine." While Aquinas had no objection to drinking wine in moderation, this line is not found in any of his written works.

[46] *STh* I-II, q. 38, a. 1: "Sicut igitur quaelibet quies corporis remedium affert contra quamlibet fatigationem, ex quacumque causa innaturali provenientem; ita quaelibet delectatio remedium affert ad mitigandam quamlibet tristitiam, ex quocumque procedat."

[47] *STh* I-II, q. 39, a. 1: "Sic igitur, supposito aliquo contristabili vel doloroso, ad bonitatem pertinet quod aliquis de malo praesenti tristetur vel doleat."

[48] *STh* I-II, q. 39, a. 2.

[49] An anonymous reviewer has correctly pointed out that pain *per se* is not an enemy of our good. I should clarify, then, that there are two senses in which pain can be considered an enemy of our good. In the first sense, pain can exceed its signaling function and take on a life of its own that hinders progress in virtue. This is an accidental feature of pain, however, so it does not belong to pain *per se*. In the second

spiritual growth. This is true of both exterior pain and interior sorrow. The suffering that results from pain or sorrow can present an opportunity for growth in virtue, but the process is not automatic. The biblical character of Job, for example, struggled to see God's goodness in the midst of profound grief and loss. After losing most of his family and his possessions, he laments with a monologue that begins, "Let the day perish on which I was born" (Job 3:3). An overly pious interpretation of this passage might suggest that Job's passions simply got the better of him. But Aquinas offers a different interpretation. He explains, "So, Job indeed feels sad as a result of those adversities which he suffered described above, otherwise the virtue of patience would have no place in him." Aquinas interprets Job's lament not as an unrestrained expression of raw passion but as an entirely reasonable response to his sufferings. The fact that Job expressed these words several days after his tragedy "clearly shows that what he is going to say is said in accord with reason which is not confused by sorrow. . . . In speaking he showed the sorrow which he suffered and he showed patience."[50] Job made virtuous use of his suffering, but suffering is not a virtue in and of itself. As Eleonore Stump writes, "On Aquinas's view suffering is good *not simpliciter* but only *secundum quid*. . . . In itself suffering is a bad thing; it acquires positive value only when it contributes to spiritual well-being."[51] Pain and sorrow may be conducive to virtue, but this is by no means guaranteed.

It is important to note that while pain *can* lead to growth in virtue, it is *always* an obstacle to the good. This is not a contradiction. It is in fact a central feature of virtue ethics. The

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sense, pain, insofar as its existence is contingent upon the loss of humanity's original justice, is always a response to (or a reflection of) bodily corruption. In this second sense, pain's association with the loss of bodily integrity (which is opposed to our good) is not merely contingent.

[50] *In Iob*, c. 3, lect. 1 (trans. Brian Thomas Becket Mullady, O.P. [Lander, Wyo.: The Aquinas Institute, 2016]).

[51] Eleonore Stump, "Aquinas on the Sufferings of Job," in *Human and Divine Agency: Anglican, Catholic, and Lutheran Perspectives*, ed. F. Michael McLain and W. Mark Richardson (Lanham, Md.: University Press of America, 1999), 201-2.

virtue of courage is nurtured through repeated encounters with adversity; the virtue of temperance is cultivated through repeated refusals to concede to the body's impulses. But the problem of pain bears special significance in this line of enquiry, precisely because pain is at odds with what Aquinas states is the greatest of all human pleasures: the contemplation of truth. Pain is a hinderance to all learning and to all mental and spiritual growth, because it burdens the soul and immobilizes the movements of the soul and the body.[52] However, the inverse of this relationship also holds true. Since delight is the natural antidote to sorrow (which is the interior apprehension of pain), it follows that contemplation of the truth can reduce or eliminate one's pain. Aquinas argues that contemplation of the truth can even reduce bodily pain. If this strikes us as odd, given that contemplation is an intellectual activity and pain is a bodily sensation, Aquinas anticipates this objection and responds: "In the powers of the soul there is an overflow from the higher to the lower; accordingly, the delight of contemplation, which is in the higher part, overflows and as such mitigates the pain that is in the senses."[53] It is because of this that "humans rejoice in divine things and future blessedness, even in the midst of tribulation."[54] He cites the example of the martyr Tiburtius, who, when walking barefoot on burning coals, said, "I believe I am walking on roses, in the name of Jesus Christ."[55]

We must be careful here. We should not attribute to Aquinas the view that contemplation of divine truths is a panacea for bodily pain. While he does believe that it is possible for

[52] *STh* I-II, q. 37, a. 2; and q. 37, a. 3.

[53] *STh* I-II, q. 38, a. 5 ad 3: "Ad tertium dicendum quod in viribus animae fit redundantia a superiori ad inferius. Et secundum hoc, delectatio contemplationis, quae est in superiori parte, redundat ad mitigandum etiam dolorem qui est in sensu."

[54] *STh* I-II, q. 38, a. 4: "Et ideo homines ex contemplatione divina et futurae beatitudinis, in tribulationibus gaudent."

[55] Ibid.: "Et quod est amplius, etiam inter corporis cruciatus huiusmodi gaudium invenitur, *sicut Tiburtius martyr, cum nudatis plantis super ardentes prunas incederet, dixit, videtur mihi quod super roseos flores incedam, in nomine Iesu Christi*.

contemplation to achieve this, he does not claim that it always will or that this is something within reach of the average person. Nor does he go as far as to say that failure to alleviate pain through contemplation amounts to a moral failure. The experience of pain and sorrow is not sinful, and he points to the examples of Job and even Jesus to underscore this point. Some pain is unbearable and has the potential to stall any pursuit of meaningful activity. In Elaine Scarry's elegant description, "It is the intense pain that destroys a person's self and world, a destruction experienced spatially as either the contraction of the universe down to the immediate vicinity of the body or as the body swelling to fill the entire universe."[56] The question, then, is what we are to do when we cannot alleviate the experience of pain through our own efforts. As I stated in the introduction, the *ERD* direct the following: "Patients experiencing suffering that cannot be alleviated should be helped to appreciate the Christian understanding of redemptive suffering."[57] Ashley, deBlois, and O'Rourke suggest that "the Christian tradition holds that great spiritual good can come out of suffering when it is joined to the sufferings of Jesus."[58] Given the foregoing analysis, what is the meaning of "redemptive suffering"? What might it mean to "join" one's suffering to the sufferings of Jesus?

IV. Christ's Pain on the Cross and the Problem of Redemptive Suffering

The medieval Scholastics were endlessly fascinated by the topic of Christ's ability to experience bodily pain.[59] For many of them, to deny that Christ felt any pain at all was a heretical notion, since it suggested that he was not fully human. But to claim that he experienced pain in the exact same way that we

[56] Scarry, *The Body in Pain*, 35.

[57] *ERD*, 61.

[58] Ashley, deBlois, and O'Rourke, *Health Care Ethics*, 198.

[59] See Donna Trembinski, "[*Pro*]*Passio Doloris*: Early Dominican Conceptions of Christ's Physical Pain," *The Journal of Ecclesiastical History* 59 (2008): 630-56.

do might imply that he was not free from sin, since pain belongs to the curse of humanity's fall described in Genesis 3. I cannot adequately summarize the medieval debate here, but I want to note that this is a serious theological problem and one that reached its zenith in the high Middle Ages.[60] For readers who may find such questions obscure, trivial, or antiquated, I suggest that these questions continue to haunt the human imagination to the present day. Another way of framing the debate is this: Is it right to say that Christ's suffering lay solely in his abandonment by his Father, echoed in the cry, "My God, my God, why have you forsaken me?" (Matt 27:46, echoing Ps 22:1)? Or was his suffering primarily physical in nature? What is the theological significance of his bodily pain? Was the pain he experienced the same, or more or less severe than if the same physical torture had been enacted on another human being? These questions continue to have moral significance, insofar as contemporary ethicists debate the relevance of Christ's suffering on the cross and the possibility of redemptive suffering for those who experience severe and chronic pain. If we are to have any idea what we mean when say that a person's suffering can be joined to Christ's suffering, we must have some grasp of what we mean by "Christ's suffering."

Aquinas, in solidarity with many Christian thinkers throughout the centuries, maintained that Christ was fully human and therefore experienced the human passion of pain.[61] Although humanity lost its original integrity after the Fall, the Son of God took on precisely this humanity, even as it exists in

[60] For a useful overview of the medieval debate, see Kevin Madigan, *The Passions of Christ in High-Medieval Thought: An Essay on Christological Development* (New York: Oxford University Press, 2007); Paul Gondreau, *The Passions of Christ's Soul in the Theology of St. Thomas Aquinas* (Scranton, Penn.: University of Scranton Press, 2002) provides a more faithful representation of Aquinas's thought, however, and while its focus is narrower, it serves in some ways as a corrective to Madigan's volume.

[61] Aquinas explicitly states that Christ experienced bodily pain (*dolor*) and sorrow (*tristitia*) in *STh* III, q. 15, a. 5 and q. 15, a. 6, respectively.

its postlapsarian condition.[62] The humanity that Christ voluntarily took on had what the Scholastics called the "assumed defects," and these were aspects of his human nature.[63] Aquinas's belief that Christ experienced physical pain sits in tension with his belief that Christ also experienced the beatific vision throughout his entire life, from the moment of his conception.[64] One may point out that, according to Aquinas, contemplation of divine truths overflows from the upper powers of the soul into the lower powers of the sensitive appetite, such that sensible pain is mitigated.[65] If Christ experienced the beatific vision—the very source of truth itself—throughout his earthly life, it seems impossible that he should have experienced sensible pain. Aquinas addresses this point:

> By the power of Christ's divinity, his beatitude was contained in his soul so that it would not overflow into his body; otherwise, his passibility and mortality would be abolished. For the same reason, the delight of contemplation was kept in his mind so that it would not overflow into the sensitive powers; otherwise, sensible pain would not have been possible.[66]

[62] Interpreters of Aquinas have not payed adequate attention to the different ways in which passions exist and operate within the various states of humanity (prelapsarian, postlapsarian, and final beatitude). I address this problem in "The Passions of Christ in the Moral Theology of Thomas Aquinas: An Integrative Account," *New Blackfriars* 99 (2018): 458-80.

[63] *STh* III, qq. 14 and 15.

[64] *STh* III, q. 9, a. 2.

[65] This idea can be found in many places before and after Aquinas. In the fifteenth century, Julian of Norwich would write, "And if we were in all the pain that heart can think and tongue can tell, if we could at that time see His fair, blessed face, all this pain would not bother us. Thus is this blessed sight the end of all manner of pain to the loving soul, and the fulfillment of all manner of joy and bliss" (*Revelation* 72 [*The Complete Julian of Norwich*, ed. Fr. John-Julian, O.J.N. (Brewster, Mass.: Paraclete Press, 2009), 333]).

[66] *STh* III, q. 15, a. 5, ad 3: "Ad tertium dicendum quod, sicut supra dictum est, virtute divinitatis Christi dispensative sic beatitudo in anima continebatur quod non derivabatur ad corpus, ut eius passibilitas et mortalitas tolleretur. Et, eadem ratione, delectatio contemplationis sic continebatur in mente quod non derivabatur ad vires sensibiles, ut per hoc dolor sensibilis excluderetur."

While Aquinas wants to acknowledge that Christ was not like us—for how could he be, if he is God incarnate?—he also wants to acknowledge that he was very much like us, in that he experienced the full range of bodily passions, not least of which was pain.

Aquinas's claims about Christ's bodily pain did not stop there, however. In contrast to many of his Cistercian and Franciscan contemporaries, Aquinas (along with other Dominican theologians, including Albert the Great) claimed that the pain Christ experienced on the cross was the worst pain any human being has ever experienced.[67] This claim pertains not just to the psychological suffering that accompanied his bodily pain, but to the bodily pain itself. This is not only due to the severity of his treatment by the Romans. Aquinas cites, among other reasons, the fact that Christ had the most perfect human constitution and therefore had the most acute sense of touch. The bodily pain he felt was more severe than that which any other human would experience while undergoing the same physical torture. As Donna Trembinski explains, the Dominicans were not only trying to combat the "Manicheans" (or Cathars) who denied Christ's humanity, they were also reacting against emerging trends in orthodox expressions of piety:

> In the thirteenth century new modes of affective devotion to God were developing that focused upon how an individual's experience of suffering could bring one closer to God through the process of *imitatio Christi*. In the twelfth century Bernard of Clairvaux had taught that one could approach God through humility and that contemplation of Christ's suffering humanity was more helpful to the laity than devotion to the divinity of the Godhead. In the first decades of the thirteenth century Francis of Assisi suffered captivity and illnesses, culminating in his experience of the stigmata, all of which allowed him a feeling of unprecedented closeness to God. Other pious people soon followed in the footsteps of these pioneers, using bodily suffering to approach and experience an affinity with God in a new way.[68]

[67] *STh* III, q. 46, a. 6.

[68] Trembinski, "[*Pro*]*Passio Doloris*," 653.

For a Dominican like Aquinas, pain (like any of the passions) can be made use of virtuously and spiritual benefits may be reaped therefrom. But it does not provide any direct, mystical access to holiness via the suffering of Christ. To assume as much would veer too close to the error of Pelagianism, or a belief that we can earn our salvation through our suffering in the same way Christ earned favor with God through his. We find this message also in Dominican narratives and Dominican art, which "seem to suggest that Christ's suffering can be witnessed but never experienced."[69] Whatever it might mean for us to participate in Christ's suffering, it does not mean that we fully endure what he endured, or that our suffering can merit what his has merited.

In the entry for "Pain" in the *New Catholic Encyclopedia*, Maria Teresa Russo writes,

> While remaining a mystery, pain is one of the ways through which Christ has shown his radical love for man. It also becomes an appeal to every suffering person to somehow integrate themselves into this love. Through this perspective, pain acquires a richness of meaning as something that was accepted by the Son of God when he chose to share in the fullness of human existence.[70]

Of course, the difficulty lies in articulating what it means to "somehow integrate" oneself into Christ's love and, more specifically, his pain. In his apostolic letter *Salvifici doloris*, Pope John Paul II utilizes a robust grammar of redemptive suffering and participation, but even his account seems to suggest that it is Christ's suffering that gives new meaning to all human suffering. Commenting on the New Testament's perspective on suffering, he writes,

> The very participation in Christ's suffering finds, in these apostolic expressions, as it were a twofold dimension. If one becomes a sharer in the

[69] Ibid., 655.

[70] Maria Teresa Russo, s.v. "Pain," *New Catholic Encyclopedia Supplement 2012-2013: Ethics and Philosophy*, ed. Robert L. Fastiggi (Farmington Hills, Mich.: Gale, 2013), 1118.

sufferings of Christ, this happens because Christ has opened his suffering to man, because he himself in his redemptive suffering has become, in a certain sense, a sharer in all human sufferings. Man, discovering through faith the redemptive suffering of Christ, also discovers in it his own sufferings; he rediscovers them, through faith, enriched with a new content and new meaning.[71]

On this account, it seems that one's own pain or suffering does not efficaciously lead to redemption, at least not in the same way we would describe the work of the sacraments. Rather, the power of suffering is only to be found in one's recognition of its meaning, set within in the grand scheme of God's redemptive plan for humanity, which has been made available to all human beings.

In response to the recommendations of the *ERD* and contemporary Catholic health-care ethicists, Aquinas would likely suggest that we can join our suffering to Christ's by contemplating his unique sacrifice. Our pain may be conducive to this effort, insofar as it allows us to relate (in some small measure) to the pain that Christ endured on our behalf. But then again, it might not. Our pain may be too severe, too distracting, to allow for such contemplation. In such cases, medicating the pain may be the route that is more conducive to virtue.[72] This remains true even in some cases where medication results in unconsciousness. If we remember that pain has no value in itself, then we can also recognize that there may be situations where pain is so severe that the only good left to pursue is the elimination of that pain. As Gilbert Meilaender writes,

Remembering that one of the goals of medicine is relief of suffering, I believe that sedation to unconsciousness for such a patient, even if rarely needed, can be good medical practice. In such straitened circumstances there is no need

[71] John Paul II, *Salvifici doloris*, 20.

[72] For some clear and helpful Thomistic guidelines for the clinical treatment of pain, especially in the context of palliative care, see Jason T. Eberl, *Thomistic Principles and Bioethics* (New York: Routledge, 2006), 104-11.

for, and little to be gained from, attempting to distinguish an intention to palliate symptoms (with the foreseen effect of unconsciousness) from an intention to produce unconsciousness.[73]

If this is the route we choose to take, then we should be honest about what we are doing and what we are trying to accomplish.

Of course, even if we are able to alleviate our pain (*dolor*), this does not always protect us from the possibility of sorrow (*tristitia*). The cancer patient who is able to mitigate physical pain through powerful painkilling drugs will still feel the profound sadness of a diminished life. This is why I can concur with Ashley, deBlois, and O'Rourke when they say, "The opportunity to use suffering as a means of spiritual growth is not destroyed if pain-killing drugs are used."[74] Christians who take medication for pain are not somehow circumventing a spiritual process. Those with unbearable pain know that it can be an obstacle to their relationship with God and preclude any meditation of divine truths. While the choice to take pain medication should not be treated flippantly, it is often the virtuous choice.

CONCLUSION

I have certainly not adequately addressed all the questions raised in this article. Nevertheless, I believe there are three observations we can take away from the preceding analysis.

First, medicating pain is always a moral choice. There is no morally neutral choice to medicate or not medicate one's pain, and this is true whether one chooses to take an ibuprofen tablet, to refuse a morphine injection, or to receive an epidural. Our decision to use pain medication ought to be informed by our understanding of what it means to live virtuously, and, as Aquinas reminds us, for Christians this means that all of our actions are oriented toward the contemplation of divine truth.

[73] Gilbert Meilaender, *Bioethics and the Character of Human Life: Essays and Reflections* (Eugene, Ore.: Cascade, 2020), 128.

[74] Ashley, deBlois, and O'Rourke, *Health Care Ethics*, 198.

In any given instance, there is no obvious answer to the question, "Should we medicate this pain?" Other virtues, namely prudence and especially charity, will guide this decision.

Second, the suffering we experience in pain is not privileged. In the vast majority of cases, the bodily pain we experience—chronic, acute, or otherwise—should not be mistaken for stigmata. While it is possible for pain to draw us closer to God (and perhaps even analogously to "participate" in the sufferings of Christ),[75] it is equally possible for pain to serve as an obstacle—an obstacle to the contemplation that is necessary for those seeking to live a virtuous life or die a virtuous death. It is true that Christianity has a long tradition of using this participation language to describe the relationship between personal suffering and the suffering of Christ.[76] I do not deny that God can use a person's pain in a mystical way and imbue it with spiritual significance that transcends intellectual scrutiny. I simply do not think that this is the language that we should use when providing normative or pastoral guidance to those who suffer from pain. The question at stake here, helpfully articulated by Nicholas Wolterstorff, has to do with the possibility of any *inherent* (i.e., noninstrumental) meaning in pain:

> One finds cases in the Christian tradition in which a person describes herself as in her pain participating—in a way I do not profess to understand—in

[75] In Col 1:24, St. Paul writes, "I am now rejoicing in my sufferings for your sake, and in my flesh I am completing what is lacking in Christ's afflictions for the sake of his body, that is, the church" (NRSV). Aquinas notes that there are several ways to read this text, including the heretical interpretation that Christ's passion was not sufficient for our redemption. Among the plausible interpretations he commends is the idea that the suffering of the saints and martyrs contributes a (God-ordained) portion to the share of merit that has been allotted to the Church, of which Christ is the head and whose merits are infinite. See *Super Epistolas S. Pauli lectura*, vol. 2, *Super Epistolam ad Colossenses lectura*, ed. Raphael Cai (Turin: Marietti, 1953), 61.

[76] For an account of the origins of this tradition, see Judith Perkins, *The Suffering Self: Pain and Narrative Representation in Early Christianity* (New York: Routledge, 1995); On medieval developments of this tradition, see Esther Cohen, *The Modulated Scream: Pain in Late Medieval Culture* (Chicago: University of Chicago Press, 2010).

> Christ's pain. One finds hints of this way of experiencing pain already in the New Testament writings of St. Paul; it is also how the martyrs sometimes spoke. . . . For what is excellent in such cases is neither the virtuous way in which the sufferer endures the pain nor the excellence of character that the pain yields.[77]

Perhaps what we need is further theological and philosophical exploration into the meaning of this "participation" in Christ's suffering.

Finally, while I am well aware that I have not offered a philosophical argument for the claim that pain should be understood as a passion of the soul (which requires belief in a rational soul, as well as other philosophical commitments), I have at least suggested reasons why Christians ought to hold this belief. One important upshot of this belief is that if pain is a passion of the soul then it cannot also be a vital sign.[78] In other words, it is not simply the case that we have historically been unable to quantify pain. Rather, we will never be able to quantify pain because it is not the sort of thing that can be quantified. It does not belong to the same genus as body temperature, pulse, respiration rate, and blood pressure. If pain is a passion, then by definition it is the subject of the moral virtues. This means that there is such a thing as virtuous pain management. To assert that pain is a vital sign is to undermine the idea of virtuous pain management, because it presupposes that pain is an objective bodily measurement that ought to be

[77] Nicholas Wolterstorff, "The Place of Pain in the Space of Good and Evil," in Coakley and Shelemay, eds., *Pain and Its Transformations*, 418.

[78] Vital signs are objective measurements of the body's most basic functions. In contemporary medicine, the four primary measurements are body temperature, blood pressure, pulse, and breathing rate. Others, including pain, have been suggested as additional vital signs, but these remain contested. See the Joint Commission's document, "Pain Assessment and Management Standard for Joint Commission Accredited Health Care Organizations," found at https://www.jointcommission.org/-/media/tjc/documents/corporate-communication/pain-management-standards-and-responses-to-myths-final-feb-2020.pdf. For a fascinating exploration of recent developments in pain studies (away from pain as the fifth vital sign), see Alix Spiegel and Hanna Rosin, "The Fifth Vital Sign: Invisibilia: NPR," Season 5, accessed August 15, 2021; https://www.npr.org/2019/03/06/700743108/the-fifth-vital-sign.

regulated by quantifiable norms. By resisting this idea, Christians bear witness to the biblical pattern of creation, fall, and redemption, insofar as they acknowledge that bodily pain is a postlapsarian response to the body's corruption. Christians believe that the four human vital signs recognized in contemporary medicine would exist even if humanity had never fallen; not so for pain. Pain is a passion, and in this "vale of tears" pain (*dolor*) and sorrow (*tristitia*) will always be part of what it means to be human.[79]

[79] I am grateful to Jason Eberl, Gerald McKenny, Gilbert Meilaender, Jean Porter, and Eleonore Stump for their helpful comments and suggestions on an earlier draft of this article. I also wish to thank my colleagues at Aquinas Institute of Theology, the graduate students in the Saint Louis University philosophy department, and members of the Society of Christian Ethics who were present for various talks related to this article. Their insightful comments and questions helped me sharpen my thinking. Additional improvements to the text were made in light of the suggestions provided by Fr. Andrew Hofer, O.P., and an anonymous reviewer for the *Thomist*. Any mistakes or deficiencies that remain are, of course, my own.

The Thomist 86 (2022): 119-37

THE PRINCIPLE *OPERARI SEQUITUR ESSE* IN KAROL WOJTYŁA'S STUDY OF PERSON AND ACT

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KAROL WOJTYŁA drew deep and far-reaching conclusions from the Scholastic principle that acting follows upon being (*operari*/*agere sequitur esse*). If one does not consider this principle, the idea underlying his most important work, *Person and Act*, is incomprehensible and even meaningless, yet it was omitted in the English translation of this study.[1] This article demonstrates how Wojtyła interpreted this principle and used it to explain the relationship between the person and his action.

Referring to the thought of St. Thomas Aquinas, Wojtyła treats action as a manifestation of a subject's dynamism and as secondary to the act of existence. The analysis of an act as a

[1] Małgorzata Jałocho-Palicka, "Thomas Aquinas' Philosophy of Being as the Basis for Wojtyła's Concept and Cognition of Human Person," *Studia Gilsoniana* 3(2014), 127-29, shows that the 1979 English translation of this work (*The Acting Person*, ed. Anna-Teresa Tymieniecka, trans. Andrzej Potocki [Boston: D. Reidel, 1979]), in contrast to the original, makes no reference to either the *OSE* principle or the Thomistic understanding of *esse*. As a result, the English-speaking reader can only guess that the study somehow refers to this principle, while in fact Wojtyła uses and interprets. This translation error is avoided in the most recent translation (Karol Wojtyła, *Person and Act and Related Essays*, trans. Gregory Ignatik [Washington, D.C.: The Catholic University of America Press, 2021]) and the more recent analyses of Wojtyła's thought; see Miguel Acosta and Adrian J. Reimers, *Karol Wojtyła's Personalist Philosophy: Understanding Person & Act*, (Washington, D.C.: The Catholic University of America Press, 2016), 139 and 225. However, this demonstrates that it is necessary to conduct further analyses of this aspect of Wojtyła's thought.

proper human action based on this relation allows him to reveal the nature and the manner of the existence of man as a personal being.[2] His considerations are an exemplification of the validity of this principle; at the same time, they offer its theoretical explanation and justification.

I. THOMISTIC FOUNDATIONS

Aquinas frequently refers to the Scholastic formula *operari/agere sequitur (ad) esse* (*OSE*).[3] In his work this formula

[2] That is why the claim that Wojtyła modifies classical metaphysical anthropology, which moves from being to act, and replaces it with new anthropology that moves from act to being is imprecise (cf. Juan M. Burgos, "The Method of Karol Wojtyła: A Way between Phenomenology, Personalism and Methaphysics," in *Phenomenology and Existentialism in the Twentieth Century*, ed. Anna-Teresa Tymieniecka [Dordrecht: Springer, 2009], 2:109). In Wojtyła's study, the basis for analysis is the ontic relationship between the person and an act, which is indicated by metaphysics. Knowing the person through his acts is justified if we assume that a being's action is an expression and manifestation of its existence. Thomistic anthropology moves from the subject (substance) to his acts (actions) in its presentation of man, while in the cognitive aspect it analyzes acts in order to define the nature of the subject. Wojtyła focuses on cognitive analyses, but he refers to both these aspects. He uses the tools developed in phenomenology precisely to grasp and describe the relationship between the moral action (act) and the person as its subject, given in the first-person experience. The problem of the relationship between Thomism and phenomenology in Wojtyła's thought is addressed in numerous works, including Jerzy W. Gałkowski, "The Place of Thomism in the Anthropology of K. Wojtyła," *Angelicum* 65 (1988): 181-94; Jameson Taylor, "Beyond Nature: Karol Wojtyła's Development of the Traditional Definition of Personhood," *The Review of Metaphysics* 63 (2009): 415-54; Edward Barrett, *Persons and Liberal Democracy: The Ethical and Political Thought of Karol Wojtyła/Pope John Paul II*, (Lanham, Md.: Lexington Books, 2010).

[3] Aquinas's understanding of the *OSE* principle has not yet been systematically analyzed. However, many authors make reference to it. It is explicitly mentioned by Karol Wojtyła himself in the article "The Person: Subject and Community," *The Review of Metaphysics* 33 (1979): 273-308. Jameson Taylor ("Beyond Nature") indicates Wojtyła's Thomistic understanding of this principle. The principle is also used to analyze various problems: John Haldane, "Some Metaphysical Presuppositions of Agency. *Agere sequitur esse*: Acting follows upon being," *The Heythrop Journal* 35 (1994): 296-314; John F. Crosby, *The Selfhood of the Human Person* (Washington, D.C.: The Catholic University of America Press, 1996), 260; John Laird, "Act-Ethics and Agent-Ethics," *Mind* n.s. 55 (1946): 113-32; John Haldane, *The Philosophies of*

takes the form of reasoning that leads to the primacy of existence over action ("existence precedes action by nature").[4] If a being acts and accomplishes the acts proper to it, this means that this being exists. Although Aquinas does not reflect on this relationship in a systematic manner, he repeatedly refers to it, under various formulations, when discussing a variety of issues.[5] Some of these statements, such as "to act is the result of a being which is in act,"[6] "a thing operates in accordance with its nature [*quod est*],"[7] "for nothing can operate but what is actual,"[8] can be reduced to a basic Scholastic formula. Therefore, the relationship between action and existence, which Aquinas treats in a restricted and schematic way, requires a more complex and precise analysis.

For Aquinas, existence and action are not abstract concepts but facts related to each other and given in everyday experience. That is why he always puts them in the context of a particular being ("act belongs to that which exists").[9] They are this being's different acts (perfections). Existence is a being's act taken as a whole, whereas action is the realization of one of its potencies.

Mind and Nature, in *Recovering Nature: Essays in Natural Philosophy, Ethics, and Metaphysics in Honor of Ralph McInerny*, ed. Thomas Hibbs and John O'Callaghan (Notre Dame, Ind.: University of Notre Dame Press, 1999), 37-51; J. Thomas Petri, "Altered Nuclear Transfer, Gift, and Mystery: An Aristotelian-Thomistic Response to David L. Schindler," *The National Catholic Bioethics Quarterly* 7 (2007): 729-47; Carlos A. Casanova and Ignacio Serrano Del Pozo, "An Assessment of the Being and Operation of Mary's Marriage, *The Thomist* 83 (2019): 31-55.

[4] *STh* III q. 34, a. 2, ad 1. All quotations from the *Summa theologica* are taken from *Summa Theologica*, trans. the Fathers of the English Dominican Province (New York: Benziger Brothers, 1947).

[5] Aquinas's concept of the relationship between existence and action is not limited to single statements but is inscribed in all of his metaphysics and anthropology; however, this cannot be discussed here more fully.

[6] *ScG* III, c. 69. All quotations from the *Summa contra gentiles*, book 3, are taken from *Summa contra gentiles*, book 3, trans. Vernon J. Bourke (New York: Doubleday & Company, 1956).

[7] *Q. D. De Anima*, a. 14. All quotations from the disputed question *De anima* are taken from *The Soul*, trans. J. P. Rowan (St. Louis: B. Herder, 1949).

[8] *STh* I, q. 75, a. 2.

[9] *ScG* II, c. 50. All quotations from the *Summa contra gentiles*, book 2 are taken from *Summa contra gentiles*, book 2, trans. James F. Anderson (New York: Doubleday & Company, 1956).

Aquinas understands action as the emanation of an existing being which, through the emergence of a particular act, becomes the cause of something. This being as a substantial subject acts through its potencies (powers), which are its accidents.[10] Accidents exist or act not independently, but only to the extent that their subject exists. Therefore, acting is attributed to a subject and not to its accidents ("acting belongs not to accidents but to subjects").[11]

According to Aquinas, every being acts in the manner proper to it, accomplishing its acts through its nature ("the proper operation of a thing depends on its nature").[12] Nature understood in this way is the very essence of a being insofar as it is the source of a determined (specific) action. Nature allows a being to act in a particular manner and defines the limits of this action. At the same time, it also indicates a given being's membership in a particular species (e.g., a human being), and determines the place this being occupies among other beings. Therefore, it can be reasonably claimed that an individual being (e.g., John) acts thanks to his species affiliation (mankind; "nothing acts except in keeping with its species"),[13] and it is not possible for him to go beyond what is proper to his species ("nothing acts outside its species").[14] Particular characteristics of action—being mediated by nature and species affiliation—allow the subject of this action to be identified. According to Aquinas, the substantial form is the factor responsible for determining a being's essence, nature, and species affiliation. This form is the cause of the existence of a being and its acting. Therefore, he explicitly states that a particular being acts through its form ("every agent acts through its form").[15] As a result, as John

[10] See *STh* I, q. 77, a. 1, ad 3 and 4.

[11] III *Sent*., d. 28, q. 1, a. 1 (translation from *Commentary on Sentences* in the Aquinas Institute's "Aquinas *Opera Omnia*" project [https://aquinas.cc/la/en/~Sent.III.D28.A1.C.2], accessed 8/3/2020). In *Q. D. De Anima*, a. 14, he expresses it as follows: "things that exist of themselves have an operation of their own."

[12] *ScG* III, c. 84.

[13] *ScG* II, c. 49.

[14] *STh* III, q. 79, a. 2, obj. 3.

[15] *STh* I, q. 42, a. 1, ad 1.

Wippel observes, both acting and its results bear some similarity to the form of the acting being.[16]

Aquinas uses the Aristotelian theory of act and potency and the relationship between existence and action to formulate a comprehensive concept of our cognition of human beings. A being acts through powers which are directed at their proper objects.[17] These powers as potencies are accidents of the soul which is their source and act. "The soul by its very essence is an act."[18] Since the act and the potency belong to the same category of being, analysis of the nature of the objects toward which the particular acts of a substance are directed allows the nature of these acts to be determined. By analyzing the nature of acts, it is possible to know the nature of the powers emanate them. These powers indicate their proportional subject-substance. Thus, from the fact that the objects of mental acts are immaterial, Aquinas concludes that the essence of the soul is spiritual.[19]

II. The Way of Interpretation of the *OSE* Principle

The relationship between human action and its subject occupies a central position in Wojtyła's analyses. This relationship results from the metaphysical grounding of man. Therefore, a correct analysis of it requires taking into account the basic principles of being that are indicated in Thomistic metaphysics. According to Wojtyła, the principle of primacy of existence over action plays a fundamental role. "The first,

[16] See John F. Wippel, *Metaphysical Themes in Thomas Aquinas II* (Washington, D.C.: The Catholic University of America Press 2007), 171; cf. *STh* I, q. 4, a. 3.

[17] "A power as such is spoken of in relation to an act. Hence a power must be defined by its act, and powers in turn distinguished from one another inasmuch as their acts are different. Now acts derive their species from their objects" (*Q. D. De Anima*, a. 13).

[18] *STh* I, q. 77, a. 1.

[19] See *STh* I, q. 75, a. 2. Wojtyła develops this issue in his earlier work: *Considerations on the Essence of Man* [*Rozważania o istocie człowieka*], trans. John Grondelski (Lublin: Polskie Towarzystwo Tomasza z Akwinu, 2016). In order to define nature and the way in which man exists as a subject, Wojtyła in *Person and Act* examines the act in detail as one of the most important manifestations of human activity.

elementary understanding of the relationship that occurs between action and the acting subject is expressed in . . . the phrase 'operari sequitur esse'."[20] He quotes this Scholastic principle several times,[21] and not in order to state the obvious or to give a more erudite character to his reflections. It primarily plays an explanatory role: from the metaphysical perspective, it explains the relationship between the person and his act. It thus makes possible Wojtyła's detailed analyses, and justifies them. The *OSE* principle is an indispensable interpretative key for understanding the study of the person and his act.

According to Wojtyła, the classical *OSE* principle should be understood as a relationship of a metaphysical nature that can be interpreted in an existential or essential way. It is an expression of the ontic ("existential") relationship between action and existence in the sense that "in order to act, it is first necessary to exist."[22] The fact that existence precedes and, in a certain way, determines action is obvious to Wojtyła, but it needs further clarification. Man as subject is the keystone of existence and action, both of which have a certain independence. Existence is not the same as action. Wojtyła emphasizes the actual nonidentity of the existence and action of the same being (man), and opposes treating action as a simple extension of existence. Existence is not action, but action is not existence either. Action, if it takes place, has a certain existence which "flows from and is subsequent to the existence of man; it is its consequence or effect."[23] Due to its accidental character, this action is not necessary for existence.

[20] Karol Wojtyła, *Osoba i czyn oraz inne studia antropologiczne* [*Person and Act and Other Anthropological Studies*] (Lublin: Towarzystwo Naukowe KUL, 2011), 130. All translations from this work are my own.

[21] Wojtyła directly refers to the *OSE* principle in the first edition of *Osoba i czyn [Person and Act]* (Krakow: Polskie Towarzystwo Teologiczne, 1969), 75, 85, 86, 157. In the English edition the phrase was simply translated, without any indication that it is a Scholastic principle, or that Wojtyła regards it precisely as such.

[22] Wojtyła, *The Acting Person*, 82.

[23] Ibid. Cf. *Osoba i czyn [Person and Act]*, 130: "The existence of acting is ordered and, at the same time, subordinated to the existence of man in an accidental manner, as accidens."

Wojtyła develops his concept of the person and his act within the framework of existential Thomism, which claims the primacy of existence as the act of being over its essence. He seems to make a deliberate effort to show that the *OSE* principle takes into account both the existential and the essential aspects of the relation between existence and action. The existential perspective allows the conclusion that existence and action are interdependent, but it does not show what this relationship consists of and what ultimately results from it. Thus, it seems necessary to interpret the *OSE* principle in the "order of essence." Here the relationship between an existing subject and its action comes to the fore. "Our principal phrase 'operari sequitur esse' . . . allows us to perceive and establish the relationship that occurs between action and the acting subject."[24] The change in the perspective of analysis from existential to essential shifts attention from existence to its subject because existence is always the existence of someone. This reveals a far-reaching similarity between the subject as the source of action and this action itself. For Wojtyła, the word "sequitur," which he understands as "coherence," is the expression of this similarity between the acting person and action in the *OSE* principle. He does not specify its meaning but rather observes that it is expressed in nature, which links the subject to its dynamism and expresses their mutual dependence. This coherence seems to have been aptly captured by Robert Spaemann in his explanation of the *OSE* principle: "Any entity in nature displays what it is by what it does, by its manner of expressing itself."[25] Coherence here implies not only a relationship but also a kind of relevance and similarity between the acting subject and his action. Thanks to this similarity, the acting subject manifests himself through his action, and the action indicates what or who the acting subject is. Therefore,

[24] Wojtyła, *Osoba i czyn [Person and Act]*, 131. Cf. *The Acting Person*, 82-83: "The existential relation between action and being with we are here concerned allows us . . . brings to light the relation between the acting process and the acting subject."

[25] Robert Spaemann, *Persons: The Difference between 'Someone' and 'Something'*, trans. Oliver O'Donovan (Oxford: Oxford University Press, 2017), 12.

the peculiar interconnection between an act and the person cannot be understood in isolation from the *OSE* principle.

From Wojtyła's interpretation of the *OSE* principle, it follows that the proper way to know the person is through his act. Some accused Wojtyła of proclaiming the primacy of action over the subject of this action (person). Defending himself against this accusation, he states that the concept of the transcendence of the person in his act protects his study from such an interpretation and adds that

> on the basis of this primacy we can see the basis for affirming the personal act of existence at the root of all the dynamisms of the person, thus, above all, of this strictly personal dynamism, which is the very act.[26]

He is, therefore, consistent in his claim that the relationship between the person and an act is closely related to the relationship between the orders of existence and action of that person as a subject. He is also consistent in his claim that action is secondary to existence because existence (*esse*) is the source of "all the dynamisms of the person."

III. Act Belongs to That Which Exists

For Wojtyła, man is a dynamic being, and as such moves in his subjective existence from potential states (potencies) to actual (perfecting) states. This relative (because it assumes a specific nature of the subject) actualization is called "becoming" (*fieri*). Man's dynamism is expressed in experiencing both what is happening in man (*pati*, "happening") and what man is doing (*agere*, "act").[27] He experiences himself as the subject of what is

[26] Karol Wojtyła, "Słowo końcowe [The Final Word]," *Analecta Cracoviensia* 5 (1973): 257.

[27] The division of dynamism into what is happening in man and what man is doing proposed by Wojtyła corresponds to Aquinas' distinction between a human action (*actus humanus*) and an act of a human being (*actus hominis*). It is not, however, identical with Aristotle's distinction between action and sensation, although Wojtyła consciously terms them *agere* and *pati*, (which is omitted in the English translation of *The Acting Person*). However, he needs Aristotle's distinction to show that these are dynamisms in some

happening in him and as the cause of what he does. In experiencing what is happening in him, man expresses himself as a subject; when he acts, he experiences his own agency. Both these experiences (being a subject and being an agent) are grounded in ontic subjectivity (*suppositum*).

> It is in the subject as a being that every dynamic structure is rooted, every acting and happening. It is given as real, actually existing, being, the man-being that actually exists and hence also "really" acts.[28]

It is this ontic subjectivity (strong) and not mental subjectivity (weak) that Wojtyła has in mind when he points to the subject of existence and action and analyzes the relationships between them.[29] The same subject exists and acts, but the subject is different from his acts, namely, existence and action. In order to explain correctly the relationship between these acts, Wojtyła refers explicitly to Aquinas, according to whom

> Existence . . . is the first act [*actus*] of every being, that is the first and fundamental factor establishing its dynamism. The whole dynamism that consists in action and in the becoming that takes place in a dynamic subject is secondary to that dynamism: "operari sequitur esse."[30]

Thus, Wojtyła treats existence as an act that is the basic and primary source of the whole dynamism of human existence, while he treats action as an act-dynamism that derives from it.

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respects opposing but at the same time mutually conditioning and complementing each other in others, precisely as action and sensation. Thus what man is doing is an active dynamism, while what is happening in man is a passive dynamism. See Wojtyła, *The Acting Person*, 61-62.

[28] Ibid., 72.

[29] See Acosta and Reimers, *Karol Wojtyła's Personalist Philosophy*, 138-39. For more on Wojtyła's understanding of subjectivity as *suppositum*, see Grzegorz Hołub, "Karol Wojtyła on the Metaphysics of the Person," *Logos i ethos* 39 (2015): 97-115; http://dx.doi.org/10.15633/lie.1538, accessed Jan. 22, 2020.

[30] Wojtyła, *Osoba i czyn [Person and Act]*, 122. Cf. *The Acting Person*, 73: "Coming into existence may, indeed, be seen as the first act of every being, that is, the first and fundamental factor establishing its dynamism. The entire dynamism of man's functioning which consists in the acting of, and happening in, the dynamic subject simultaneously proceeds from (but also enacts) the initial dynamism due to which a being exists at all."

Like Aquinas, he thinks that from the genetic perspective the existence of the subject precedes its action.[31]

In the analysis of the relationship between existence and action proposed by Wojtyła, the subject plays a key role. Existence is always somebody's and action is always somebody's, so they belong to some subject. The subject binds the ontic relationship of these realities and is an indispensable element in explaining them. The source of subjective dynamism lies in existence. Existence makes a particular being a "dynamic subject." "The dynamism that comes from existence, from *esse*, entails the dynamism proper to an *operari*."[32] At the same time, this whole dynamism is actualized in the subject, because "on the ground of human suppositum" takes place a "synthesis of acting and happening."[33] For Wojtyła, an act is a special form of dynamism: it is an action whose subject and autonomous agent are simultaneously an individual human being. This kind of action indicates that the human subject is unique, is the person. For Wojtyła, it is obvious that, since man is the person, his existence is personal, and not only individual; similarly, human dynamism—actions and becomings—are also personal.[34] Consequently, human dynamism, especially the dynamism in which agency is revealed, is for him a manifestation of the personal subject.

IV. Things That Exist of Themselves Have an Operation of Their Own

According to Wojtyła, "the manifestation and actualization of the dynamism proper to man" is the experience of "I may but I need not."[35] Against the background of the experience of the subjective potency of action ("I can") and, at the same time, a

[31] See Wojtyła, *Osoba i czyn [Person and Act]*, 122.

[32] Ibid. 24. Cf. *The Acting Person*, 75: "The dynamism derived from the actual existence has its consequence the dynamism pertaining to activity."

[33] Wojtyła, *Osoba i czyn [Person and Act]*, 124.

[34] See ibid., 123.

[35] Wojtyła, *The Acting Person*, 100.

lack of external obligation ("I don't have to"), the freedom of the human subject, whose act of wanting is the source of action, is revealed. Wanting manifests itself in the light of, on the one hand, what the subject can do and, on the other hand, what the subject does not have to do. Wojtyła explains this experience by referring to the theory of act and potency. He emphasizes that action as an act comes from potency which is proportional to it and which is "inherent and that ceaselessly pulsates in the subject, and which comes to the surface in one or the other form of the subject's dynamizations."[36] This subjective potency that is "allowing man to want" is the will.[37] The will is the power of wanting good and, at the same time, the power that chooses one good from among other goods. If, therefore, man wants something, he wants it through his will, and similarly he makes choices through his will, whereas he performs other acts with the help of potencies proportionate to them.[38]

The will as an accident, like other potencies, is ordered to the substantial subject; therefore, its acts are accomplished for the sake of the subject. And it is through the will that self-determination of the person takes place, which, according to Wojtyła, is the essence of freedom.[39] This is what he explicitly states in his later text based on *Person and Act*:

> Self-determination of the person is accomplished through acts of will as the central power of the human soul. . . . Self-determination is a property of the

[36] Ibid., 86.

[37] Ibid., 100.

[38] Specific action is accomplished by a specific power, but it is not the power that is the ultimate subject, as it does not have an independent existence. According to both Aquinas and Wojtyła, an action cannot be understood in isolation from the subject. The act of seeing can only be explained to some extent by the action of the eye as an organ and by the very power of sight that uses it. It is at most an explanation of the way of seeing but not of its cause. Ultimately, a given power, as an accident, finds its explanation in the substance in which it exists. The subject uses this power to accomplish a specific action.

[39] The study of the person and his act covers many categories that are necessary to discuss relationships between them, including self-determination, self-possession, self-control, the immanence of the person in an act, horizontal and vertical transcendence, morality, value, and freedom. It is not necessary, nor is it possible, to present them here.

person defined by the well-known sentence "rationalis naturae individua substantia," while this property realizes itself through the will which is power—an accident. Self-determination is the essence of human freedom. It is not restricted in man only to the dimension of accidents, but belongs to the substantial dimension of the person: it is the freedom of man and not only the freedom of the will in man—although undoubtedly it is the freedom of man through the will.[40]

This quotation demonstrates that Wojtyła is very keen to ensure that the actions of the will and acts of self-determination do not become ontically independent, and that they should be understood primarily in relation to the personal subject as a whole. Acting is an act of the person as a substantial subject and not as his accidents, and it is subordinated to the realization of the freedom of that subject which consists in self-determination. Self-determination cannot take place outside an act of the will, but only the person (not the will) can self-determine. Thus, Wojtyła supports Aquinas's concept according to which an action, although mediated by accidents, is an act of the substantial subject and can be properly understood and explained only in relation to it. At the same time, thanks to this relationship, "every action is an external manifestation of the person"[41] and thus the manifestation of the way in which he exists.

V. The Proper Operation of a Thing Depends on Its Nature

In Wojtyła's view, the relationship between existence and acting can be analyzed from the existential or the essential perspective. As was mentioned above, in the latter case the relationship between the action and the acting subject appears as the most important. This relationship is expressed by the word *sequitur,* "which states that there is a specific coherence between the action and the one who acts. This coherence cannot be expressed or understood in any other way than

[40] Karol Wojtyła, "Osobowa struktura samostanowienia [Personal Structure of Self-Determination]," in Wojtyła, *Osoba i czyn oraz inne studia antropologiczne*, 426.

[41] Wojtyła, *The Acting Person*, 114.

through nature."[42] It is nature that constitutes the link between the existing subject and his action. The nature of the subject is expressed in the action, and the analysis of the action makes it possible to define nature.

> Nature . . . is the basis of the essential cohesion of one who acts (though the acting agent need not be human) with his acting. To put in a more generally and more precisely, we may say nature provides the basis for the essential cohesion of the subject of dynamism with all the dynamism of the subject.[43]

Wojtyła does not explain why nature mediates between a subject and his action. Instead, he emphasizes that he is concerned with approaching nature as the source of all human action that is understood as "humanity." In his opinion, nature is the "basic property of the acting subject" and, following the Thomistic approach, it is identified with a dynamically understood humanity, which is treated as the source of the whole dynamism of this subject.[44] Nature determines the specificity of human action, thereby allowing it to be distinguished from the action of other beings. It permeates or rather expresses itself in the whole dynamism of man, making it the dynamism of man and not the dynamism of something else. It therefore encompasses both what is happening in the subject and the act in which the subjective agency is expressed and through which the subject self-determines.

The statement that man acts "through his nature" may give rise to the suspicion that nature is understood here mechanistically, as a tool. For Wojtyła, man's nature is "humanity," which is what gives man's action the character of human action. It is not something added to man, but the very essence of man who expresses himself in action. And since man cannot act as a

[42] Wojtyła, *Osoba i czyn [Person and Act]*, 131. Cf. ibid., 83: "The statement that the action is subsequent or follows existence it meant to indicate a specific cohesion of the acting process and the acting agent. This cohesion is impossible to express otherwise than by resorting to the conception of nature."

[43] Wojtyła, *The Acting Person*, 83.

[44] See ibid., 82.

human except within what he is (his essence), his actions are in some way defined by nature.

However, this should not be understood as a limitation of the person. Human nature is the proper way of manifesting what the person is by virtue of his existential status. Wojtyła explicitly states that humanity "permits" the concrete person to exist and act as a person; at the same time, it "does not permit" him to exist and act in ways other than as a person.[45] What nature "permits" and what it "does not permit" is not, however, a coercion that is imposed from without or from within. It is rather that which enables the person to be himself because it is not only human nature but also the "person himself who is human—that is 'of man'."[46]

Following Aquinas, Wojtyła emphasizes a particular relationship of the person to his nature. On the one hand, the human person, as a human being, possesses certain characteristics and acts in certain ways. Thanks to this, his nature reflects what is common to all persons by virtue of their belonging to the human species. On the other hand, this nature enables the person to perform acts thanks to which he constitutes himself as an autonomous subject of action. Thus, the rational nature of man reflects both what is general and proper to all men (as a species) and of what is individual and unique to him as a person. As a result,

> The person as such possesses, however, its own ontological structure, though one very different from others that surround the human being in the visible world. This difference, the proportion or rather disproportion that is indicated in the words "somebody" and "something," reaches to the very roots of the being that is the subject.[47]

It is precisely this conceptual distinction between "someone" and "something" that, according to Wojtyła, reflects a deep intuition of the human species' distinctiveness and uniqueness. Human action, due to its rational nature, is the action of

[45] Wojtyła, *Osoba i czyn [Person and Act]*, 132.
[46] Ibid., 133.
[47] Wojtyła, *The Acting Person*, 74.

someone, not something, and at the same time the person (someone) cannot act as a nonperson, that is, as something.

VI. The Contemporary Response

Wojtyła was aware that his study would be discussed mainly among Christian philosophers of the late 1960s in Poland, the majority of whom were Thomists. Therefore, he referred to the metaphysics and anthropology of Aquinas with particular care. Nevertheless, his work met with some reservations and even criticism.[48] This criticism could primarily have been associated with the novelty of his approach to the problem of man, in which he tried to complement classical anthropology with analyses of the first-person experience obtained through the application of the phenomenological method.[49] However, this criticism was moderate and focused on his departure from the Thomistic doctrine and on limiting his considerations only to ethics. The omission of aspects of human existence other than morality seemed to justify the rejection of the resulting anthropology. According to some authors, even if an act allows us to say something about the person, it is insufficient to build all anthropology on that basis.

Wojtyła did not intend to create a new anthropology that would replace the classical approach to man. Instead, using the tools provided by phenomenology, he wanted to deepen and broaden the classical understanding of human beings by adding to it an experiential aspect that was related to the first-person perspective. The analysis of an act was not intended to eliminate or replace analyses of other aspects of human existence or action. Instead, he believed that the study of the act, in

[48] The results of the discussion of several philosophers that took place at that time can be found in *Analecta Cracoviensia* 5 (1973).

[49] According to Rocco Buttiglione, in Wojtyła's study Thomistic anthropology plays the role of a "great fundamental hypothesis," which, at the same time, guides and is verified by phenomenological analyses: Rocco Buttiglione, "Kilka uwag o sposobie czytania *Osoby i czynu* [A Few Remarks on How to read *Person and Act*]," in Wojtyła, *Osoba i czyn oraz inne studia antropologiczne*, 15.

accordance with the *OSE* principle, allows one to grasp the specificity of human nature and the person as its subject. Therefore, his work goes beyond ethics and is of an anthropological nature.

In the discussion that took place in Wojtyła's intellectual milieu after the publication of *Person and Act*, the issue of anchoring his study in the *OSE* principle played a marginal role. It is indirectly mentioned by Krąpiec and Jaworski, among others, and only Styczeń refers to it directly. Interestingly, this problem is not addressed by Kamiński,[50] who investigates methodological issues. Perhaps they treat the relation between the person and his act as something obvious that does not require special attention. As a result, the main principle of Wojtyła's analyses, although noticed, has not been critically evaluated. Krąpiec states, for example, that the solution proposed by Wojtyła "can generally be reduced to the main claim: through the analysis of a human act to affirm the person as the subject of that act."[51] According to Jaworski, Wojtyła "undertakes an analysis of an act because, in his opinion, an act reveals the person."[52] Similarly, Styczeń claims that the person expresses himself and objectivizes himself in an act, so analysis of an act makes it possible to know the person indirectly as its subject and agent.

As noted, of the numerous thinkers who have discussed Wojtyła's concept, only Styczeń directly refers to the Scholastic *OSE* principle. In his opinion, Wojtyła's claim that the person is revealed through an act is one of many possibilities. An insight into the person may also be obtained through experiencing the duty of action or inaction, responsibility, moral good and evil, love, interpersonal encounter and participation, astonishment,

[50] See Stanisław Kamiński, "Jak filozofować o człowieku? [How to Philosophize about Man]," *Analecta Cracoviensia* 5 (1973): 73-79.

[51] Mieczysław A. Krąpiec, "Książka kardynała Karola Wojtyły monografią osoby jako podmiotu moralności [Cardinal Karol Wojtyła's Book: A Monograph of the Person as a Subject of Morality]," *Analecta Cracoviensia* 5 (1973): 57.

[52] Marian Jaworski, "Koncepcja antropologii filozoficznej w ujęciu Kardynała Karola Wojtyły [The Concept of Philosophical Anthropology in Cardinal Karol Wojtyła's Thought]," *Analecta Cracoviensia* 5 (1973): 93.

questions, a quest for the truth, or so-called "borderline situations" such as "existential dread" or "being-towards-death." However, only an act enables man to discover his own essence, "revealing and explaining" him "in his entirety." At the same time, the objectivity ("objective reality") and indisputability of an act that makes it impossible to interpret it in any other way makes an act superior to other "anthropo-relevant" facts.

> Consideration of the intersubjective significance of the result is reflected here in the preference for the most easily noticed, "publicly" accessible and controllable starting point. We are supposed to know ourselves by our fruits and in our fruits, according to the classical *adagium* "Agere sequitur esse."[53]

Styczeń concentrates on the content of Wojtyła's considerations, presenting and supporting his idea of the person being revealed through his act. However, although he notices the relationship between the person and an act and the *OSE* principle, even he does not realize to what extent Wojtyła's concept is anchored in Aquinas's interpretation of this principle and how thoroughly he must have thought it over before he used it in *Person and Act*.

CONCLUSION

If Wojtyła had not taken the *OSE* principle into account, his analysis would have been limited to a human act or human freedom. His contribution lies in the fact that that he did not limit himself to repeating the Scholastic principle but used all the cognitive potential in this classical principle. Following Aquinas, he interpreted it in a way that demonstrates the relationship between the act and the person as its subject.

Wojtyła's analyses do not show the gradual process of transition from the act to its subject—and thus from *agere* to

[53] Tadeusz Styczeń, "Metoda antropologii filozoficznej w "Osobie i czynie" kardynała Karola Wojtyły [The Method of Philosophical Anthropology in *Person and Act* by Cardinal Karol Wojtyła]," *Analecta Cracoviensia* 5 (1973): 111.

esse—that takes place in human cognition. Largely, together with the understanding of *agere*/*operari* and *esse*, he assumes this transition in the way proposed by Aquinas, and demonstrates various aspects of this relationship, often directly referring to the ready-made solutions offered by the medieval philosopher. Aquinas's concept constitutes a point of reference for the analyses conducted by Wojtyła, and it serves as a means of verifying their truth. At the same time, thanks to these analyses, this relationship gains a contemporary interpretation and is exemplified by descriptions from the perspective of the first-person experience.

The validity of the *OSE* principle should not be limited to the relationship between the person and his act. According to Wojtyła, every manifestation of the dynamism of a being is a manifestation of some aspect of his existence. Therefore, he consistently uses this principle in his study to analyze concrete activities of the person, such as consciousness, efficacy, transcendence, integration, and participation. These analyses allow him gradually to penetrate more and more fully into the structure of being and increasingly reveal what/who the person is. The *OSE* principle thus plays the role of a presupposition and the starting point in *Person and Act*, but it also permeates, more or less explicitly, all of Wojtyła's anthropological analyses. The originality of his approach, however, does not consist in the fact that in his analyses of man he refers to the dependence between the order of existence and the order of action. This was already done by Aristotle, Aquinas, and the representatives of realist philosophy who identified the faculties of the soul on the basis of its acts. Wojtyła, however, noticed a possibility to use the dependence between existence and action, which is contained in the *OSE* principle, to understand more fully the relationship between the act and the person, and also to present the person through his act.

Wojtyła's work reveals that he thoroughly thought over what it means that action follows being. In this way, he demonstrated that the analysis of an act can be used to demonstrate the uniqueness of the person as the subject of an act; also, he demonstrated the uniqueness of an act as a manifestation of the

dynamism of the person, thus completing the classic concept of the human being. In doing so, he demonstrated the anthropological significance of the *OSE* principle itself.

BOOK REVIEWS

Deification through the Cross: An Eastern Christian Theology of Salvation. By KHALED ANATOLIOS. Grand Rapids, Mich.: Eerdmans, 2020. Pp. 464. $50.00 (hard). ISBN: 978-0-8028-7798-7.

Deification through the Cross is a hugely ambitious and impressive work. Khaled Anatolios attempts to provide an account of Christian salvation—grounded in Scripture, conciliar tradition, and liturgy—that responds to the soteriological malaise of our times and that moves beyond a deficient "models" approach. He entitles his approach "doxological contrition," a neologism meant to capture the core meaning of salvation. By "contrition" he means "repentance" (95); by "doxological" he means an account of salvation ordered to the glory of God that reaches its culmination through the insertion of human beings into the Trinity's own mutual glorification: "True worship and the glorification of the living God must be considered to be the ultimate goal and realization of salvation" (90).

What precisely does Anatolios mean by "doxological contrition"? He answers this question through a series of summaries throughout the book that restate the primary thesis. "I speak of Christ's 'doxological contrition' as effecting our salvation and of our salvation as a conscious participation in Christ's doxological contrition" (xiv). This account of salvation, then, includes both what Christ has done for us and how we are enfolded into salvation through participating in what Christ has done for us: "Christ saves us by rendering perfect glory to the Father in the Spirit and by enabling us to glorify the Triune God with him and in him, and . . . he also saves us by being perfectly contrite in expiation of human sinfulness and thus enabling us to repent with him and in him" (88).

Before setting out to demonstrate this thesis, Anatolios calls our attention to two specific "backdrops" that orient his study. The first consists of impediments found in our modern context that inhibit Christians from realizing the full joy of their salvation. By pointing to "the eclipse of atonement" he identifies a general rejection of the principle of atonement in both scholarly and popular circles that "leads to a breakdown of the intelligibility of the Christian teaching about salvation in general" (3). He then takes sharp aim at the contemporary habit of speaking about salvation in terms of discrete models. Though he does not want to deny the presence of these models in Scripture and the Fathers, he argues that stacking up models is not a helpful strategy for understanding

salvation: "The task of a theology of Christian salvation cannot be exhausted by piling up one model after another. The theologian must generate normative statements that are in principle applicable to any candidate for a Christian 'model' of salvation" (23). Finally, Anatolios points to "the lack of experiential access to this doctrine (of salvation)" in the liturgical worship of the Church (ibid.). He believes that an account of salvation as "doxological contrition" can reinvigorate a plausible notion of atonement, undergird the various "models" in a doctrinally grounded foundation, and open the way for a joyful experience of salvation through conscious participation in Christ's saving death and resurrection in the liturgy.

The second "backdrop" against which Anatolios offers his thesis is what he calls "the contrived modern binary between the putatively 'ethical' Western approach to sin and salvation and the supposedly 'ontological' Eastern approach" (47). He believes this binary "has not only alienated Eastern and Western traditions from each other but also alienated Eastern Christians from the fundamental sources of their own tradition" (ibid.). By calling witnesses from both the Eastern and Western theological traditions in support of his project, Anatolios effectively reintegrates the ontological and ethical aspects of sin and salvation, and so offers an account that reflects an approach found in both the East and the West.

Deification through the Cross is divided into two parts. In the first, Anatolios investigates foundational sources for a soteriology of doxological contrition: Scripture, conciliar (dogmatic) tradition, and the (Byzantine) liturgy. In the second, he pursues his thesis in a more systematic way by considering the core topics (sin, salvation, intra-Trinitarian glorification) through the writings of key interpreters drawn from both East and West. The density and richness of this theological investigation makes it impossible to give an adequate summary. Instead, I will follow the main outline of the investigation and offer representative comments and summaries along the way.

Though Scripture is listed as the first and foundational source, Anatolios begins his investigation by examining the witness of the Byzantine liturgy: "The impetus and ultimate orientation of this work is therefore the liturgical experience of the Byzantine Christian tradition" (36). Tracking the liturgical prayers from the season of Lent through Easter and up to Pentecost, Anatolios discovers a clear witness to both "doxological contrition" and to a predominant concern for sin and repentance. Repentance, however, is not a human work that merits salvation but a gift of grace, opened up by Christ's own representative repentance on our behalf by which we receive the gift of salvation: "The worshiper is given no opportunity to offer repentance as a human work that merits 'grace'; repentance itself is the gift, the grace, to be asked for" (76). The foundational dynamic of the Byzantine liturgy, then, is its dramatic synthesis of the dialectic of sorrow over sins and the celebration of divine glory. "It is precisely this experiential synthesis that we are designating 'doxological contrition'" (81).

Anatolios next explores three scriptural "moments" that illustrate "doxological contrition": the deliverance of Israel from Egypt, the return of Israel from exile in Babylon, and the advent of Jesus the servant of the Lord. For Anatolios, the point of the servant's suffering is not the suffering itself (bearing God's wrath) but a representative suffering in the mode of repentance that leads to reconciliation: "One of the key components of the soteriology of doxological contrition that we are in the process of constructing is that it replaces the notion of the salvific efficacy of punishment with that of the salvific efficacy of contrition" (139). The narrative of Jesus' baptism, especially in Matthew, unites these features of representative repentance and the manifestation of divine glory: "The fact that this manifestation of trinitarian glory coincides with Jesus's repentance on behalf of sinners should lead us to conclude that it is precisely through his representative repentance on behalf of sinful humanity that Jesus forges a path of 'return' to the heart of trinitarian glory" (156).

When treating "doxological contrition" in conciliar doctrine, Anatolios leads us on a learned tour through the soteriological doctrine of the first seven ecumenical councils. His overall conclusion is that Trinitarian and Christological doctrine *is* the foundation for soteriology; he calls this the "soteriological grammar inscribed into the church's normative trinitarian and christological doctrine" (223). From this, he concludes that "salvation thus essentially consists in graced incorporation into Christ's humanity, which brings about assimilation to Christ's divinity and inclusion into trinitarian life from the position of the Son's relation to the Father and the Spirit" (168). He describes this as a "particular inflection of the doctrine of deification . . . which thus understands human deification as inclusion into the divine self-glorification" (226).

In the systematic section of the study, Anatolios seeks to confirm his initial findings from the sources by the study of core topics (sin, salvation, intra-Trinitarian glorification) through recourse to key interpreters. These include Irenaeus, Anselm, Thomas Aquinas, Gregory Palamas, and Dumitru Staniloae, but Anatolios's two primary witnesses to "doxological contrition" are Matthias Scheeben (from the West) and Nicholas Cabasilas (from the East). Some of the most constructive and fertile insights of the study appear in these chapters, in which Anatolios attempts to integrate a deep understanding of human sin with the doxological vocation to glorify God. "The essential core of the gospel, from the perspective of a soteriology of doxological contrition, is that God marvelously accomplishes both his doxological judgment against sin and humanity's full reintegration into the intra-trinitarian glorification, through Christ's representative and inclusive doxological repentance" (312). All this happens through the Cross—and thus, the aptness of the title of the book, *Deification through the Cross*.

Not content to elucidate a positive account of doxological contrition, Anatolios concludes his study by engaging in a dialogue of comparison with three contemporary accounts of Christian salvation: liberation theology (in the writings of Jon Sobrino), the mimetic theory of René Girard, and the doctrine

of penal substitution. Anatolios appreciates the insights of the first two accounts, especially in their identification of real human sin and suffering in concrete human experience, but he finds them deficient in their reduction of Christian salvation to matters of human justice or to the eradication of human violence, and contends for the view that salvation is "ultimately the enablement of humanity to offer perfect worship to the living God" (408). When treating penal substitution, Anatolios rightly upholds the biblical basic for this doctrine but, in my view, brilliantly modifies the traditional account by putting the emphasis not on the sheer assumption of punishment and the exhausting of divine wrath, but on the Son bearing our punishment representatively and contritely while in full possession of the vision of the glory of the Father (420).

If there is one point I would critique in the project of "doxological contrition," it would be Anatolios's tendency at several points to minimize and set to one side the "Christus Victor" aspect of Christ's work of salvation. Anatolios justifiably finds Gustav Aulén's "Christus Victor" model unsatisfactory (11-14), but this seems to color his reading of the victory motif wherever he finds it. In all of the main sources he cites—the Byzantine liturgy, Scripture, and the councils and theologians of the Christian tradition—this aspect of Christ's victory over hostile powers appears prominently. Anatolios rightly concludes that God's interaction with the human race (Christ's doxological contrition) is the core element in the Christian narrative of salvation, with victory over the devil playing a secondary role (196). But there seems to be a curious reluctance to give this victorious aspect of Christ's work an active place, even though all his sources do so. Anatolios admits, for example, that Cabasilas, his primary witness to doxological contrition, "trades heavily in 'Christus Victor' language," but then sets this aside by claiming that the logic of Cabasilas's theology "provides a demythologization of that imagery" (367). This is unpersuasive. In the text cited (364), Cabasilas speaks of the baptized reproaching the tyrant, spitting upon him, and turning his back on him, while praising the champion (Christ) and loving him with his whole soul. This is not demythologization of the victor motif but a full-blooded and literal grasp of the real victory over hostile powers that Christ wins. Christ's statement on the "binding the strong man" (Matt 12:28-29) and John's assertion that "the reason the Son of God appeared was to destroy the works of the devil" (1 John 3:8) is not mythology but reality. To acknowledge and integrate the victory motif within a soteriology of "doxological contrition" would not mean simply adding another "model" on top of the foundation, but displaying how—in all the main sources—Christ's doxological repentance includes victory over the hostile powers that enslave the human race.

Anatolios recognizes that in *Deification through the Cross* his "goal is to say something about Christian salvation that has not been said before, at least not in the exact terms being now proposed" (169). He admits "the seeming novelty of its explicit formulation" but argues that it is capable of a broad assimilative and synthetic power in relation to the whole Christian tradition, East and West (375). In one instance he speaks about his effort of "constructing" a soteriology

of doxological contrition (139), but it seems to me that the thesis is something more like a "discovery," a treasure found embedded in the prayers of the Byzantine liturgy, that is then worked out ("constructed") by a close examination of the sources (Scripture and tradition). Anatolios acknowledges that there is much work yet to be done to test and expand his thesis, but he has made an impressive beginning by persuasively demonstrating—in Scripture, tradition, and liturgy—how "doxological contrition" illuminates and expresses the Christian doctrine of salvation.

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Reading Job with St. Thomas Aquinas. Edited by MATTHEW LEVERING, PIOTR ROSZAK, and JÖRGEN VIJGEN. Washington, D.C.: The Catholic University of America Press, 2020. Pp. 416. $65.00 (hard). ISBN 978-0-8132-3283-6.

With the exception of a 1997 monograph by Denis Chardonnens (*L'homme sous le regard de la providence: Providence de Dieu et condition humaine selon l'"Exposition littérale sur le Livre de Job" de Thomas d'Aquin*), the present volume is the only book-length study of Thomas Aquinas's commentary on the Book of Job. Given the historical significance of the commentary, this is surprising. Aquinas was, after all, the first Christian interpreter to treat the literal sense of the Book of Job. The full title of the commentary, *Expositio super Iob ad litteram*, signaled a new approach. Acknowledging the stature of Gregory's *Moralia in Job* in the prologue to his own commentary, Aquinas intended to steer clear of the spiritual or mystical sense, which had already been explained "both accurately and eloquently by the blessed Pope Gregory." Aquinas's interest lay instead with the capacity of the literal sense of Job to convey probable arguments for a divine providence that governs human affairs. Perhaps because Aquinas's views on providence are presented in a more orderly fashion in his systematic works, scholars interested in this topic have, until now, paid comparatively less attention to the ways in which the literal sense of a scriptural story like Job's afforded Aquinas new and interesting opportunities to expound on the topic of providence—and, indeed, a good deal more.

Reading Job with St. Thomas Aquinas contains thirteen incisive essays from established scholars on the backgrounds and themes of the *Expositio*. These are divided into three parts: "Job and *sacra doctrina*" (chaps. 1-3), "Providence and Suffering" (chaps. 4-9), and "The Moral Life and Eschatology" (chaps. 10-13). The volume begins with a brief introductory essay in which the editors provide

useful background for the composition of the *Expositio*, along with short discussions of Aquinas's exegetical practice and his understanding of Job as a man who believed in the resurrection (by way of revelation rather than reason) but erred in scandalizing his friends when provoked to defend his innocence. No doubt because this point is essential to Aquinas's understanding of the book, nearly all the contributors revisit or reinforce this portrait of Job in their essays. The contributors also echo one other in pointing out additional features of the *Expositio*: (1) that Aquinas was likely writing about providence for book 3 of the *Summa contra gentiles* at the same time that he was writing the *Expositio*; (2) that the commentary format prevented Aquinas from writing on topics in a systematic way; (3) that Aquinas viewed the book as a *disputatio*, with Job and the friends on opposing sides and God as the final arbiter; (4) that an Aristotelian rather than Stoic understanding of emotion helped Aquinas to understand the vehemence of Job's feelings sympathetically; and (5) that Job spoke in three ways, according to passion, reason, and revelation.

The first three chapters examine Aquinas as teacher, philosopher, and biblical interpreter. John Boyle (chap. 1) argues that Aquinas's experience of disputations in Paris disposed him to see the Book of Job in similar terms: as a debate among learned men on theological matters. At stake in the book and in university disputations is the attainment of wisdom, a grasp of reality in terms of highest causes. Importantly, disputations reveal character as well as intellect, and Aquinas sees in Job a man who attains a fuller measure of wisdom by virtue of a humble response to correction by the divine Master. One would expect Aristotle to bulk large in Aquinas's philosophical or systematic works, but Jörgen Vijgen (chap. 2) demonstrates that the influence of the Philosopher is clear and strong even in a biblical commentary like the *Expositio*. Perhaps more surprising is Vijgen's claim that, in addition to helping Aquinas with questions about virtue, emotion, and natural philosophy, Aristotle's thought was essential to his arguments concerning providence and the prospect of bodily resurrection, thus yielding an exemplary "integration of faith and reason" (67). Because the New Testament authors relied on the writings of the Old Testament, scholars readily affirm that the latter are indispensable to understanding the former. But can the New Testament illuminate the *literal* sense of the Old Testament? In a careful review of places where Aquinas cites the Gospel of John in the *Expositio*, Matthew Levering (chap. 3) demonstrates that, for Aquinas, it can and should. Job's words and experiences are intelligible in a world where the hope of the pious rests on an incarnate God who overcomes darkness and calls the dead back to life. It was fitting for Aquinas to turn to John's Gospel, because he understood Job to inhabit the same world into which Christ brought long-promised light and to serve the same God who was himself "the resurrection and the life" (John 11:25).

The next chapters turn to the nexus of wisdom, suffering, and providence in the *Expositio*. Divine inscrutability is a prominent theme in the Book of Job. In an exceptionally clear and penetrating essay, Serge-Thomas Bonino (chap. 4) explains how Aquinas framed and analyzed this theme—not in terms of an

arbitrary or irrational divine will, but rather as the exalted wisdom of the Creator. When it comes to this wisdom, humans are able to participate in it, but never in a way that fully comprehends the wisdom of God *in se*. According to Bonino, Aquinas saw himself in the figure of Job, a man searching out divine matters, even desiring to debate with God, yet always with humility and in connection with personal sanctification. Looking at the *Expositio* along with book 3 of the *Summa contra gentiles*, Rudi Te Velde (chap. 5) notes that Aquinas's systematic treatment of providence informed his interpretation of Job. Surprisingly, though, Job does not appear in the *Summa contra gentiles*. Job is rather a special case of a man who recovers faith in moral order at the extremities of personal suffering. Providence orders all things for the good, but an essential difference in the outworkings of providence for nonrational creatures (useful to higher ends) and for rational creatures (ends in themselves) must be acknowledged. Job's sufferings have to do with God's providential care for him as a rational being, who will live on after death. For those perplexed by the so-called "whirlwind speeches" (Job 38-41), Guy Mansini's essay (chap. 6) is a must-read. The sufferings of Job make his virtue apparent to others and, in so doing, correct mistaken understandings of providence such as Job's friends have. Yet this is not all that they do. With the appearance of God at the end of Job's trial, Mansini argues that "Job's virtue, revealed by trial, also reveals the one for whom all else is to be despised. . . . The manifestation of God and the manifestation of Job's virtue constitute a single reality" (151). In addressing Job, God "shows up" for Job, to settle questions of truth, to demonstrate his mastery over the devil (figured in Behemoth and Leviathan), and to console Job as a friend. In turning a permitted evil into a great good that subverts evil itself, the Book of Job is ultimately cruciform.

The topic of sin is central both to the Book of Job and to the *Expositio*. Harm Goris (chap. 7) observes that Aquinas's treatment of sin in the commentary lacks the precision, detail, and order evident in accounts of sin found in his systematic works. Yet Goris sees value in the opportunity afforded to Aquinas to discuss sin in a "more concrete, holistic, and realistic" way as it manifests "in the ordinary lives of people" (183). Aquinas analyzes Job's claim to innocence, the kinds and causes of sin, as well as the relation of sin and suffering, thus illuminating the experience of the faithful in an unusually vivid way. In a rich and suggestive essay, John Knasas (chap. 8) examines the purpose of human suffering and the question of human destiny from the perspective of the "Thomistic philosopher," someone who espouses philosophical positions informed by Christian truths but who is not yet Christian. Knasas argues that the Thomistic philosopher espies the possibility of Christian truths but does not arrive at them. The distinction between what is available to humans by reason and by faith is crucial. Job's friends reasoned wrongly in arguing that this life is the only life, and Job, for his part, erred by speaking of a theological truth (resurrection) as though it could be demonstrated philosophically. Joseph Wawyrkow (chap. 9) undertakes a helpful comparison of Aquinas's treatments of merit in the *Summa theologiae* and in the *Expositio*. According to Wawry-

kow, the two are broadly similar. By consulting Aquinas's systematic discussion, one comes to understand his affirmation and understanding of merit, usefully, in terms of wisdom rather than justice. In wisdom, God ordains it so that humans are rewarded for perseverance and good work; God is not compelled by justice to bestow merit. Job's adversity and subsequent restoration show that God wisely "distributes temporal goods, and evils, in accordance with God's providential plan" (258). What happens in this world is conducive to individuals' journeys to salvation; reward and punishment take place, as Job knew, in the next life.

Part 3 of the book turns to moral philosophy and eschatology. According to Daria Spezzano (chap. 10), Aquinas does not present Job as a static example of faith and virtue but rather as a dynamic one, a man who experiences "transformation" over the course of the book (311). Not only does he move through stages in his manner of speaking (passionate, rational, inspired); Job is perfected, specifically, by an increasingly "perfect realization of his hope" (265) and a fear of God that causes him to cling to God as a *servus amoris*. In arguing with Job, the friends cause him to express his faith in the resurrection and in God's goodness yet more clearly. In this, Job is a model of how to respond to suffering. One feature of Aquinas's concentration upon the literal sense is careful attention to moral themes. Examining three in particular—the morality of the passions, cognizance of humanity's ultimate end, and Job's "scandalous" assignment of justice to the afterlife—Brian Mullady (chap. 11) offers an exceptionally clear guide to the moral terrain of the Book of Job as Aquinas saw it, a terrain that one navigates successfully only in light of divine providence and a theological affirmation of divine judgment in the world to come. Following a pattern evident elsewhere in the volume, Anthony Flood (chap. 12) examines Aquinas's position on a particular topic and then discusses its reflexes in the *Expositio*. Taking "friendship" as his topic, Flood notes that the "most complete kind of union" is friendship, and thus "friendship with God provides the greatest realization of the greatest union for which human beings can hope" (341). This is, for Aquinas, a metaphysical reality that finds dramatic expression in the Book of Job. Both human friendship and friendship with God emerge as key themes in the life and trials of Job. It is fitting that the chapter devoted to eschatology comes at the end of the volume. Though the Book of Job does not address the eschaton in an explicit way, Bryan Kromholtz (chap. 13) argues that Aquinas, in reading this part of Scripture according to the *analogia fidei*, ultimately makes sense of the book by drawing on theological truths concerning resurrection and the afterlife. The book itself points in their direction, as when Job is not given twice as many children at the end of the book. He is blessed with the same number as before. Yet his children are in fact doubled, because he will receive his first family back again in the resurrection (379).

Kromholtz closes his essay (and, as it happens, the volume as a whole) with a statement about Aquinas's theological reading of the Book of Job: "We might say that the reason the book of Job makes more sense in light of the faith, including the promise of a glorious resurrection for the just, is that *life* makes

more sense in that light" (383). To those who regularly keep company with Aquinas, this statement will perhaps seem like a useful summary of a familiar and sensible theological maneuver: namely, to make sense of the Old Testament (and Job in particular) in the light of the resurrection and a Christian understanding of reality. As an outsider both to systematic theology and Thomistic studies, however, I see Aquinas's comprehensive interpretation of a book as jagged, difficult, and subjective as Job as an extraordinary feat—one which raises a question. Neither the editors nor the contributors should be blamed for their placid, reassuring, and well-reasoned expositions of the *Expositio*, still less for Aquinas's own crystalline exegesis of a famously obscure biblical book. In this volume, the contributors work as Aquinas did, with conviction about the ultimate concord of faith and reason, theology and philosophy, exegesis and dogma, grace and nature. But can concord ever become complacent or misleading?

One example of supposed concord concerns biblical studies and theology. In the introduction, the editors sound false notes about supposed similarities between Aquinas and modern academic interpreters of Job. Both, they say, are interested in providence (3). They also connect the *Expositio* to the sub-field of reception history, because both credit the importance of earlier interpretation for understanding the Bible (12-13). Noting these commonalities is like saying that Diogenes the Cynic and King Midas both had thoughts about gold. To a great degree, modern biblical scholars see (a) Job as an example of an audacious heterodoxy, (b) the God of Job as arbitrary and tyrannical, and (c) the Book of Job as a needed dissent to a stifling, purblind tradition. Job, on this account, is not a perfected *servus amoris* looking toward the afterlife but an unbowed, clear-eyed rebel against the Almighty, as, for example, in Edward Greenstein's recent *Job: A New Translation* (Yale University Press, 2019). Greenstein's avowed purpose is to "set the record straight" by restoring the image of a defiant Job, but, in fact, his work is not so much a correction of a "record" as a recent entry in the old historical-critical quest for a free-thinking Job unspoiled by later pieties. For modern scholars working in this vein, Aquinas's Job is the exegetical enemy to be vanquished. And even for many modern people who are not part of this "quest," a Job who is willing to question providence and reject pat answers has been a bulwark against what are seen as facile theologies.

What of concord within the book of Job itself? I believe that the modern critical portrait of a recalcitrant, heterodox Job is limited and misleading, but it nevertheless takes seriously aspects of the Book of Job that contemporary theologians ought to address: for example, the painful and radical dislocation of Job as a servant of God who is given over to Satan and various instruments of death. It is a harrowing tale about a real man who, as Aquinas said, existed *in rerum natura*. In the introduction to *Reading Job*, the editors explain that it is appropriate to take Job's "existential agony" more literally than Aquinas does (11-12), but the essays, for the most part, treat Job's suffering abstractly. On the whole, critical biblical scholarship is hostile to theological categories, but critical analysis can be useful in disciplining the drive toward abstraction.

Perhaps sensing this, the editors affirm the value of historical-critical exegesis in shedding light on Job's particular situation, but they state that consulting this exegesis "should not mean supplanting the theological insights of patristic and medieval interpreters" (13). This word of counsel is not, in my view, a sufficient acknowledgment of the challenges posed by modern interpretations of Job to traditional Christian theology. It is also naïve. Of course historical-critical readings "supplant" premodern ones. Doing so is and has been their *raison d'être*, and the Book of Job is a parade example. It is better to face critical scholarship's agonized and audacious Job directly than to imagine that scholarship's putative "historical" orientation somehow makes it complementary to (or sealed off from) theological readings.

Reading Job with St. Thomas Aquinas does precisely what the title says: the volume explores what it meant for Aquinas to read the Book of Job. The volume's contributors explore this in ways that are illuminating and edifying—but almost entirely with a view toward clarifying Aquinas's hermeneutical maneuvers for those already acquainted with his larger synthesis. This is a noble and needed task, and the contributors in this volume carry it out exceptionally well, but at some distance, it seems, from the tumults and whirlwinds that, for good or for ill, have been and continue to be part of the Joban tradition.

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What It Means to Be Human: The Case for the Body in Public Bioethics. By O. CARTER SNEAD. Cambridge, Mass.: Harvard University Press, 2020. Pp. 336. $39.95 (hardcover). ISBN 978-0-674-98772-2.

In *What It Means to Be Human: The Case for the Body in Public Bioethics*, a leading Catholic thinker in the law of bioethics has laid bare the "expressive individualist" anthropology structuring U.S. public bioethics, and proposed an alternative that accounts for human embodiment. Previously serving as General Counsel at the President's Council on Bioethics, O. Carter Snead presently directs the University of Notre Dame's de Nicola Center for Ethics and Culture, a leading source of scholarship and public dialogue about the Catholic moral and intellectual tradition.

The book claims that current public bioethics law has an undeclared, underlying anthropology that does not "reflect the full complexity of lived reality" (1). It fails to acknowledge that human beings are "embodied," which

means that we are also vulnerable, dependent, and naturally limited. Instead, it presumes that people are "atomized individual wills" whose flourishing is constituted by "interrogating the interior depths of the self in order to express and freely follow the original truths discovered therein toward one's self-invented destiny" (5). Laws, regulations, and public policy grounded in this conviction thus fail to comprehend human needs or promote human flourishing. They leave the weak alone with their state-recognized privacy and autonomy. They ignore human beings' obligations to vulnerable others. They fail to promote genuine equality and freedom.

Snead subjects public bioethics to an anthropological inquiry to surface its unspoken convictions about human identity and flourishing. He then proposes a new anthropology, securely anchored in human beings' embodied state, for purposes of inspiring a new body of law attuned to humans' true needs and desires. And he applies these anthropological insights to craft principles and policy goals applicable to abortion, assisted reproductive technologies (ARTs), and end-of-life decisions.

Snead begins with a riveting and occasionally horrifying account of the history of U.S. bioethics laws. It began in the 1960s with publications exposing experiments upon unconsenting and vulnerable subjects, including Black males with syphilis (the Tuskegee experiments), and still-living aborted infants. The pattern for crafting bioethics laws is first set here: lawmakers react to past abuses; some portion of the scientific community continues to justify them; legislatures establish commissions to study the problem; and the law eventually enshrines the principle of "informed consent" presumably given by able, autonomous, rational human persons. This pattern shaped legal responses to later controversies over fetal-tissue research, genetic manipulation, assisted reproductive technologies, abortion, and end-of-life decision-making.

Interrogating these laws and policies, Snead determines that they reveal an anthropology of "expressive individualism," a term coined by Robert Bellah to describe a belief that human identity and flourishing involves expressing one's "innermost identity through freely choosing and configuring life in accordance with his or her own distinctive core intuitions, feelings and preferences" (69). Such an anthropology is dualistic. Human cognition and will are paramount. These use the body as an instrument for achieving personal projects according to subjective values, not beholden to exterior "givens" or the needs of vulnerable others.

Snead relies heavily upon the philosophical treatments of this anthropology in the works of Alasdair MacIntyre, Michael Sandel, and Charles Taylor, and applies their insights to public bioethics. He concludes that because this anthropology forgets the body it cannot factor in weaknesses, dependencies, and limits that characterize every human life. These include, at a minimum, childhood, disability, age, illness, cognitive limits, and even human beings' need for cooperation and dispute in order to understand themselves. Thus it also fails to foster laws and policies recognizing mutual social obligations and facilitating

the building of networks of "giving and receiving that are essential to the survival and success of all human beings" (184).

In response, Snead recommends a new anthropology to inform lawmaking based upon humans' need for "uncalculated giving and graceful receiving" (quoting MacIntyre [7]). It would foster MacIntyre's "virtues of acknowledged dependence" (99), including just generosity, hospitality, *misericordia*, humility, openness to the unbidden, solidarity, truthfulness, friendship, and a willingness to look outward to the dignity and good of others.

Snead applies his analysis to U.S. law and policy on abortion, ARTs, and end-of-life decisions. In each case, he thoroughly reviews existing laws and cases—and in the case of ARTs, the notable absence of law, in deference to market logic—describing with precision the ways in which each manifests expressive individualism. He highlights the vulnerabilities that the law ignores concerning each of the persons involved: the pregnant woman, the child, the egg donors, the surrogates, the infertile would-be parents, the sick, the dying, the disabled, the depressed, and the cognitively impaired.

With respect to each area of law, Snead recommends new law and policy—neither liberal nor conservative—to enable a better, truer response to human needs. Such law would promote networks of uncalculated giving and grateful receiving. It would "encourage and reward" all of the virtues needed to enable these. It would strengthen familial and social ties and cultivate individuals' moral imaginations so that they might see others they owe, and from whom they might demand, care: parents, extended family, boyfriends, doctors, and others. Should these networks be absent or insufficient, government would play a role.

Several times, Snead asserts that he is offering only "principles" and "policy goals" (9) and that he is not proposing precise legal solutions for each contested question. He does, however, make several bold proposals including the protection of unborn children from the moment of conception, close regulation or even bans upon reproductive technologies endangering the health or well-being of the children conceived, ensuring that every child created via ARTs has the opportunity for a loving family environment (versus allowing freezing or destroying human embryos), and banning the direct hastening of or causing of death.

Snead's ideas are an important contribution to three areas of inquiry. First, his book constitutes a critique of contemporary liberalism's fixation on the individual, to the exclusion of the numerous networks and institutions upon which human beings must rely. In this way, it is in the tradition of Patrick Deneen's *Why Liberalism Failed*, Mark Lilla's *The Once and Future Liberal*, and Martha Fineman's family-law scholarship concerning the "vulnerability thesis." Snead's work brings this lens to bear, instead, on bioethics law, during a time in which questions about transsexual surgeries, manufactured embryos, and artificial intelligence will only heighten the perception of a bioethics emergency.

Second, this book thoroughly applies for the first time to the field of bioethics a valuable method invigorated in recent decades by Pope John Paul II:

querying the anthropology undergirding accounts of human identity and flourishing human life. Contemporary accounts regularly insist that they have no anthropology at all, no "comprehensive world view," as that is characterized by John Rawls in his *A Theory of Justice*. Instead, they claim merely to be following the science, or allowing for maximum expression of individual will in a pluralistic democracy designed to allow this type of freedom.

Other authors have exposed this fallacy: philosopher Michael Sandel in his critique of Rawls, law professor Elizabeth Schiltz respecting certain strands of feminism, and theologian David Schindler in his examination of contemporary liberalism's opinions about religious freedom. Snead performs this service—peering behind the curtain of science and claimed democratic norms—to expose the anthropology underlying contemporary bioethics laws.

Finally, Snead's book offers a counterweight to the legal scholarship that, at present, is doubling down on expressive individualism. The vulnerable persons, limits, and dependencies Snead depicts are regularly invisible in this scholarship. Unborn children, egg donors, and surrogate mothers are almost never mentioned. When vulnerable parties are acknowledged, it is usually in order to ground a demand for their right to terminate a pregnancy or end a suffering life, or commodify reproduction, often with the assistance of the state.

Snead instead highlights human weaknesses as a predicate for asserting human beings' mutual social obligations, beginning especially within the family, and moving to government only when necessary. Today, families are still suspect as hotbeds of inequality, sexism, and constraining tradition. And family members remain the only people one can kill with legal impunity, whether via abortion, euthanasia, or ARTs that produce "excess" embryos. Snead's book is a valuable corrective to this body of literature, both because of his linking vulnerability with the obligation to care, and because of his embrace of subsidiarity.

The book is also valuable for several discrete contributions it makes. It provides a brief but highly informative summary of the development of public bioethics law in the United States. Readers can see in the story not only the domination of individualist thinking, but also the powerful sway of the scientific establishment. It is a cautionary tale. It would be hard to understand today's predicament if we did not understand the environment in which the die was cast that shaped U.S. bioethics law according to expressive individualism.

Snead's empirical and personal accounts of human vulnerabilities and interdependencies in the context of abortion, ARTs, and end-of-life decisions are also quite valuable. He provides valuable data regarding outcomes rarely made visible to the public: risks to children conceived using ARTs, side effects suffered by surrogates, and the states of mind and risk of abuse respecting sick or elderly patients expressing a wish to die. Sometimes his accounts are even moving, as in his account of the mother-child relationship (140). Both types of evidence have real potential in courts of law and in courts of public opinion

The book provides several answers to the question of why the U.S. law has embraced expressive individualism so fervently. Snead suggests American

individualism, an obsession with sexual freedom, industry (ARTs and health care generally), power, and a die that was cast at the dawn of our public bioethics. He might also have included some discussion of the hardball political might of interest groups, because the combined strength of these groups alongside an increasingly powerful corporate sector is a powerful bulwark against change, even when faced with arguments as true and appealing as Snead's. This will be true to an even greater degree regarding two issues this book does not approach: artificial intelligence and surgery to alter sexual appearance.

Americans clearly long for the kind of networks of mutual care Snead depicts. Right and left would support many of his ideas, in theory. This is apparent in Americans' sympathetic reactions to groups fighting racial discrimination and poverty today. But these groups do not have corporate and political forces in addition to wealthy interest groups denouncing their demands as fundamentally anti-freedom; groups fighting for justice regarding abortion, ARTs, and end-of-life decisions do.

It is important to avoid the "fallacy of the present"—the idea that things will always be as they are now. But it is also important to take the next step Snead exhorts: crafting particular laws and policies to protect embodied persons, as well as the arguments sufficient to overturn Americans' intense affection for expressive individualism. Additionally, proposed solutions have to consider that many are content to leave solutions to human suffering to the government, to receive only the "science" that suits their preconceived ideas, and to express compassion for those far away, while avoiding the hard work of sacrificing for those in our own families or communities. In the immortal words of Father Zossima in Dostoyevsky's *The Brothers Karamazov*: "Love in action is a harsh and dreadful thing compared with love in dreams. Love in dreams is greedy for immediate action, rapidly performed and in the sight of all. Men will even give their lives if only the ordeal does not last long but is soon over, with all looking on and applauding as though on the stage. But active love is labour and fortitude."

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Thomas Aquinas: A Historical, Theological, and Environmental Portrait. By DONALD S. PRUDLO. New York: Paulist, 2020. Pp. 420. $39.95 (paper). ISBN 978-0-8091-5386-2.

Donald Prudlo's portrait of Tommaso d'Aquino (1224/6-74) offers a moving account of the great saint and theologian, presenting him as a human being who lived in particular historical, institutional, and geographic circumstances, who had personal relationships with others, lived out of a recognizable spirituality, and possessed a distinctive personality. That personality included natural strengths and weaknesses, both of which fitted Thomas for his unique vocation, mission, and striving for sanctity. Prudlo's treatment of Thomas's theology will not satisfy serious students, but the book's lively sketch of "the life and times of this Dominican thinker" (5) and its sustained "meditation on the interrelationship between scholarship and sainthood" (ibid.) make it a valuable companion and complement to the study of Thomas's own writings.

The Introduction announces Prudlo's aim to write a biography of Thomas Aquinas that occupies a middle space between "popular (sometimes uncritically hagiographic) and . . . exceptionally academic" biographies, such as those by Simon Tugwell, Jean-Pierre Torrell, and James Weisheipl (10). Prudlo's attempt to occupy of a virtuous middle ground between these two extremes also implies (and at times explicitly levels) criticism against them.

Inspired in part by the method used by Augustine Thompson, O.P., in his 2012 "new biography" of Saint Francis of Assisi, Prudlo carefully distinguishes the historical sources (William of Tocco, Bernard Gui, Pietro Calò, Tolomeo of Lucca, the canonization hearings, and the *Vitae fratrum*) for the various narrated episodes in Thomas's life (usefully enumerated in a chart in Appendix B). Prudlo generally acknowledges a historical basis for these tales of Thomas, but strips them of hagiographic additions and interprets them critically. For example, he readily admits that Thomas as a toddler probably mouthed a piece of paper on which "Ave Maria" was written, but he declines to interpret the episode (as Thomas's hagiographers did) as portending Thomas's Marian devotion (36). More controversially, he questions whether Thomas's observable, frequent, mental withdrawal from social converse into states of abstraction was properly lauded by his hagiographers as virtuous. "Thomas had faults, often masked by his early admirers as virtues," Prudlo insists (12).

Prudlo diagnoses these putative faults as symptomatic of a clinically defined condition. Although he rejects Rudolph Bell's ascription of *anorexia nervosa* to medieval women mystics as a misguided anachronism (271), he does not hesitate to propose that Thomas suffered interpersonally (as many high-functioning academics do) under the limitations of Autism Spectrum Disorder (ASD) (270-85). Prudlo modestly delays presenting his "hypothesis" about Thomas's personality until late in the book, so that it does not detract from, but actually enhances, his overarching portrait of Thomas as a truly remarkable human being whose nature was not destroyed, but perfected by grace, and who successfully found a way "to negotiate the narrow path to a life of holiness that

all around him recognized and that was, at length, confirmed by the universal church" (285). Although Prudlo insists, "This will be no hagiography" (5), his down-to-earth portrait of Thomas becomes, in the end, the story of a saint worthy of a double canonization for the holiness of his life and for the truth he taught.

Prudlo's critique of hagiography is unequally matched by his criticism of "exceptionally academic" biographies. "Many of the fine studies of St. Thomas have a particular downside," according to Prudlo, because "they are really more about Thomism than about Thomas," and simply use "a chronological framework to drill into his thought" (10). The assertion rings true, but this book supplies "a genuine feel for Thomas's thirteenth-century context" (ibid.) at the cost of giving only a relatively superficial and somewhat repetitive account of his theology, which Prudlo broadly characterizes as "rational," "humanist," and "incarnational" (because of Master Thomas's doctrine of human nature's substantial unicity as a hylomorphic composite of body and soul). This shorthand treatment is perhaps unavoidable in a book that ambitiously names itself "A Historical, Theological, and Environmental Portrait," but it leaves too vague the specific grounds for the high-stakes theological contests between the Franciscans and Dominicans to which Prudlo refers (see, for example, 126-27, 219-21). His somewhat impressionistic account of Thomas's theology also risks leaving the impression that his doctrine was more static than it actually was, belying its development over time.

Prudlo rightly names the big issues and disputed questions of Thomas's time, but his laudable endeavor to foreground Thomas himself as a historical person would have benefitted from the addition of at least one chapter—a case-study of sorts—showing Thomas's mind at work to answer systematically a particular theological question. Prudlo's best effort in this regard concerns Thomas's defense of the orthodoxy of the mendicants' way of life and pursuit of holiness (140-42, 211-16). In the dispute with the secular masters at the University of Paris, Thomas's "vindication of the mixed religious life of the mendicants stood out as an obvious moment of victory for a besieged cause," writes Prudlo (212). Indeed, he opines, "Thomas's answers in this debate provided a fundamental basis for his later canonization" (8).

The book comprises seven chapters and a conclusion. Chapter 1, "The World Thomas Found," provides a dramatic opening by describing the shifting politics of the geographical region where Thomas was born, the Aquinas castle at Roccasecca being "in close proximity" to the famous Benedictine Abbey of Montecassino and also "perched nearly halfway between Rome and Naples, just inside the Kingdom of Sicily and on the border of the Papal States" (31). In Prudlo's narrative, this location explains and symbolizes the conflicted loyalties of the Aquinas family, which had blood-ties to the German emperor, Frederick II, but also pro-papal inclinations.

Chapter 2, whimsically entitled "Beggars or Choosers? The Genealogy of a Vocation," chronicles Thomas's boyhood as an oblate at Montecassino, his early studies at the University of Naples, his encounter there with members of the

recently founded Order of Friars Preachers, his decision to join the Dominicans (the "beggars") rather than the Benedictines (the "choosers"), and his abduction en route to Bologna at the order of the Emperor. Thomas's fidelity to his Dominican vocation and to his studies while under house arrest with his family at Roccasecca finally won out, securing his mother's permission for him to return to the Dominicans in Naples.

Chapter 3, "On the Shoulders of Giants," describes Thomas's studies at the University of Paris (1245-48) and his further studies with Albert the Great in Cologne. The chapter dazzles with the names and titles of the works that Thomas read, on the premise that "in order to understand Thomas, we must understand his predecessors" (76), especially the authorities whom the Dominican Master later cites. Besides the sacred Scriptures, Prudlo emphasizes the writings of Augustine, Boethius, Dionysius, John Cassian, Gregory the Great, John Damascene, Anselm of Bec, Peter Abelard, Aristotle, Avicenna, Averroes, Maimonides, Gratian, Peter Lombard, Hugh of St. Cher, and Raymond of Peñafort.

In chapter 4, "The University Crucible," Prudlo first describes the University of Paris as a historical institution in an urban setting, using the student riots of 1229, the interventions of the Queen Mother and the bishop of Paris, the strike of the University Masters, and the temporary closure of the university to set the stage for the conflicts to follow—in particular, those that arose in 1253 between the mendicant masters, on the one hand, and the secular masters, on the other. Prudlo pairs this institutional crisis with an intellectual one, set afoot by the new translations of Aristotle's works, but he emphasizes the political maneuvers, publications, civil unrest, and public disputes in Paris against the background of which Thomas was licensed to incept as a Regent Master in 1256.

As Prudlo explains at the start of chapter 5, the Dominican scholars at the University of Paris were a mobile group; the Masters in succession each held a chair for a single term, then surrendered it to another. At the end of a four-year term at Paris, Thomas thus became an itinerant professor, entrusted by Humbert of Romans with the task of evaluating and furthering "the order's practices regarding academic work" (152). Chapter 5 features three places on Thomas's itinerary: Naples, Orvieto, and Rome.

Appointed Preacher General in 1260 and supplied with a *socius* (Reginald of Priverno) to serve as his permanent companion, confessor, and secretary, Thomas became the conventual lector (resident professor) for the Dominican house in Naples, where he wrote most of the *Summa contra gentiles*. Prudlo paints a realistic picture of Thomas as a participant in the community life of the friary: its hours of prayer (especially Compline), silences, meals, recreations, chapters of faults. Reassigned as lector in 1261 to the priory at Orvieto, Thomas obediently took up residence in a "backwater" (175) town that "became—almost overnight—the center of Christendom" (177), when Pope Urban IV chose it as residence for the papal curia. Prudlo happily attaches a double meaning to the phrase "the miracle of Orvieto" (174), which he uses to refer both to Thomas's providential contact with leading churchmen in Orvieto and

to the Eucharistic miracle at Bolsena, later venerated at Orvieto, that was "tied into the foundations of the Feast of Corpus Christi" (178). He suggests that Orvieto was also a graced site of intellectual and spiritual transformation for Thomas—the place where he composed the *Catena aurea* on the Gospels and the Office for the Feast of Corpus Christi. From Orvieto, Thomas was assigned to Rome in 1265 to establish there a *studium personale* under his directorship, the forerunner for the Angelicum. That school in Rome, writes Prudlo, became "Thomas's experimental laboratory where all of his previous experience would come together to create his theological masterpiece: the *Summa Theologiae*" (191).

Chapter 6 describes Thomas's recall in 1268 to Paris to take up his second regency there at a time of crisis. As Prudlo tells the tale, the "nascent Thomistic synthesis" was under attack by "three rival systems" (199): that of the secular masters (led by Gerard d'Abbeville, taking up the fallen mantle of William of Saint Amour); that of the Augustinians (led by the Franciscan Masters John Pecham and Bonaventure); and that of the radical Aristotelians, sometimes called the Latin Averroists (led by Siger of Brabant and Boethius of Dacia).

Prudlo describes Thomas as working extremely hard during this second regency both to answer his opponents and to fulfill his regular teaching responsibilities as master of the sacred page: "The taxing schedule was superhuman" (206). Thomas's academic work came to a sudden end when he was again in Naples, shortly after the end of his second regency in Paris. In early December 1273, around the feast of St. Nicholas, Thomas had "some kind of utterly transformative experience" during the celebration of Mass, after which "he refused to work or to teach or to write anything further" (240). Prudlo concludes: "The most likely diagnosis is a combination of physical and psychological collapse that led to a breakdown" (241). Chapter 6 ends with a brief account of the last days and hours of Thomas's earthly life, his reception of the Eucharist, and his holy death at the Cistercian monastery of Fossanova.

Unlike most modern biographies of St. Thomas, Prudlo's does not end with Thomas's death. Chapter 7 narrates and analyzes the local cult of, and the miracles attributed to, Thomas at his burial place. It then discusses the double canonization of Thomas, first as a saint in 1323 and then, with the passage of time, of Thomas's theological teaching, especially as it was rendered canonical for the Friars Preachers (see 293-94) and, later, by Pope Leo XIII in *Aeterni patris* (1879). Prudlo's Conclusion implies the need for these two canonizations of holy life and of scholarship to be viewed as integral to one another: "It is Thomas who could make his lecture hall and his study a place of holiness, a call to all today who live the life of the mind" (304).

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What is a Person? Realities, Constructs, Illusions. By JOHN M. RIST. Cambridge: Cambridge University Press, 2020. Pp. 294. $34.99 (cloth). ISBN 978-1-108-47807-6.

In this book, John Rist engages a number of contemporary controversies and historical reflections about the human person. He also offers a development of what he calls the Mainline Tradition of reflection on the human person, which was built up from Greek philosophy and biblical theology. Thomas Aquinas's understanding of the person is a signal representative of this Mainline Tradition, a tradition that Rist argues was augmented and further perfected by Edith Stein. Against this Mainline Tradition, what could be called the Modern Tradition rejects God (and therefore the human *imago dei*), replaces the immaterial soul with mind as an epiphenomenon of matter, and considers autonomy to be the ground of human worth. John Locke's conception of a person as "a thinking intelligent Being, that has reason and reflection, and can consider it self as itself, the same thinking thing in different times and places," is a textbook representative of this modern tradition. Rist writes with flair and authoritative expertise, especially about the ancient world in which the concept of a "person" did not play the central role that it came to occupy in the Christian West.

It is unexpected, therefore, that the treatment of Boethius, who gave to us perhaps the most canonical definition of person in the Mainline Tradition, an "individual substance of rational nature," does not receive an extensive treatment in this book. By contrast, Aquinas is rightly treated as a pivotal player. Rist appreciates Aquinas's view of a person but still considers it incomplete. The gaps in this view include a lack of an adequate and Augustinian appreciation of the role of history and autobiography (even if unwritten) in understanding an individual person as well as an overemphasis on matter as the cause of individuality.

Rist's compelling account of the undoing of the Mainline Tradition of the person begins with Scotus but intensifies with Descartes who holds "we can employ the material world as is appropriate to the nature of its individual parts and thus make ourselves 'masters and possessors of nature'. And since even the human body is non-mental, that too at least in theory is mere matter to be manipulated" (98). Locke continues the disintegration of the person by considering us as the owners of our bodies (an implicit body-self dualism), and by positing a concept of the person in terms of psychological properties with continuity over time. Persons are those who can be held responsible for their actions rather than individual members of a species. Later thinkers, such as Peter Singer, will use Locke's view of "person" in a radically new way. "Person" refers no longer to individuals who can be held responsible for their actions, but rather to individuals who are part of the moral community deserving of respect, fair treatment, and basic rights.

Once the person is understood as a collection of psychological qualities such as memories and desires, the person is inherently a bundle ever in flux, for these psychological qualities change, indeed can change quite radically. In David

Hume we find "both God and soul absent, the older concept of the person, painstakingly built up over centuries, has more or less disappeared" (125). If a "person" is a bundle of thoughts, desires, and memories, which are always in flux, personal responsibility may likewise be unstable. With a humor that makes its appearance frequently in the book, Rist writes, "A man declines to pay his debt because he is now not the person who incurred it. At this point, however, the lender gets angry and strikes his debtor, and when the other complains, tells him that he is not the same person who struck the blow" (31).

Yet the moral, legal, and political order require stability of persons as well as a ground for respect for persons. Aspects of the Mainline concept of person are expressed in the Declaration of Independence: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." It is God who grants us our dignity. Rist writes, "the Declaration of Independence, in bestowing universal and inalienable rights, still excluded women and slaves from the beneficiaries" (86-87). But in *Our Declaration: A Reading of the Declaration of Independence in Defense of Equality*, Danielle Allen argues that "men" does not in fact refer simply to white male adults. She notes that the original draft written by Jefferson contains a paragraph about the violation of the natural rights of slaves. Allen writes, "Jefferson talks about markets where 'MEN,' which he capitalizes, are bought and sold. In other words, he is calling the slaves 'men.' And when he does this, he can't mean males only, because those markets were for men, women, and children. So when, in the second sentence, he writes that all men are created equal, he must mean all people—whatever their color, sex, age, or status" (154). Not just Jefferson but other founders like John Adams, as well as Abraham Lincoln (who might be considered the second founder of the United States), understood the Declaration as upholding the universal rights of *all* human beings—white and black, male and female alike. The Declaration is the political ideal and the moral standard against which the imperfect social embodiments of law frequently are found wanting.

Rist argues that contemporary culture has two different competing senses of the term "person," both of which find some purchase in our time. The Mainline Tradition of figures like Boethius and Aquinas is relatively stable but incomplete, for it fails to recognize essential aspects of personhood. On the other hand, the Modern secularist account of John Locke and David Hume is more flexible, more historical, but more exclusive in as much as it disqualifies some individual human beings (the young, the old, and the mentally handicapped) from basic moral protection.

In turning to more recent philosophers, Rist comes to the surprising conclusion that analytic philosopher Derek Parfit and continental philosopher Martin Heidegger share striking similarities in their approach to the question, what is a person? But the most influential recent figure in Rist's book is not Parfit or Heidegger but Edith Stein. Stein's account is an advance on Aquinas's because "she holds that matter, by itself, cannot explain individual human

characteristics and thus our individual nature. . . . And that points to a further conclusion, to be taken as fact: that basic difference between males and females—leaving aside between individual males and females—cannot be explained solely by differences in unspecified human matter; highly individualized human matter is required" (231-32). Stein helps Rist to develop the Mainline view in other respects as well: "If my revised version of Stein's view holds, we have added a further building block to the Mainline account of the person as a conjunction of matter with an individual soul: a specifically human conjunction but uniquely individual as the concretization of a unique person generated by the fusion of an individual sperm and ovum. Such an account can explain not only our plurality as individual members of the human set but also—and from conception—our individuality, we being necessarily more than substitutable units variegated only by differing historical experiences" (234).

This richer conception of the human person is needed in order to adjudicate controversies that arise in our shared social life. "In general, such problems are resolved—at least in appearance—by applying social norms: it is socially harmful, we may assert, for a man to be polygamous. All such determinations will depend on the kind of individual human being one assumes to be the perfect (even if unrealizable) exemplar" (237). What we ought to do is necessarily connected to who we are.

Towards the end of the volume, Rist focuses his sage attention on gender issues. He holds that atheism awoke Christians from their dogmatic slumber about these issues by interrupting an unreflective traditionalism which is not directly connected to revelation. A legitimate conservation of the faith once delivered to the saints inadvertently also conserved Aristotle and other pagan reflections on femalekind which uneasily fit with the radical respect Jesus showed women. Rist holds that revelation itself offends against certain kinds of gender equality. "The unequal relationship of Christ and the Church, as evoked by Paul in Ephesians, fits better with older traditions about marriage as between unequal persons than with a modern understanding marriage as of equal—though essentially from identical—persons" (229). And yet someone as traditional as Aquinas argues, "if a husband were permitted to abandon his wife, the society of husband and wife would not be an association of equals, but, instead, a sort of slavery on the part of his wife" (*ScG* III, c. 123). Aquinas notes that "friendship consists in equality," and that "there seems to be the greatest friendship between husband and wife" (*ScG* III, cc. 124 and 123).

Although men and women are equal (in terms of basic dignity as well as basic duties), we need not assert that they are exactly the same in other respects nor that these differences are always and only the result of patriarchal oppression. "Time and again Stein returns to the theme that there are male souls as well as female souls, just as there are male bodies as well as female bodies" (244). The differences between men and women, not just in body but in soul, lead to significant differences in behavior between the sexes. "Moving to the capacities found more typically in one sex than the other, she [Stein] identifies male behaviour as more focused, more single-minded and more appreciative of the

abstract, while women are normally more 'personal' (187, 188, 190, 255), their interests being more 'holistic' in that they have a 'special interest in the living concrete person' (101): 'indeed as much [in] their own personal life as [in] other persons and their personal circumstances'" (245). Stein's view finds some empirical support in Steven Pinker's *The Blank Slate*, which notes that on average women are more interested in people and men are more interested in things. These differences in interest do not decrease in societies with greater opportunities for women, places like Sweden in comparison to places like Algeria, but rather increase. This fact suggests that when women have the freedom to select their own occupations, that is, where "patriarchy" is least powerful, the differences between men and women *increase* rather than decrease (Zhang, Lingshan, et al. "Are Sex Differences in Preferences for Physical Attractiveness and Good Earning Capacity in Potential Mates Smaller in Countries with Greater Gender Equality?", *Evolutionary Psychology* 17, no. 2 [2019]). Rist notes that Stein grounds differences such as these in different roles that males and females have in human reproduction and nurture of the very young.

What is a Person? is the fruit of enormous learning and a mind capable of contextualizing philosophers differing in language, culture, and historical contexts in a clear, memorable style of exposition.

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John Henry Newman on Truth and Its Counterfeits: A Guide for Our Times. By REINHARD HÜTTER. Sacra Doctrina Series. Washington, D.C. The Catholic University of America Press. 2020. Pp. xiii + 267. $24.95 (paper). ISBN 978-0-8132-3232-4.

"From the time that I became a Catholic, of course I have no further history of my religious opinions to narrate. In saying this, I do not mean to say that my mind has been idle, or that I have given up thinking on theological subjects; but that I have had no variations to record, and have had no anxiety of heart whatever." With these words, John Henry Newman began the final chapter of *Apologia pro Vita Sua* (1865), addressed to a Protestant public to explain his conversion from the Church of England to the Catholic Church. These words might express the confidence of Reinhard Hütter's final chapter, too, an "Epilogue" which explains his own conversion from Lutheranism to Catholicism. One difference between the *Apologia* and Hütter's book is that the latter is written by a Catholic for Catholics, quoting conciliar documents and a plethora of papal encyclicals. There is nothing wrong with such an approach in

a volume written by a professor at The Catholic University of America, in a series entitled "Sacra Doctrina" and published by The Catholic University of America Press. But it was not Newman's approach in the *Apologia* nor in many of his controversial works that Hütter quotes. The *Apologia* was teeming with Protestants, even as it criticized the one (Charles Kingsley) who accused Newman of dishonesty: from Bishop Joseph Butler, the Anglican theologian whom he credited with two of his most important theological principles, to the Anglicans he still called his friends, to the court of public opinion in which he presented his case so persuasively. Where Hütter is less persuasive than Newman is not in his prose (which is lucid), but in courting the opinion only of fellow Catholics.

The Prologue argues that the canonized cardinal can speak as our contemporary because of his threefold characterization of the predicament of the age: "the spirit of liberalism in religion, the usurpation of religion and faith by rationalism, and the unfettered rule of the principle of private judgment in religion" (1). Newman began criticizing each of these three while still the chief spokesman for a catholic renewal of the Church of England, and though faced with a different set of historical circumstances from those articulated in Hütter's epilogue, he like Hütter eventually found relief from the continual need to resort to "private judgment" by becoming a Catholic. Today's prevailing predicament is, in Hütter's phrase, "the unfettered autonomy of the sovereign self" (3)—a freedom (conceived negatively) summed up in the words of Justice Anthony Kennedy as, at heart, "the right to define one's own concept of existence, of meaning, of the universe, and of the mystery of human life" (quoted ibid., repeated on 216). Against such a counterfeit of human being and purpose, Hütter presents Newman's views on the topics of Conscience, Faith, the Development of Doctrine, and the University—or he almost does. For in Hütter's view, what Newman "initially brought to light, described, and tentatively explained in the context of discovery" as psychologist, phenomenologist, and controversialist needs supplementing with Aquinas in "the theological *context of justification*" (19). *That* Newman read Aquinas is not in doubt; however, it seems to this reviewer unlikely that he read Aquinas in the same way Hütter does. Nevertheless Hütter's method will not, he admits, "contribute to the ongoing exegesis of Newman" (20).

The drawback of this method can be seen in chapter 1, where a brief encounter with Newman's *Letter to the Duke of Norfolk* is coupled with a discussion of Aquinas on *synderesis* and *conscientia*. This chapter pits the theonomic conscience against its counterfeit, either the counterfeit presented by the knockers of conscience who (in Newman's words) see it as "an imagination," an "irrational" inhibition of "freedom of will" (28), or the counterfeit of boosters (such as Chief Justice John Roberts) of "the right of conscience" to self-determination (30). Were one attempting an exegesis of Newman on conscience, one might relate his thought to Bishop Butler, who called conscience "the guide assigned us by the Author of our nature." Butler's work, *The Analogy of Religion*, was common reading at Oxford for both Newman and

William Gladstone, the sometime British Prime Minister to whom the *Letter to the Duke of Norfolk* was a reply. (Gladstone even produced an edition of Butler's works, which makes one ponder whether, considering politicians today, we can indeed claim Newman's age as our own!) Nevertheless, Hütter is right that, briefly in the *Letter*, Newman "draws on a distinction at the very center of Aquinas's doctrine of conscience, between, on the one hand, the existence of an innate first principle and the first precept—Aquinas calls this *synderesis*—and, on the other, the intuitive bearing of the first principle and first precept upon a particular case" (33)—*conscientia*. In order to avoid error, this last, which Hütter translates "knowing together," requires instruction and counsel from *others*, as well as self-examination. This reliance on theonomy within the individual, and the heteronomy of the Church's instruction and counsel without, is opposed to its autonomous counterfeit; and it seems reasonable that, as Hütter argues, Newman meant the same in his famous toast to conscience first and to the pope second. The remainder of the chapter ranges beyond the scope of Newman into twenty-first-century politics and culture, though it ends with some rich appendices on conscience in Newman and other thinkers.

Chapter 2, concerning faith, begins with a strong critique of the late-modern West in which "transhumanism—and outgrowth of the sovereign subject—and posthumanism—the reductive understanding of the human being as super-primate—coincide" in a sovereign subjectivity that has "only two sides, its agent and its object" (91). Newman's address to both Protestants and Catholics soon after his conversion, against those in whose sight "our offence is that of demanding faith in the Holy Catholic Church," becomes grounds for criticizing any ecumenism that does not have as a condition "holding fast in one's assent of faith to the formal object or motive cause, the first truth, which includes the living apostolic authority of the Catholic church" (117, 118). Although Hütter's exposition of Aquinas on divine faith is (so far as I can judge) flawless, it nevertheless appears misplaced. In the *Apologia*, Newman stated that it had been fellow Oxford Movement leader John Keble who strengthened Bishop Butler's probabilism into an account of faith as assent to the divine object to whom "faith and love are directed"—an account in which "the argument from Probability, in the matter of religion, became an argument from Personality, which in fact is one form of the argument from Authority" (*Apologia*, uniform edition, 19). Not only does this Anglican view of faith contradict Hütter's description of "classical Protestantism" precisely because it does not substitute the "living apostolic authority that is authorized and guided by God to communicate God's revelation" (which Keble affirmed was located in the episcopacy) with private judgment based upon *sola scriptura* (102, which Keble criticized as "ultra-Protestantism"), neither does it accord with the Thomistic account of divine faith that Hütter presents. Moreover, Newman affirms Keble's account as "beautiful and religious, but it did not even profess to be logical; and accordingly I tried to complete it" (*Apologia*, 20). In his Anglican works he attempted to *complete* the probability-based account of faith, a very different logical mode from Scholasticism. C. Michael Shea (who appears in a

footnote of the first appendix to this chapter, 122 n. 64) has expertly shown that Newman learned and contributed to Scholastic accounts of the faith in the year he spent in Rome after his conversion. But even Hütter, in the chapter's useful second appendix, on certitude, admits Butler's ongoing significance in Newman's masterwork, the *Grammar of Assent* (Butler also appears in a single footnote, 126 n. 69).

The third chapter, on development of doctrine, is shorter and Aquinas only appears in a fascinating appendix on "Francísco Marín-Sola's Thomist Reception of Newman." The bulk of the chapter pits Newman's account of development against its counterfeits: the viewpoint of the "ecclesial antiquarian" on one hand and the "ecclesial presentist" on the other. Surprisingly, the 1859 essay "On Consulting the Faithful in Matters of Doctrine" makes no appearance (here or in the brief intellectual biography in the Prologue). This essay is considered by many to be Newman's signal contribution to the argument that reception by the faithful is evidence of a genuine doctrinal development.

Hütter is on home territory when in the fourth chapter he compares Newman's "ideal" of the university (195) with the secular, utilitarian, profit-driven multiversity of today. Today's counterfeit is the fulfillment of what Newman described in the 1852 Dublin Discourses (which Hütter rightly shows cannot be confused with the *Idea of a University*, 168 n. 1) as a Baconian polytechnic. Hütter makes a good case for interpreting the "philosophy" that Newman described as the "architectonic science," which in the genuine university reveals the unity of "the whole circle of secular knowledge," to be the first philosophy of Thomistic metaphysics, whose "apex is natural theology" (174). It is important that Hütter stops at natural theology, though, because in Newman's Catholic University in Dublin there were no courses on revealed theology for undergraduates, confined as they were (in Newman's words) to "apply their minds to such religious topics as laymen actually do treat." Hütter argues that such confinement was in response to bishops' concerns (185 n. 36), but it should be pointed out that it was also Newman's experience as a student and teacher at Oxford that revealed theology was the domain of clergy. Later in the chapter, Hütter's account of the "architectonic science" becomes more expansive than Newman's: "Only with theology as the keystone of the arch of university disciplines will the arch achieve the widest possible scope, will the university remain open to a maximum of interrelated and complementary sciences, will a university education remain in all areas of knowledge essentially philosophical, and will universal knowledge as an end in and of itself be intelligible and desirable" (198). Hütter's evident passion in this chapter is partially explained by an autobiographical footnote giving his different experiences as a student, teacher, and leader in institutions of higher education in Germany and the U.S.A.: "My commitment is simultaneously the source of my love for John Henry Newman's *The Idea of a University* and of my criticism of the modern research university" (210 n. 71).

The personal dimension of Hütter's book is something shared with Newman's writings. Warning against the Modernists' misunderstanding of Newman, Hütter concedes: "What makes Newman vulnerable of being co-opted in such a way is . . . his profound personalism, which can easily be misrepresented as an endorsement of modern individualism. Yet it is precisely his focus on the concrete reality of the human person, intellectual and essential, that keeps Newman from becoming a mere reactionary in modern times" (5). I entirely agree that this is true of Newman; but how much of Newman's person appears in this book? Although I heed Hütter's concern about "that field of Newman scholarship that pursues an ever-more minute reconstruction of Newman's thought in its own historical context" (20), it is nevertheless Newman's person that we need to meet in order to discern his peculiarities of thought, some of which result from the concrete circumstances of the first half of his life that he brought with him to Catholic theology. We cannot rely on Aquinas to fill in the gaps, or else the Newman we meet is also a counterfeit.

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The Nature of Human Persons: Metaphysics and Bioethics. By JASON T. EBERL. Foreword by CHRISTOPHER KACZOR. Notre Dame Studies in Medical Ethics and Bioethics. Notre Dame, Ind.: University of Notre Dame Press, 2020. Pp. xvi + 405. $75.00 (hard). ISBN 978-0-268-10773-4.

Questions of bioethics concern human persons as animals, that is, as beings who are born and die, who become ill or injured and who recover or decline, who are not always strong and independent but who live and die in a web of interdependencies. At the same time, it concerns human beings as rational, relational, and cultural: as capable of making decisions (for themselves or for others, by themselves or with others) that can be judged as good or bad, as ethical or unethical.

How one does justice to the animal and rational aspects of human nature and understands them together as aspects of a unified being is far from straightforward. Unfortunately, much academic bioethical discussion launches straight into the ethical dilemmas of clinical medicine with little prior reflection on the fundamentals of moral philosophy and even less on the metaphysics of the human person as animal and rational. Jason Eberl is to be commended in seeking to address this lacuna and in bringing to it the resources of the Thomistic intellectual tradition. Eberl brings Thomas Aquinas into conversation with a number of contemporary English-speaking philosophers and seeks to

show that Thomas provides a satisfying *via media* between substance dualism and reductive materialism.

The book has eight chapters, the first four of which concern the question "What am I?" framed as a question of human nature and of personal identity. Eberl lists nine desiderata (his term) that ought to be satisfied by any account of human nature. He then discusses hylomorphism (chap. 2), varieties of dualism (chap. 3), and varieties of materialism (chap. 4) before coming to the conclusion that Thomistic hylomorphism satisfies the desiderata more than do the other accounts he has surveyed.

Chapters 5 to 7 apply this account of the human person to the questions of when human beings begin to exist, when they die, and whether there could be hope for life for human persons beyond death. Chapters 5 and 6 do not address bioethical questions per se as "responses to the various bioethical issues at hand require combining metaphysical conclusions with a particular ethical theory and taking various values into account" (17). Nevertheless, where one's actions might end the life of some being, it is clearly ethically relevant to know whether that being is a human person. In contrast, it is much less obvious how chapter 7 relates to bioethics. This chapter does, however, provide important insight into Eberl's theological anthropology.

The final chapter, comprising a mere 10 pages (from a book of 260 pages), is the only chapter to discuss bioethical topics directly: abortion and care of people in a persistent vegetative state (PVS). Its brevity causes problems. The impression is given that cases of abortion are either unintended and proportionate or both "directly intended" and "disproportionate to the human person's death" (255). There is no discussion of abortion where the death of the unborn child is unintended but the good that is intended, while serious, is not a matter of life-or-death, no discussion of cases where the death of the child is intended but the good aimed for is a matter of life-and-death, and no discussion of cases such as craniotomy where death may be unintended but bodily harm is intended or at least, a bodily invasion that will in fact be lethally harmful. In relation to PVS there is no mention of the teaching of John Paul II (March 20, 2004) on the significance of providing nutrition and hydration or discussion of whether there are forms of care that are in principle obligatory. Eberl acknowledges that the chapter provides only "a brief treatment of these questions" but promises that "more in-depth treatments may be found in the works cited here" (250). Regrettably, the endnotes to this chapter are also extremely cursory (less than 2 pages from an expansive 84 pages of endnotes).

In relation to the rest of the book, the strongest chapters are chapter 5 and 6 on when human life begins and when (bodily) human life ends. These are worth consulting by anyone concerned with these questions. However, the argument of the book as a whole suffers from reading Thomas through a narrow lens shaped by less-interesting thinkers. In his foreword, Christopher Kaczor states that the book "surveys and critiques *all* the major (and the minor) alternatives to its own position, including animalism, constitutionalism, four-dimensionalism, substance dualism, and emergent dualism" (xi; emphasis

added). However, while Kaczor (not Eberl himself) presents this survey as "comprehensive" (x), a more fitting adjective would be "parochial." Eberl himself observes that all of the views he has surveyed "despite their respective nuances, may thus be termed 'neo-Lockean'" (129). There is no serious engagement with ancient or medieval philosophers other than Thomas. Even Aristotle is brought in rarely and mainly as a foil to Thomas. Among twentieth-century philosophers, none are included outside this "neo-Lockean" tradition. To take just two examples, there is no mention of Ludwig Wittgenstein or of Martin Heidegger. It is a lazy criticism to point out what a book does not contain, for no book can cover everything, but it is important to recognize that Eberl is mediating between Thomas and a very particular tradition of Anglophone philosophy, and this shapes his reading of Thomas as much as it does his critique of that tradition.

A few examples suffice to show the problems with the approach taken in the book. Eberl begins by listing nine "desiderata" for an account of human nature. This is a curious method which begins with propositions desired to be true and tests theories or arguments on the measure of whether they support these conclusions. Such a method runs quite counter to the Thomistic method of considering arguments for and against (or rather, against then for) propositions and then going where the arguments lead, even when these conclusions appear unpalatable or unconventional. Perhaps this is overinterpreting the word "desiderata" and Eberl could be construed not as listing propositions that it would be desirable to believe but as setting out criteria for whether an account of human nature is adequate to reality. However, if these propositions are supposed to mirror fundamental aspects of human reality which can be known a priori or with little argument or which are evident to the senses and widely acknowledged, then this is certainly not true of the first proposed desideratum: "it is possible for human beings to survive bodily death" (135).

It is very strange to start with the possibility of life after death as this seems the least evident aspect of human nature. Aristotle, who is the primary philosophical source for Thomas, was notoriously obscure about what happens to the human soul after death. A more fundamental problem is the way the proposition is framed. It concerns not the possibility that human beings could have life after or out of death but the possibility that human beings could *survive* death. The claim that this is possible is reiterated throughout the book and especially in the extensive discussion in chapter 7.

Thomas, in line with constant Catholic tradition, held that the human soul is not destroyed when the body dies (*STh* I, q. 75, a. 2; and q. 75, a. 6). This was not only a theoretical belief for him but was expressed in prayers to the saints and prayers for the souls in purgatory. The earliest biographies attest that the soul of his sister appeared to him to ask him to pray for her (Bernard Gui 20, William of Tocco 44) and the duty to pray for the dead is expressed throughout his writings (e.g., *Collationes super Credo* 5). Nevertheless, Thomas stated very clearly that the separated soul is not a human being (*STh* I, q. 75, a. 4) and does not fulfill the definition of a person. He was also clear that in the

incarnation God became a human being and that this human being ceased to exist between his death on the cross and his resurrection (*STh* III, q. 50, a. 4). Thomas thus denied that the human being survives death as a separated soul. The human being has hope for life after death only because of the promise of the resurrection.

Eberl is aware that he differs from the view that Thomas maintained. Nevertheless, Eberl argues that "the survivalist thesis" is defensible on Thomistic hylomorphic principles and indeed is something that Thomas "*could* have—and arguably *should* have" held (232). On Eberl's account, the separated soul is a person (224), a human being (222), and even an animal (240), and is the same person, human being, and animal that existed before death. This metaphysical view has moral implications. In his critique of substance dualism, Eberl states that such views "raise the morally relevant question of whether death—and a fortiori killing—can really be understood as an evil for the person who allegedly 'dies'" (210). As Eberl also denies that the human being "dies," in the sense of ceasing to exist, this is a moral challenge for his own view. On Eberl's account, killing takes the life of the body but does not end the life of a human being. It is a serious but a relative harm.

Eberl departs still further from Thomas, and embraces a serious theological error, in relation to God's involvement in the resurrection. In chapter 7, Eberl is, quite reasonably, critical of attempts to invoke divine intervention as an ad hoc solution to puzzles over how someone raised from the dead could be the same human being. However, having shown how Thomistic hylomorphism provides a satisfying resolution of this problem, Eberl enunciates a principle that goes far beyond anything in the Catholic tradition: "a metaphysical account of postmortem survival is preferable if it *minimizes* the extent to which God must be actively involved in the process" (214; emphasis in the original); "I submit that a mark of a theory's superiority is that it involves God having to do the least amount of supernatural work to ensure that the numerically same human being persists through death and resurrection. Aquinas requires that God provide 'raw matter' for the soul to reinform at resurrection—and thus resurrection counts as a *supernatural miracle*—but that is *all* God must do for the same human being to be composed of the same body" (245; emphasis in the original); "the less often a theory has to invoke miraculous divine intervention to explain putatively everyday occurrences, such as a person passing from death into immortal life, the stronger the theory" (342 n. 180).

It is hard to know where to start in criticizing this alleged "principle" (211). In the first place, no created being could remain in existence without God being "actively involved." In the second place, the life of grace and human fulfillment in the glorious resurrection are archetypal of the "supernatural." In the third place, the general resurrection is not the reinforming of "raw matter" in this world, as in the case of Lazarus (John 11:1-44), but concerns the creation by divine power of a new heavens and a new earth (Rev 21:1). However, these themes are neglected by Eberl, not least because, of 216 endnotes to chapter 7, only 1 (n. 199) contains any reference to Scripture! The characterizing of divine

involvement in the world as "miraculous" and the wish to "minimize" such "intervention" owes more to David Hume and to deistic forms of natural theology than it does to Thomas. It reminds one of the complaint of Blaise Pascal, "I cannot forgive Descartes. In his whole philosophy he would like to dispense with God, but he could not help allowing Him a flick of the fingers to set the world in motion, after which he had no more use for God." The requirement for "an account . . . that minimizes divine activity" (239) is perverse as a theological principle in any context but nowhere more so than when considering the fulfillment of human nature in the life of the world to come.

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The Saint and the Atheist: Thomas Aquinas and Jean-Paul Sartre. By JOSEPH S. CATALANO. Chicago and London: The University of Chicago Press, 2021. Pp. viii + 166. $30.00 (cloth). ISBN 978-0-226-71943-6.

As a discipline that considers all of being, philosophy can be expressed in a range of genres, from precise disputed questions, to dialogues, to meandering essays. But in each genre, philosophical writing tends toward the technical and the impersonal. *The Saint and the Atheist* eschews those tendencies. Instead, it is a series of impressionistic reflections on themes in Jean-Paul Sartre and Thomas Aquinas, and on the author's own intellectual life and sociopolitical predilections. Joseph Catalano is a Sartre scholar, but he wrote his dissertation on Aquinas. Now, late in his career, having written several books on Sartre, he returns to the Angelic Doctor to see how he, in company with Sartre, can reawaken "our original wonder that there is a world and we are in it" (2). He avoids the often-technical language of both thinkers, seeking to show how the themes he finds in both are drawn from sources in everyday life. (My own dissertation director, Jorge Gracia, recommended that I never use technical language unless I could translate it into perfectly ordinary language. Catalano follows such advice to a fault; much of the precision achieved by both thinkers' technical vocabulary is lost in his excessively loose discussions of normal life.)

With its disparate, memoir-like structure, this book does not defend a single thesis or claim. In this, it is unlike Stephen Wang's 2009 book *Aquinas and Sartre*, which compares and partially synthesizes the two philosophers' views with admirable precision. It is also unlike the work of the great Polish Thomists Mieczyław Krąpiec and Andrew Woznicki, who bring ideas from Sartre into a

clearly Thomistic, but existentially inspired, philosophical milieu. For those who wish to see what Sartre and Aquinas may have to say to one another on a deep philosophical level, I would recommend one of those thinkers. Rather, this book presents a range of themes, mostly drawn from Sartre but with analogues in Aquinas, though without much argument or careful consideration of how the two thinkers' worldviews precisely fit together. The book's value, at least for Thomists, lies not in providing any new insights into Aquinas—indeed, it gets many things about him wrong, often deeply so—but in that it helps the Thomist see how Aquinas comes across to a thoughtful, advanced scholar, revealing ways in which Aquinas is easily misunderstood and places in which Thomistic thought needs clarification or advancement.

Some already existing familiarity with Sartre is necessary, I think, fully to appreciate Catalano's claims. Catalano has interesting things to say about Sartre—for example, that, contrary to how he is often read, Sartre gives a prominent place to bodily life in his anthropology (20), and that really to understand him we need to pay attention to his works on literary themes, especially his books on Jean Genet (*Saint Genet*) and Gustave Flaubert (*The Family Idiot*) more than his more philosophical works like *Being and Nothingness* and *Critique of Dialectical Reason*. While Catalano ably introduces some of these ideas, he often writes in a way that presupposes awareness of his ideas and of the secondary literature debates on them. His other books, such as *Reading Sartre* (2010), serve as a much better introduction to the great existentialist than the current volume.

The Saint and the Atheist opens by asking whether philosophy has produced anything since the perennial tradition so ably summed up in Aquinas's work that genuinely adds to that tradition. Catalano finds something new in the phenomenological tradition that builds on Husserl, especially in Sartre's reflections on human freedom and the way in which we shape ourselves, others, and the world in general through using that freedom. He spends several chapters developing the Sartrean theme of "good faith." To act in good faith is to believe in one's freedom and one's obligations. But human beings can also avoid their obligations, taking refuge, for example, in art for art's sake, or in concern for one's private property (62-63). Catalano finds parallels to this idea of good faith in Aquinas's understanding of synderesis and conscience, which can be formed in such a way that we take up the task of living out our freedom well or avoid this call. He makes much of Aquinas's moral approval of taking what one needs from others in cases of strict necessity (24). Throughout the book, this attention to taking others' property is linked to a paradigm case of acting in bad faith, what Sartre calls the condition "scarcity" (99). By this, Sartre does not mean the condition of having less of some good than is needed. Rather, it is the condition of withholding goods from people when they could be provided with our current level of technological skill. To have concern for one's property when one could use it to help those badly off is an abuse of freedom, an instance of acting in "bad faith."

Yet although Catalano notes a sort of parallel here between Aquinas and Sartre, he is dismissive of the very foundation that Aquinas gives for his moral conclusions, the natural law and Scripture. These things, he says, "hardly need to be mentioned" (24). Rather, he continually returns to parallels between Sartre and Aquinas on more superficial levels, such as similar things each says about human freedom or about the discovery of universals on the basis of sensory, bodily activity. The deeper metaphysical and theological (or atheological) roots of each thinker's conclusions are routinely set aside. For example, on Sartre's view, the world in itself is a mass of unordered events; things only appear as distinct, and only become ordered in relation to one another through our free acts of ordering the world. Catalano notes that Aquinas sees in the ordering of the world and its fit with our cognitive powers a sign of the providence of God, but then offhandedly recommends that we bracket this fact (in the phenomenological sense of putting it out of consideration), instead considering how for both Aquinas and Sartre we are called to take free responsibility for the world (109-10). The convergence between the thinkers on this point, I would contend, is superficial and maybe even merely verbal. The theological basis for Aquinas's view cannot be "bracketed" without basically abandoning the Thomistic view; for Aquinas, human freedom *only* has meaning and existence within divine providence. This dismissiveness also shows up in some of the cultural commentary throughout the book—for example, Catalano dwells at some length, but without much connection to the philosophical themes of the book, on the Catholic Church's complicity in evil regimes like National Socialism.

In addition to freedom and its sociopolitical implications, a major theme of the book is the status of each person as both an instance of a universal kind and a unique singular entity. Catalano provides some helpful reflections on concrete ways in which we find ourselves to have much in common with others, yet also find others alien to us (41). In what is the most insightful chapter of the book, he considers how universals arise out of phantasms. On his Sartre-inspired understanding of abstraction, universal ideas are forged on the basis not just of sensible forms, but also through cultural, historical, and bodily practices. We come to grasp the universal "tennis," for example, through bodily participation in the practice of playing and watching tennis (67-70). Perceiving, understanding, and abstracting should be understood as activities and tendencies of the whole person and the whole body; phantasms must be understood much more expansively than as mere mental images. Similarly, our uniqueness as persons, on Catalano's view, arises out of our free acts and our bodily interactions with others, though he confuses "person" with "personality," misreading Aquinas on this terminology (71). We depend on how others look at us—for example, in objectifying or empowering ways—and speak about us to receive our own sense of freedom (34). These philosophical points are backed up with insightful and often convicting reflections on how we raise our children, and the ways in which we can damage or aid their moral development.

Yet here again, Catalano either overlooks or dismisses significant features of Aquinas's view. On Sartre's view, according to Catalano, we are not born with internal sensory or intellectual powers, but must forge these powers and so become fully distinct persons. He seems to think that on Aquinas's view we are just born with these powers, with no further development involved. He concludes that this is a point where Sartre has advanced beyond Aquinas. But while Aquinas does think we are born with our powers, it is not as though Aquinas has a static view of the human person, with no possibility for development. To think that is to overlook all of Aquinas's discussion of habit, virtue, and vice—that is, to overlook nearly his entire ethics! This overlooking on Catalano's part is, I think, a genuine lack of awareness of most of Aquinas's corpus—for another example, he says that he is not aware of Aquinas ever discussing relations between Church and state (113). Catalano thinks that what is important in comparing Aquinas and Sartre on human persons is that they both take seriously the body and freedom, while not seeing much importance in the contrast between Aquinas's hylomorphism and Sartre's materialism (44) and drawing a facile, unargued-for similarity between the idea of "nothingness" that drives Sartre's notion of freedom and Aquinas's notion of the soul (76).

Yet for all these misunderstandings and oversights, Catalano is also deeply aware of important, foundational issues in Thomistic metaphysics. Hence, I wonder whether his dismissiveness towards the natural-law, theological, and virtue-ethic features of Aquinas's thought is ignorance on his part or an actual bracketing of what he takes to be unfitting with a Sartrean point of view. It is difficult to tell from the text. He carefully explains the Thomistic view of analogy, including Cajetan's view, and Aquinas's view of nature absolutely considered, relating these ideas in fruitful ways to the Sartrean view of the human person as a unique universal singular. Yet again, although he is keenly aware of some features of the later broader Thomistic tradition, he seems unaware of others—for example, although he refers to Edith Stein's phenomenological Thomism at times, citing its synthetic approach as an influence on his own work, he seems to fail to see how she (like Sartre) arrives at a view of persons as uniquely singular.

Perhaps the feature of Aquinas's thought in which Catalano shows the most sustained, but unexpected, interest is Aquinas's angelology. For a work of engagement with an atheist materialist, and a work which regularly sets aside any talk of God, angels feature prominently in this work (e.g., 40, 82, 129). This is, I think, something for Thomists to take seriously: angelology and anthropology intersect in Aquinas in important ways, and these intersections should be mined for philosophical insight. For example, while Catalano follows Aquinas in holding that Plato's view of human persons would make us too like the angels, he thinks that Sartre gives us reason to think that human persons, especially under modern technological conditions, can act as the angels act in Aquinas: as the ones who decisively guide the development of the world.

There is much to be gained from a confrontation, and even partial synthesis, between Aquinas's thought and that of phenomenologists and existentialists like

Sartre. Catalano's book reveals some promising points of contact between these traditions, though these points require much more detailed and precise development by others really to advance either tradition, or to bring the two together.

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