The Thomist 76 (2012): 1-36

THOMAS AQUINAS, AUGUSTINE, AND ARISTOTLE ON "DELAYED ANIMATION"

D. A. JONES

Anscombe Bioethics Centre
Oxford, United Kingdom

ON 24 AUGUST 2008, the Speaker of U. S. House of Representatives, Nancy Pelosi, was asked in an interview "if [Obama] were to come to you and say 'help me out here, Madam Speaker, when does life begin?', what would you tell him?" She replied: "I would say that as an ardent, practicing Catholic, this is an issue that I have studied for a long time. And what I know is, over the centuries, the doctors of the Church have not been able to make that definition. St Augustine said 'at three months.' We don't know. The point is that it shouldn't have an impact on a woman's right to choose."[1]

These comments where widely reported at the time and generated not a little critical reaction.[2] This is not surprising given that Pelosi had chosen to label her own view as that of an "ardent, practicing Catholic" and given that it was an election year. In contrast, there was scarcely any reaction in the United Kingdom, earlier that same year, to similar remarks made by the newly

[1] Interview on *Meet the Press,* 24 August 2008.

[2] For example, Most Rev. C. Chaput, "On the Separation of Sense and State: A Clarification for the People of the Church in Northern Colorado"; USCCB News Release, "Bishops Respond to House Speaker Pelosi's Misrepresentation of Church Teaching against Abortion"; Archdiocese of Washington News Release, "Archbishop Wuerl on the Church's Constant Teaching on Abortion"; William E. May, "Abortion and Ensoulment: Augustine and Aquinas vs. Pelosi and Biden, Part I," *Culture of Life Foundation Briefs* September 16, 2008; E. Christian Brugger "Pelosi on Abortion," *Culture of Life Foundation Briefs* September 2, 2008. To these may be added innumerable more or less well-informed discussions on the topic on various blogs.

appointed chair of the Human Fertilisation and Embryology Authority. Asked about the Catholic Church's view on the embryo, Lisa Jardine asserted that, "it was only relatively recently that the date at which the soul enters the embryo was moved back to fertilisation. St Augustine believed that it happened when the baby kicked in the womb—17 weeks—and that suited for a very long time."[3]

Jardine and Pelosi were making use of a form of argument that has become common within contemporary discourse on abortion and embryo research: appeal to the ancient concept of delayed animation, delayed ensoulment[4] or "quickening" to justify destruction of the early human embryo.[5] As it happens both cited the theological opinions of Augustine of Hippo. However, it is perhaps equally common in this context for proponents to cite Aristotle or Thomas Aquinas, and sometimes all three together:

> And, although the church did condemn abortion from time to time, it usually recognized the "quickening" doctrine, *proposed by Aristotle* and *accepted by Augustine and Thomas Aquinas,* which stated that ensoulment took place at forty

[3] S. Byrnes "There Is a Debate to be Had—A Serious Debate—about Conscience: Sholto Byrnes talks to Lisa Jardine," *New Statesman* May 26, 2008, 24-27.

[4] This paper will use the terms "ensoulment" and "animation" interchangeably to refer to the advent of the rational soul at the beginning of the life of an individual human being (and not, unless stated explicitly, to refer to the vegetative or sensitive souls). The paper avoids the terms "hominization" (as used, for example in J. Donceel's article, "Immediate Animation and Delayed Hominization," *Theological Studies* 31 [1970]: 75-105) and "personhood" (as used for example by Carol Tauer, "Personhood and Human Embryos and Fetuses," *The Journal of Medicine and Philosophy* 10 [1985]: 253-66) as neither term is used by the ancient authors who are the focus of the present paper. Furthermore, each of these modern terms would require dedicated critical examination on its own.

[5] The history of this argument merits its own investigation. It has its roots in the 1950s in the attempt by scholars outside and inside the Church to neutralize Catholic opposition to abortion, and later to embryo experimentation, by appealing to the Church's own tradition. See for example Glanville Williams, *The Sanctity of Life and the Criminal Law* (New York: Alfred A Knopf, 1957); J. Keown and D. A. Jones, "Surveying the Foundations of Medical Law: A Reassessment of Glanville Williams's The Sanctity of Life and the Criminal Law," *Medical Law Review* 16 (2008): 85-126. See also Lisa Cahill, "The Embryo and the Fetus: New Moral Contexts," *Theological Studies* 54 (1993): 124-42; and M. Johnson, "Delayed Hominization : Reflections on Some Recent Catholic Claims for Delayed Hominization," *Theological Studies* 56 (1995): 743-63. From the 1970s this argument passed from scholarship into popular and overtly political genres in newspaper, magazine articles, and pamphlets, and later onto the Internet.

days if the fetus was male, at eighty days if female. Dispatch before ensoulment was not considered a crime until the Vatican Council [1869-1870] promulgated the idea that the fetus is human at conception.[6]

Aristotle, Augustine, and Thomas are invoked because all three are held in high esteem in the Catholic intellectual tradition. Indeed Thomas Aquinas remains the most significant and influential of Catholic philosophers and is frequently quoted in authoritative Catholic teaching documents.[7] Aristotle and Augustine were among the main intellectual influences on Thomas Aquinas and, most importantly, all three thinkers seem to deny that the destruction of an early human embryo is homicide *stricte dictu*.

The aim of the argument from delayed animation is to demonstrate that, until very recently, there has been a pluralism of Catholic views on the moral status of the human embryo. In the words of one critic, "the claim to absolute protection for the human embryo 'from the beginning' is a novelty in the Western, Christian and specifically Roman Catholic moral traditions. It is virtually a creation of the later nineteenth century."[8] If this is admitted then issues such as embryo research and (first-trimester) abortion are argued to be matters of conscience which therefore should not be censured by the Church nor prohibited by law.[9]

[6] Betty McCollister "Perspective: Anti-Abortion and Religion," *Free Inquiry* (Winter 1986) (http://www.holysmoke.org/fem/fem0017.htm), emphasis added. McCollister's article is at the more popular end of the spectrum and even this short quotation includes a significant number of errors, but it is quite representative of the genre and usefully illustrates the joint appeal to Aristotle, Augustine, and Thomas on the question of ensoulment.

[7] For example, Thomas is cited as the example to follow par excellence in Vatican II, *Declaration on Christian Education* (*Gravissimum educationis*) 10; and is explicitly invoked in some of the most important encyclicals on moral theology including John Paul II, *Veritatis splendor* 78; and *Evangelium vitae* 72. This motivation behind the appeal to Thomas Aquinas is made explicit by Pasnau, "First, the work of Aquinas has a great deal of authority with just those who have been most keen to attack the legality of abortion. . . . appeals to authority can have an impact" (R. Pasnau "Souls and the Beginning of Life: A Reply to Haldane and Lee," *Philosophy* 78 [2003]: 521-31).

[8] G. R. Dunstan "The Moral Status of the Human Embryo: A Tradition Recalled," *Journal of Medical Ethics* 1 (1984): 38.

[9] Thus, "Dombrowski and Deltete do not argue outright that it is wrong, only that it is sufficiently uncertain to allow that other views on abortion, more favorable to its moral legitimacy, should form part of a pluralistic outlook within the church" (T. Coady "Catholic

In the face of this challenge, the Church's Magisterium has reiterated the traditional teaching that direct abortion at any stage of pregnancy is "an unspeakable crime"[10] and has condemned embryo experimentation in the same terms. In parallel with this official reaction, many theologians have pointed out that Thomas Aquinas's conclusions about the embryo were "reliant upon Aristotle's biology"[11] and that, given developments in modern biology, he "would without doubt hold the doctrine of immediate animation."[12] This argument can also be expressed without invoking the dubious notion of what Thomas "would hold" if he were alive today;[13] it can simply be argued that Thomas's principles applied to modern biology imply a different conclusion: "Thus, applying Aquinas's metaphysical principles to the embryological facts uncovered since his time leads to the conclusion that the human being is present from fertilization on."[14]

Identity and the Abortion Debate," *Eureka Street* 12 (2002): 33-37, referring to D. A. Dombrowski and R. Deltete *A Brief Liberal Catholic Defense of Abortion* [Urbana: University of Illinois Press, 2000]). Similar arguments are present by Donceel "Immediate Animation"; Thomas A. Shannon and Allan B. Wolter, "Reflections on the Moral Status of the Pre-Embryo," *Theological Studies* 51 (1990): 603-26; and R. Pasnau, *Thomas Aquinas on Human Nature* (New York: Cambridge University Press, 2002).

[10] For example John Paul II, *Evangelium vitae* 58, quoting Vatican II, *Gaudium et spes* 51.

[11] D. A. Jones "The Human Embryo in the Christian Tradition: A Reconsideration," *Journal of Medical Ethics* 31 (2005): 712.

[12] American Bioethics Advisory Commission (http://www.all.org/abac/clontx10.htm), quoting John Saward, *The Redeemer in the Womb* (San Francisco: Ignatius Press, 1993), 16.

[13] The pursuit for what Thomas would hold "were he alive today" seems to rely on a kind of Molinist middle knowledge, the very idea of which has been criticized by many followers of Aquinas. In the words of Elizabeth Anscombe, "there [is] not, quite generally, any such thing as what would have happened if what did happen had not happened, and . . . in particular there [is] no such thing as what someone would have done if . . . and certainly . . . there [is] no such thing as how someone would have spent his life if he had not died as a child" (or indeed, we might add, had he been born seven hundred years later) (G. E. M. Anscombe *Metaphysics and the Philosophy of Mind* [Oxford: Blackwell 1983], vii).

[14] J. Haldane and P. Lee, "Aquinas on Human Ensoulment, Abortion, and the Value of Life," *Philosophy* 78 (2003): 273; see also Johnson "Delayed Hominization"; S. Heaney "Aquinas on the Presence of the Human Rational Soul in the Early Embryo," *The Thomist* 56 (1991): 19-48; Denis Bradley "'To Be or Not to Be?': Pasnau on Aquinas's Immortal Human Soul," *The Thomist* 68 (2004): 1-39; Jason T. Eberl "Aquinas's Account of Human Embryogenesis and Recent Interpretations," *Journal of Medicine and Philosophy* 30 (2005):

The focus of this contemporary moral debate has thus been on looking from Thomas Aquinas forward to the contemporary world. Few on either side of the debate have looked backwards from Thomas and asked whether these three thinkers do in fact share a common view. Generally, proponents of the argument from delayed animation have attributed to Aristotle, Augustine, and Thomas a common view or have presented the thought of Aristotle or Augustine through the lens of Thomas. In response, critics of the argument have rarely questioned this identification of Aristotle, Augustine, and Thomas's views on the human embryo but have preferred to question the transposition of these views into a modern context.[15]

The aim of the present article is to challenge the view, often unexamined, that Aristotle and Augustine held the same view as Thomas on the ensoulment of the embryo. Comparison of the three thinkers will help to clarify the thought of each and will highlight the nature of Thomas's specific contribution to the intellectual tradition in this area. It will also be seen that, on some issues, there is something to be gained from engaging directly with the thought of Augustine and Aristotle and not only reading them through the lens of a later thinker, even one so great as Thomas Aquinas.

379-94.

[15] There are exceptions to this pattern, among both abortion advocates and defenders of the Church's teaching. Thus R. Dworkin acknowledges that "Augustine declared himself uncertain" regarding the timing of ensoulment (R. Dworkin, *Life's Dominion* [London: HarperCollins 1993], 40), as does J. Connery (J. Connery, *Abortion: The Development of the Roman Catholic Perspective* [Chicago: Loyola University Press 1977], 55-59). Nevertheless, the claim that Augustine and Thomas Aquinas, or Aristotle and Thomas Aquinas, shared essentially the same view on "delayed animation" is frequent enough to be a commonplace even in the scholarly literature. Furthermore, even those who acknowledge the differences may underplay them. Thus Norman Ford states that "Aquinas follows Aristotle in this area with a few significant differences" (N. Ford *When Did I Begin? Conception of the Human Individual in History, Philosophy and Science* [Cambridge: Cambridge University Press, 1988], 41), among which one difference is that Aquinas holds that the intellective soul is created by God. However, Ford does not make explicit that, for Aristotle, the principle of the intellective soul is present from the beginning.

I. THOMAS AQUINAS ON THE EMBRYO

The thought of Thomas Aquinas on the human embryo is intimately related to his understanding of the human soul more generally. His thought on this topic is distinctive for the great efforts he makes to combine an account of the soul as an imperishable spiritual element which could survive the death of the body with a strong doctrine of the essential unity of body and soul as one substance. This is a topic he addresses in many places in his writings, but perhaps the clearest presentation is given in questions 75 and 76 of the *Prima Pars* of the *Summa Theologiae*.

In question 75 Thomas argues for the subsistence of the soul whereas in question 76 he defends the thesis that the soul is the substantial form of the living body: *forma corporis*. It is instructive to note the authorities cited in the *sed contra* of the articles of these questions. In question 75, four out of seven citations are from Augustine and none are from Aristotle. In question 76, only one out of eight is from Augustine and five are from Aristotle.

Thomas thus draws on Augustine and Aristotle for his distinctive account of the soul. However, this is not an ad hoc compromise of two incompatible positions (the spiritualist Augustine and the materialist Aristotle). Rather it is a new synthesis. The key to this synthesis is Thomas's insistence that the rational soul is at once a subsistent form (capable of independent action and existence) and is the substantial form of a living body. Thomas's thought developed over time on some questions on the soul (for example the question of the state of the separated soul after death)[16] but he did not deviate fundamentally from the synthesis he sets out in the *Summa*.

It is noteworthy that Thomas also makes use of Aristotle (and not only Augustine) when arguing that the soul is imperishable. Similarly he cites Augustine (and not only Aristotle) when arguing that soul and body constitute a single substance. Such a synthesis is made easier by the fact that Augustine's thought developed

[16] D. A. Jones, *Approaching the End: A Theological Exploration of Death and Dying* (Oxford: Oxford University Press, 2007), 106-10; M. Rousseau, "Elements of Thomistic Philosophy of Death," *The Thomist* 43 (1979): 581-602.

throughout his life and, for theological rather than philosophical reasons, he became increasingly critical of the Neoplatonism he had embraced.[17] It is also the case, as many commentators agree, that while Aristotle was deeply critical of Plato, he retained some aspects of Plato's thought. Aristotle was not a reductionist materialist in the modern sense but was, in Bertrand Russell's dismissive but suggestive phrase, "Plato diluted by common sense."[18]

Aristotle famously argued that as the soul is the principle of life of a living being, there must be different kinds of soul concomitant with different forms of living being. Thomas accepts this doctrine from Aristotle and invokes this schema in his understanding of embryonic development. Thus Thomas asserts that there is a succession of souls in the embryo: first the merely vegetative soul (*anima nutritiva*), then the sensitive soul (*anima sensitiva*), then the distinctively human rational soul (*anima intellectiva*). As each new soul comes into being the previous soul passes away until, at the culmination of the process of development, God gives the embryo a rational soul.

> It is in this way that through many generations and corruptions we arrive at the ultimate substantial form, both in man and other animals. . . . We conclude therefore that the intellectual soul is created by God at the end of human generation, and this soul is at the same time sensitive and nutritive, the pre-existing forms being corrupted.[19]

According to this view, the embryo is truly alive and its vital activities of nutrition and growth are expressions of this life. However, the life of the human embryo is not specifically human life nor indeed is the life of any embryo the life of a specific animal. It becomes the life of the specific animal only at the end of development.

Furthermore, according to Thomas, whereas the current vital activities of the embryo are due to its soul, the process of

[17] Jones, *Approaching the End*, 45-48.
[18] B. Russell *History of Western Philosophy* (London: Routledge Classics, 2004), 159.
[19] *STh* I, q. 118, a. 2, ad 2.

embryonic development is not itself an activity of the soul of embryo. It is not directed from within, but rather is an activity of the generating parent from outside, through the instrumentality of the seed.

> This active force which is in the semen, and which is derived from the soul of the generator, is, as it were, a certain movement of this soul itself. . . . This matter therefore is transmuted by the power which is in the semen of the male, until it is actually informed by the sensitive soul.[20]

The power of development is communicated from the parent through the seed to the embryo but remains the generating power of the parent moving the embryo by a kind of chain reaction. Hence it is not the embryo itself that directs its later development but the (male) parent who generates the child. This is true as far as concerns the development of the body and the sensitive soul. However, in relation to the rational soul Thomas holds that the soul cannot be generated by the parents, because it is immaterial and subsistent. Hence it must be created directly by God. In defence of this he quotes not only Christian teaching (*De ecclesiasticis dogmatibus*) but also Aristotle's remark that "the intellect alone comes from without."[21]

If the rational soul is created by God at the end of the process of development, when precisely is this in gestation? Thomas seems coy about this. He does not address this directly in the *Summa* but in an earlier work he cites the views of Aristotle and of Augustine, seemingly with approval.

> . . . conception of males is not completed until the fortieth day (as the Philosopher says), and of females not until the ninetieth. But Augustine seems to add six days to the completion of the male body (in his letter to Jerome).[22]

The context of this quotation from Thomas is a discussion of the conception of Jesus. Thomas accepts as Christian dogma the belief

[20] *STh* I, q. 118, a. 1, ad 3-4.

[21] *STh* 1, q. 118, a. 2, quoting *De generatione animalium* 2.3.736b20.

[22] III *Sent.*, d. 3, q. 5, a. 2, though that it is not in his letter to Jerome but in *On 83 Diverse Questions* 56 that Augustine give forty-six days as the timing of development.

that Jesus was fully human and fully God from conception. Therefore, it seems, Jesus must have had a human rational soul from the very beginning. Nevertheless, for Thomas, this makes Jesus an exception. Whereas other human beings develop gradually through an embryonic phase, Jesus was never an embryo but was conceived as a fully formed fetus (albeit a very small one).[23]

Thomas also invokes the distinction between the unformed embryo (without a rational soul) and the formed fetus (with a rational soul) in the context of moral theology:

> He that strikes a woman with child does something unlawful: wherefore if there results the death either of the woman or of the animated foetus [*puerperii animati*], he will not be excused from homicide [*homicidii crimen*].[24]

In a modern context it might be assumed that the limitation of homicide to the "animated fetus" implies that it may be acceptable in certain circumstances to destroy the inanimate embryo.[25] However there is no logical necessity in this move and it does not seem to have been the view of Thomas himself. For Thomas holds that preventing the human soul from coming to be is also a serious sin:

> after the sin of murder, whereby a human nature already in actual existence is destroyed, this sort of sin seems to hold the second place, whereby the generation of human nature is precluded.[26]

Thomas thus holds that the early human embryo is not a human being and does not possess a rational soul. The infusion of the

[23] *STh* III, q. 33; *Catechism of the Council of Trent* I, c. 4, q.4; see Saward, *The Redeemer in the Womb;* D. A. Jones, *The Soul of the Embryo: An Enquiry into the Status of the Human Embryo in the Christian Tradition* (London: Continuum, 2004), chap. 9.

[24] *STh* II-II, q. 64, a. 8, ad 2.

[25] A typical move, as made explicitly by McCollister, "Perspective: Anti-Abortion and Religion," and implicitly by Pelosi, "Meet the Press," and Jardine (Byrnes, "There Is a Debate to Be Had").

[26] *ScG* III, q. 122; see also IV *Sent.,* d. 31, q. 4, though it is not clear whether Thomas is referring to contraception or to early abortion or if indeed he made a distinction between them.

rational soul occurs later only after the body is "formed."[27] Before this point the embryo is *animated* (indeed possesses a succession of souls) but none of these souls is the specifically human rational soul. It is in relation to animation with the specific rational soul that the fetus is described as *puerperius animatus*.

Furthermore, neither the rational soul itself nor the power to generate a rational soul is transmitted in the seed, but this soul is created directed by God at the end of the process of generation, around six weeks in the case of male infants. The one exception to this process is Jesus who, according to Thomas, was conceived as a fully-formed fetus with a rational soul.[28]

II. The Apparent Unanimity of Augustine and Thomas

Not only was Augustine one of the sources for Thomas's general account of the human soul, he was also a direct influence on Thomas's understanding of the human embryo. It is significant that the one passage where Thomas speculates about the timing of animation he cites only two thinkers, Aristotle and Augustine. He also alludes to Augustine's embryological chronology in the *Summa*.[29]

More significant than the speculative issue of the precise timing of animation is the influence of Augustine on Thomas's moral claim that causing a miscarriage is not homicide if the embryo is not animated.[30] The example Thomas uses is taken from the book of Exodus (21:22-23). Augustine famously comments on these verses in a passage that has had an influence down to the present day. It is worth quoting this passage in the form given by the Anglican scholar G. R. Dunstan:

[27] The distinction of unformed and formed infant is roughly equivalent to the modern distinction between embryo and fetus, conventionally placed at eight weeks (again roughly at the time given by Aristotle of six weeks for males and thirteen weeks for females). This is a much earlier stage of development than "quickening"—the first felt movement of the infant. Prior to Aristotle, Hippocrates clearly distinguished these two stages of development but Aristotle, for theoretical reasons, seems to have elided these two distinctions into one, see Jones, *The Soul of the Embryo,* 20, 27.

[28] *STh* III, q. 33.

[29] *STh* III, q. 33, a. 1, obj 1 again in the context of discussing the embryonic Christ.

[30] *STh* II-II, q. 64, a. 8, ad 2.

If what is brought forth is unformed [*informe*] but at this stage some sort of living, shapeless thing [*informiter*], then the law of homicide would not apply, for it could not be said that there was a living soul in that body, for it lacks sense, if it be such as is not yet formed [*nondum formata*] and therefore not yet endowed with sense.[31]

In the Middle Ages these words were read alongside another commentary, also ascribed to Augustine, which states that "there is no soul before [the embryo] is formed."[32] These texts persuaded Gratian, Innocent III, and other medieval thinkers that abortion before animation was not homicide.[33]

Augustine is thus one of the sources for a legal tradition that not only shapes the theological views of thinkers such as Thomas Aquinas, but also has a direct influence on English Common Law via jurists such as Henry Bracton.[34] Significantly, this connection between Augustine and the later legal tradition is explicitly invoked by Justice Blackmun in his judgment in *Roe v. Wade*:

The theological debate was reflected in the writings of St. Augustine, who made a distinction between embryo *inanimatus,* not yet endowed with a soul, and embryo *animatus*. He may have drawn upon Exodus 21:22.[35]

This theme is reiterated by D. A. Dombrowski who emphasizes the significance in the history of Catholic thought of "the

[31] Augustine, *Questions on Exodus* 80, quoted in Dunstan, "The Moral Status of the Human Embryo," 40. Dunstan's article was a revision of a submission he made to the Warnock Committee, set up to consider public policy in regard to experimentation on human embryos. Dunstan's views were influential in the debates leading up to the Human Fertilization and Embryology Act 1990 and were also invoked in subsequent debates over cloning of embryos for research in 2001; see Jones, "The Human Embryo in the Christian Tradition."

[32] *Questions on the Old and New Testaments*, 23, This pseudo-Augustinian work was by an anonymous author now customarily called Ambrosiaster.

[33] See Connery, *Abortion,* 90, 96.

[34] See ibid., 102, 142-47; Jones, *The Soul of the Embryo,* 194-95; J. Keown, *Abortion, Doctors and the Law: Some Aspects of the Legal Regulation of Abortion in England from 1803 to 1982* (Cambridge: Cambridge University Press, 1988), 3-4, 10-11. The common-law tradition was not consistent in when or whether to make any distinction within the crime of abortion according to the stage of fetal development; see J. Keown, "Back to the Future of Abortion Law: Roe's Rejection of America's History and Traditions," *Issues in Law and Medicine* 22, no. 1 (Summer 2006): 3-37, esp. 5 n. 13.

[35] *Roe v. Wade,* 410 U.S. 113 (1973), at note 22.

distinction between (to use Augustine's terms) the inanimate and the animate fetus."[36]

Another passage of Augustine which has been significant for the history of Christian reflection on abortion comes from his work *On Marriage and Concupiscence*. There he declares that married couples who use poisons of sterility or procure abortion are behaving as though they were not married:

> Sometimes, indeed, this lustful cruelty, or if you please, cruel lust, resorts to such extravagant methods as to use poisonous drugs to secure barrenness; or else, if unsuccessful in this, to destroy the conceived seed by some means previous to birth, preferring that its offspring should rather perish than receive vitality; or if it was advancing to life within the womb, should be slain before it was born . . . they are not husband and wife . . . the woman is, so to say, the husband's harlot; or the man the wife's adulterer.[37]

Dombrowski interprets Augustine as distinguishing between unformed inanimate embryos that perish rather than "receive vitality" and the formed animate fetus that is "slain" before it is born. He also maintains that Augustine's objection to early abortion is not that it is homicide but that it is "cruel lust," that is, contrary to the good of marriage. Dombrowski attributes the same view to Thomas, so that both condemn early abortion not on the grounds of the ontological status of the embryo but, because the act impedes human generation, on grounds of perversity.[38]

This moral distinction between the inanimate and the animate fetus also seems to be reflected in Augustine's thought in other areas, specifically on the question as to whether unformed embryos share in the resurrection. While expressing a certain hesitancy in relation to questions about which we clearly have no

[36] Dombrowski and Deltete, *A Brief Liberal Catholic Defense,* 22. This work is unusual in giving detailed consideration not only to Thomas Aquinas but also to Augustine, and for arguing, from close analysis of passages of Augustine, that "Augustine (through the mediation of the Stoics) and Thomas, as we have argued, both adopted the Aristotelian view" in regard to ensoulment (ibid., 33)

[37] Augustine, *On Marriage and Concupiscence* 1.17.

[38] "Our conclusion is that Augustine's opposition to abortion of an unformed fetus is based on the perversity view *not the ontological one*" (Dombrowski and Deltete, *A Brief Liberal Catholic Defense,* 24; emphasis added).

direct information, Augustine nevertheless asks rhetorically, "But who is not rather disposed to think that unformed fetuses perish like seed which have not been fructified?"[39]

In summary, in relation to human generation, Thomas was influenced by Augustine directly and indirectly. This is particularly evident in the key texts in which Thomas suggests the time of animation and in which he implies that abortion is not homicide until animation. It would seem that both theologians share a common view and uphold a clear distinction between the embryo *animatus* and the embryo *inanimatus*.

III. Distinction between Augustine and Thomas

It is undoubtedly the case that Augustine was a strong influence on Thomas Aquinas both in general and with respect to the understanding of the human embryo in particular. Nevertheless, while there is a great consonance between their thought in many areas, Augustine and Thomas frequently take distinct positions on theological questions. In relation to the human embryo, the most fundamental distinction between Augustine and Thomas is that, while Thomas was clear about the origin of the soul and about the timing of animation (at least in broad terms), Augustine was consistently and profoundly agnostic on both questions.

In the time of Augustine there was no consensus on the theological question of the origin of soul.[40] Theologians had not yet decisively rejected Origen's Christian Platonism, according to which ensoulment was due to the fall of a pre-existing soul (pre-existence). Nor had theologians decisively rejected Tertullian's opinion that the soul was generated by the parents (traducianism). Nor had they decisively endorsed Jerome's view that the soul was created by God as each person came into being (creationism).

What is striking is that whereas Jerome was very clear that creationism is the only account compatible with orthodox Christianity, Augustine resolutely refused to decide in favor of

[39] Augustine, *Enchiridion* 85.

[40] Jones, *The Soul of the Embryo,* 92-108.

one theory or another. This refusal is a consistent theme throughout his writing from the very earliest post-conversion work (*De beata vita*) to the *Retractiones* at the end of his life. It was a question he considered in detail in his work on free will (*De libero arbitrio*) and also in a four-volume work devoted to the topic: *De anima et eius origine*. This is in addition to two letters to Jerome on the subject (143 and 166) and discussions in passing in many other works.

Agnosticism about the origin of the soul or the timing of ensoulment is a prominent theme in Augustine's work throughout his life, though within this there is certain a development. Augustine's conversion was facilitated by reading Platonist authors and his early works show a clear affinity with Christian Platonists such as Origen and Ambrose. There are even passages that suggest belief in a pre-existence of the soul.[41] However, over time Augustine becomes more critical of Platonism and by the time he writes *De anima et eius origine* he only feels the need to discuss traducianism and creationism. Between these two he shows a growing preference for creationism, but concerns about the Pelagian heresy and the passage of original sin prevented him from embracing creationism wholeheartedly. Nor is there reason to believe that, even if he had embraced creationism, he would have accepted the claim that the soul could not be given until the body was formed. He never defends such a claim.

Augustine was well aware of Jerome's advocacy of creationism as the only orthodox account of the origin of the soul. However, he remained unconvinced: "I am willing that the opinion which you hold should be also mine; but I assure you that as yet I have not embraced it."[42] In his letters to Jerome, Augustine gently goads Jerome to demonstrate his case if he is able, "Teach me, therefore, I beseech you, what I may teach to others; teach me what I ought to hold as my own opinion."[43] Nevertheless, there

[41] Augustine, *Confessions* 1.6-8; *De Genesi contra Manicheos* 2.8; *De Genesi ad litteram* 1.3; see R. J. O'Connell, *St. Augustine's Early Theory of Man* (Cambridge, Mass.: Harvard University Press 1968), 146-50.

[42] Augustine, *Letter* 166.8.

[43] Augustine, *Letter* 166.9.

is some reason to think this request rhetorical. In his most mature and detailed discussion of the topic, Augustine expresses the view that the intemperate desire to solve this riddle may lead people inadvertently to embrace the Pelagian heresy.

> If this be one of the things which are too high for us, and which we are forbidden to seek out or search into, then we have good grounds for fearing lest we should sin, not by our ignorance of it, but our quest after it.[44]

From the forgoing discussion it is evident that Augustine never said that life begins "at three months"[45] nor did he claim that "the soul enters the embryo . . . when the baby kicked in the womb"[46] nor did he defend "ensoulment as a distinct additional act of God at around the 46th day after fertilisation."[47] Augustine certainly held that the body was formed at forty-six days[48] (not three months or at "quickening"). Nevertheless he held neither that the embryo acquired a soul only at that point nor that creation of the soul was a distinct act of God. Augustine remained open to the possibility that the soul might be generated by the parents, and hence might be present from conception. Furthermore, even if the soul were created by God, Augustine expressed scepticism about our ability to know when this occurred. This is evident if the passage quoted selectively by Dunstan is quoted in full:

> If therefore there is an unformed embryo, animated in an unformed way [*animatum informiter*]—since the great question of the soul [*anima*] is not to be rushed into rashly with a thoughtless opinion—then on this account the Law does not pertain to homicide, because it is not yet possible to say that a *living* soul is in this body since it is bereft of sense, if (the soul) be in flesh that is not yet formed [*nondum formata*] and hence not yet endowed with sense.[49]

[44] Augustine, *De anima et eius origine* 4.5

[45] Pelosi, "Meet the Press."

[46] Byrnes, "There Is a Debate to Be Had," quoting Jardine.

[47] P. Carnley, "IVF and Stem Cell Research," paper delivered at the annual meeting of Anglican bishops, Perth, Australia, 18 March 2002. (Carnley was Anglican Archbishop of Perth and Primate of Australia at the time.) A version was later published as P. Carnley "Such is Life," *The Bulletin,* 16 August 2002: 36-38. This paper shows a clear indebtedness to Dunstan, "The Moral Status of the Human Embryo."

[48] Augustine, *On 83 Diverse Questions,* 56.

[49] Augustine, *Questions on Exodus 80* (author's translation).

Dunstan omits the crucial line "since the great question of the soul is not to be rushed into rashly with a thoughtless opinion." Yet this is the most distinctively Augustinian element of the passage and shapes how the rest is to be understood. It is clear from this passage that Augustine believes that a soul may be present *in an unformed way* even if this soul is quiescent, as it were, and not yet an active or "*living*" soul. He was constrained by the text of Scripture on which he was commenting. In the Old Latin and in the Septuagint (which he also consulted) the text of Exodus 21:22-23 seems to imply that abortion is homicide only if the offspring is "formed." Augustine had no access to the Hebrew and was not aware that at this point the Septuagint was a mistranslation, importing concepts not present in the original. What is significant is that, despite the seemingly clear implications of the version of the text he possessed, Augustine expressly denied that the passage should be used "rashly" to infer anything about the origin or presence of the soul.

The same deliberate agnosticism is seen in Augustine's comments about the resurrection of embryos, again if these are quoted in full:

> For, if we say that there is a resurrection for [fetuses], then we can agree that at least as much is true of fetuses that are fully formed [*formati*]. But, with regard to undeveloped [*informes*] fetuses, who would not more readily think that they perish, like seeds that did not germinate? But who, then, would dare to deny—though he would not dare to affirm it either—that in the resurrection day what is lacking in the forms [*formae*] of things will be filled out? Thus, the perfection which time would have accomplished will not be lacking, any more than the blemishes wrought by time will still be present. Nature, then, will be cheated of nothing apt and fitting which time's passage would have brought.[50]

Augustine provides an argument that applies equally to formed and unformed embryos—that what is lacking in form will be perfected and the development that "time's passage would have brought" will be completed in the resurrection. Nevertheless, both sides of the argument are surrounding by warnings neither to dare to affirm this nor to dare to deny this. There is a kind of

[50] Augustine, *Enchiridion* 85.

intellectual asceticism here which, while hopeful, maintains the discipline of neither affirming nor denying.

Nor do any other passages in Augustine's writing imply a distinction between the inanimate embryo and the animate embryo. For example, the passages cited by Dombowski about offspring who perish before they "receive vitality"[51] seems not to refer to early abortion but to poisons of sterility. This is evident from the structure of the argument:

> . . . such extravagant methods as [A] to use poisonous drugs to secure barrenness; or else, if unsuccessful in this, [B] to destroy the conceived seed by some means previous to birth, preferring that [A] its offspring should rather perish than receive vitality; or if it was advancing to life within the womb, [B] should be slain before it was born.

In fact despite Blackmun, Dombrowski, and many others[52] who attribute to Augustine the language of embryo *animatus* and embryo *inanimatus,* Augustine never uses the term *inanimatus* of the human embryo. The word (in any of its forms) occurs only once in the entire Augustinian corpus: to contrast the nonliving chariot with the living horse.[53] This lone reference does not relate in any way to the human embryo.

[51] Augustine, *On Marriage and Concupiscence* 1.17; quoted by Dombrowski and Deltete, *A Brief Liberal Catholic Defense,* 23.

[52] Blackmun, *Roe v. Wade,* 410 U.S. at n. 22; Dombrowski and Deltete, *A Brief Liberal Catholic Defense,* 19, 22; Williams, *The Sanctity of Life* (Faber and Faber edition, 1958),142; D. Gareth Jones, "Abortion: An Exercise in Biomedical Ethics," *Journal of the American Scientific Affiliation* 34 (December 1982): 6-17; H. F. Pilpel, "Hyde and Go Seek: A Response to Representative Hyde," *NY Law Sch Law Rev* 27 (1982): 1104 n. 17; M. S. Scott, "Quickening in the Common Law: The Legal Precedent Roe Attempted and Failed to Use," *Michigan Law and Policy Review* 1 (1996): 214, citing Margaret R. Miles, "Augustine," in *Encyclopedia of Early Christianity,* ed. Everett Ferguson (New York: Garland Publishing, 1990), 121. This error is repeated on Wikipedia http://en.wikipedia.org/wiki/History_of_abortion (consulted 5 July 2011), itself citing a website hosted by the pro-choice site "religious tolerance.org" (http://www.religioustolerance.org/abo_hist.htm; (consulted 5 July 2011).

[53] Augustine, *De Trinitate* 3.3.8. A search of the *Patrologia Latina* for all words beginning *inanimat-* gives only two examples, this and one that is doubtfully attributed to Augustine (and does not refer to the human embryo but to inanimate worldly goods). The *Patralogia Latina* does not include lesser-known works of Augustine or less-common manuscript variants, but it is sufficiently rigorous to show that the distinction *animatus*/*inanimatus* is not applied to the embryo in any well-known work of Augustine.

Thomas Aquinas was well aware of Augustine's hesitancy on these questions. When discussing Augustine's writing on the origin of the soul Thomas states that "Augustine in *De Genesi ad litteram* and especially in his work *De origine animae* speaks as inquiring rather than asserting, as he himself declares."[54] However, Thomas has no such hesitancy and regards Jerome's creationist view as having been defined by the Church,

> Although formerly these opinions were held and it was doubtful which of them came nearest to the truth, as may be gathered from Augustine, afterwards, however, the first two were condemned by the Church and the third approved.[55]

The authority Thomas cites for this is, however, *De ecclesiasticis dogmatibus*[56] by Gennadius of Marseille, a fifth-century author strongly influenced by Jerome and certainly no better guide to Catholic orthodoxy than is Augustine. Peter Lombard had already cited this text[57] and this clearly helped establish the medieval consensus that creationism and delayed animation were matters of Church dogma. However, neither of these doctrines had in fact been defined by a pope or council, and the tendency to presume theological questions had been settled was a weakness of medieval theology from which Thomas was not immune.[58]

[54] *De Pot.,* q. 3, a. 10, ad 1.

[55] *De Pot.,* q. 3, a. 9.

[56] Gennadius, *De ecclesiasticis dogmatibus* 14.

[57] Peter Lombard, II *Sent.,* d. 18, c. 7.

[58] While creationism had not been defined in Thomas's time, it might be thought that the matter has since been settled. The *Catechism of the Catholic Church* states, "The Church teaches that every spiritual soul is created immediately by God [*immediate creatam*] - it is not "produced" by the parents [*non est a parentibus « producta »*]" (*CCC* 366). Two references are given: *Humani generis* 36, "the Catholic faith obliges us to hold that souls are immediately created by God" (*animas enim a Deo immediate creari catholica fides non retinere iubet*); and the Profession of Faith of Paul VI, 8, "We believe in God . . . creator in each man of his spiritual and immortal soul [*unoquoque homine, animae spiritualis et immortalis*]". Nevertheless it is not clear that this statement or the two citations imply that creationism is *de fide*. It is noteworthy that F. P. Siegfried did not regard the doctrine as *de fide* in 1913 (*The Catholic Encyclopedia,* s.v. "Creationism" [New York: Encyclopedia Press, 1913]) and neither did L. Ott in 1952 (L. Ott, *Fundamentals of Dogma* [London: Mercier Press, 1955], 77, who regards it as *theologice certa* but not *de fide* or *fidei proxima*). Furthermore, neither *Humani generis* nor the Profession of Faith even make mention of the role of the parents. The

IV. The Apparent Unanimity of Aristotle and Thomas

If some argument is needed to show that Thomas was influenced by (but differed from) Augustine on the human embryo, no argument is needed to show that Thomas was influenced by Aristotle. "With a few exceptions, Aquinas adheres to the views of Aristotle [on the embryo] almost to the letter."[59] Thomas's embryology is Aristotelian not only in general terms but in detail. For example, Thomas follows Aristotle very closely in denying that conception results from the mixing of male and female seed (in contrast to Albert who followed Galen and Arabic physicians). Rather than engage with contemporary embryological theories (of which Albert's was not the only example), Thomas takes his biology only from "the philosopher."

A comparison of the *Summa* (*STh* I, q. 118) with Aristotle's *De generatione animalium* and *De anima* will quickly show that the influence of Aristotle on Thomas is more extensive than the four explicit references to "the philosopher"[60] might suggest. The first two articles of the question are framed in Aristotelian terms and

encyclical is concerned not with parental involvement but with materialistic accounts of evolution. The Profession of Faith is concerned to emphasize the creative action of God. The *Catechism* excludes the belief that offspring are "produced" but it is noticeable that this is in scare-quotes even in the Latin « *producta* ». That the child is not a product does not necessarily exclude the "pro-creation" of the soul by the parents. Nor should the *Catechism* be regarded as defining the matter. It is simply reflecting what is taken to be received teaching. The same is true of the Catechism of Trent, which states that "according to the order of nature the rational soul is united to the body only after a certain lapse of time" (*servato naturae ordine, nullum corpus, nisi intra praescriptum temporis spatium, hominis anima informari queat*) (*Catechism of Trent* I, c. 4, q. 4). In both cases the doctrine is not so much asserted as presupposed in the way the teaching is framed. What is asserted (in the *Catechism of the Catholic Church*) is that God creates the soul and (in the *Catechism of Trent*) that Jesus possessed a rational soul from conception. It is noteworthy that in 1887 Antonio Rosmini was condemned for, among other things, allegedly professing a semi-traducianist account of the origin of the soul, but in 2001 this condemnation was lifted (Jones, *The Soul of the Embryo*, 106). What appeared simply heretical in 1887 was treated as a more complex matter in 2001. These historical examples show that Augustine's caution is wiser that Jerome (or Thomas's) rashness when it comes to declaring theological propositions on the origin of the soul to be contrary to the faith. Indeed, the nature and origin of the human soul is an area of theology where there may well be scope for further reflection and for significant development.

[59] Ford, *When Did I Begin?*, 39.

[60] *STh* I, q. 118, a. 1 ad 4 (twice); q. 118, a. 2, obj. 2; q. 118, a. 2, corpus.

the whole of the argument—in the various objections, replies and the body of the articles—is suffused with Aristotelian philosophy. What is implicit in the *Summa* is explicit in the disputed questions *De Potentia* where, in four articles on the process of human generation, "the philosopher" is explicitly cited 29 times,[61] and this is in addition to the influence of Aristotle implicit in Thomas's own reasoning.

While the *Physics*, the *Metaphysics* and *De anima* provide the essential background to understand Aristotle's embryology, the key text is *De generatione animalium*. This begins with a very general discussion of generation in animals where the sexes are separate. Aristotle defines male and female in relation to generation, for "by a male animal we mean that which generates in another, and by a female that which generates in itself."[62] Understood in this way the male is the active principle, acting on another, whereas the female is passive, acted on by another. This pattern Aristotle sees confirmed by empirical investigation, so that in birds or fish the male seems not to contribute any matter to the process; the function of the seed is only to fertilize the female egg. Concomitantly, the female provides the matter of the egg which is disposed to be fertilized by the male seed but cannot be active without this principle. In terms of the four "causes" by which Aristotle accounts for natural change, the male is thus the agent, final, and formal cause while the female is the material cause. This explains why the female does not produce semen:

> If, then, the male stands for the effective and active, and the female, considered as female, for the passive, it follows that what the female would contribute to the semen of the male would not be semen but material for the semen to work upon.[63]

[61] Of these, twelve references are to *De generatione animalium* and the remainder to a variety of works: *De anima, Physics, Metaphysics, De meterologica, De coelo.*

[62] Aristotle, *De gener. animal.* 1.2.716a14.

[63] Ibid. 1.20.729a30.

Thomas accepts this account in its entirety: "the active force is in the semen of the male, as the philosopher says, but the fetal matter is provided by the female."[64]

Aristotle then turns to the question of how the semen can effect change on the matter provided by the woman (i.e., the egg in fish and birds, the menstrual blood in mammals). On the one hand it seems irrational to say that the semen acts from outside, "since one thing cannot set up a motion in another without touching it."[65] On the other hand the embryo does not generate itself, for "in all the productions of Nature or of art, what already exists potentially is brought into being only by what exists actually."[66] Aristotle's solution is to say that there is a change that is caused by the power in the semen and that this change then causes other changes so that "A should move B, and B move C; that, in fact, the case should be the same as with the automatic machines shown as curiosities."[67] Thus the heart is the first organ to be produced, after which the animal can feed and grow; then after the heart the liver is produced, then the other organs. Yet though one organ follows another it is not through the power of the first organ that the second is generated, nor through the power of the embryo as a whole that development occurs, for "nothing generates itself."[68] Rather, it is "the movement set up by the male parent"[69] that causes the whole chain of qualitative changes until, at the end, the new individual is generated. This also is affirmed by Thomas Aquinas, "This matter therefore is transmuted by the power which is in the semen of the male, until it is actually informed by the sensitive soul."[70]

Aristotle then makes the curious claim that when an embryo becomes an animal it is not any particular animal.

[64] *STh* I, q. 118, a.1, ad 4.
[65] Aristotle, *De gener. animal.* 2.1.734a4.
[66] Ibid. 2.1.734a30.
[67] Ibid. 2.1.734b10.
[68] Ibid. 2.1.735a14.
[69] Ibid. 2.1.734b35.
[70] *STh* I, q. 118, a.1, ad 4.

As they develop they also acquire the sensitive soul in virtue of which an animal is an animal. For e.g. an animal does not become at the same time an animal and a man or a horse or any other particular animal. For the end is developed last, and the peculiar character of the species is the end of the generation in each individual.[71]

This is paraphrased by Thomas as, "the philosopher says that the embryo is a living being before it is an animal, and an animal before it is a human being."[72] Thomas agrees with this and defends it against the objection that it seems to make the embryo "pass from one species to another."[73] Thomas responds that as the embryo is not a perfect being but "on the way to perfection" it does not belong to any species accept "by reduction": it is an embryo of a human being though not itself a human being.[74]

Having set out the general pattern for all animals, Aristotle immediately goes on to "a question of the greatest difficulty"[75] which is the pattern of generation in an animal that shares in reason, that is, in the human being. To understand human development Aristotle first asserts that the pattern in other animals should be the guide in human beings too. "For all three kinds of soul, not only the nutritive, must be possessed potentially before they are possessed in actuality."[76] Nevertheless, if the rational soul is also possessed potentially before it is possessed actually, this still leaves the question as to the origin of the rational soul. It seems that the sensitive soul could not exist prior to the development of the body, for those principles whose activity is bodily cannot exist without a body as "walking cannot exist without feet."[77] However, as Aristotle argues in *De anima,* the rational soul has an activity that is not itself a bodily action.[78] Hence the origin of the intellectual soul is different: "It remains, then, for the reason alone so to enter and alone to be divine, for

[71] Aristotle, *De gener. animal.* 2.3.736b2-5.
[72] *De Pot.,* q. 3, a. 9, obj. 12.
[73] *De Pot.,* q. 3, a. 9, obj. 10.
[74] *De Pot.,* q. 3, a. 9, ad 10.
[75] Aristotle, *De gener. animal.* 2.3.736b6.
[76] Ibid. 2.3.736b15.
[77] Ibid. 2.3.736b24.
[78] Aristotle, *De anima* 3.4.429a10 and following.

no bodily activity has any connexion with the activity of reason."[79]

Here it seems the unanimity of vision of Aristotle and Thomas is finally demonstrated. In all animals the embryo acquires a soul gradually, gaining its specific characteristics only at the end of generation. With human beings the final state is a soul that is not generated by the power of the male parent but enters "from outside." When does this happen? When the bodily organs are formed and the embryo begins to move. In another famous passage Aristotle fixes this at "In the case of male children . . . about the fortieth day, but if the child be a female then . . . about the ninetieth day."[80]

If the rational soul enters the embryo when the organs are fully formed, does this have any implications for the ethics of abortion? It seems that it does. In the *Politics* Aristotle asserts that, "when couples have children in excess, let abortion be procured before sense and life have begun; what may or may not be lawfully done in these cases depends on the question of life and sensation."[81] If this passage is interpreted in the light of the *History of Animals*, it seems that "life and sense" refer to the completion of form and to the first detected movements of the fetus (quickening). Whether or not this is the correct way to read Aristotle, it is certainly how later Aristotelians read him and it seems very likely that it was this Aristotelian tradition that shaped the translation of the Septuagint on Exodus 21:22-23. This in turn influenced the Old Latin translation of the Bible and the patristic commentators, including but not only Augustine. Aristotle thus seems to be the ultimate source of the moral distinction found in the *Summa* (*STh* II-II, q. 64) where Thomas limits homicide to the destruction of the *puerperius animatus*.

In summary, while Thomas recognizes his differences from Augustine on the origin of the soul, at no place in the *Summa Theologiae* or in *De Potentia* does Thomas acknowledge any

[79] Aristotle, *De gener. animal.* 2.3.736b28.

[80] Aristotle, *History of Animals* 7.3.583b3-5, a text quoted by Thomas in III *Sent.,* d. 3, q. 5, a. 2.

[81] Aristotle, *Politics* 7.16.1335b25.

difference between his view of the human embryo and that of Aristotle. Rather, he derives his view primarily from reading Aristotle, and later Thomists have frequently concurred with Thomas in seeing his account of the embryo as identical to that of Aristotle, at least in its essentials.

V. Distinction between Aristotle and Thomas

As in the case of Augustine and Thomas, so in the case of Aristotle and Thomas, while there is direct influence and common elements, there are also in fact significant differences. Again, as with the contrast between Augustine and Thomas, the most fundamental difference between Aristotle and Thomas on the embryo can be seen by considering the question of the origin of the rational soul. In contrast with Augustine, Thomas was very clear that revelation and reason required a belief in the direct creation of souls by God at the end of embryonic development, "We conclude therefore that the intellectual soul is created by God at the end of human generation."[82] However, at this point Thomas is even further from Aristotle than he is from Augustine, who at least discussed the question of whether the soul was directly created by God. The idea of creation (both the creation of the world and particular acts of creation) is Judeo-Christian in origin rather than Greek and it is doubtful that Aristotle would have made any sense of the claim that individual souls were "created by God at the end of human generation."

This difference is evident if we return to question 118 of the *Prima Pars*. After two decidedly Aristotelian articles, "Whether the sensitive soul is transmitted with the semen?"[83] and "Whether the intellectual soul is produced from the semen?"[84] the question concludes with the distinctly non-Aristotelian article, "Whether human souls were created together at the beginning of the world?"[85] It is well known that Aristotle argued that even the

[82] *STh* I, q. 118, a. 2, ad 2.
[83] *STh* I, q. 118, a. 1.
[84] *STh* I, q. 118, a. 2.
[85] *STh* I, q. 118, a. 3.

physical world had no temporal beginning, still less do immaterial substances (nor indeed do subsistent immaterial elements of material substances).

Furthermore, while Thomas sometimes seeks to attribute to Aristotle an idea of creation, neither the word nor the concept occurs anywhere in his writings. It is true that Aristotle has an idea of a "first cause" and ultimate principle, but it is not clear that this *arche* transcends the whole of created causality or conforms to the Christian understanding of creation *ex nihilo*. The distinction Thomas makes between essence and existence,[86] which is key to his understanding of creation, is not a distinction recognized by Aristotle. Moreover, there is certainly no inkling in Aristotle that the first cause might reveal itself, promise, or make covenants with particular human beings, let alone raise the dead and otherwise "intervene" in human history. Yet belief in "acts of God" provides an important element of the context for the doctrine of the direct or immediate creation of the soul.

Again, as noted above, Thomas distances himself from Augustine and follows Jerome in arguing that it is "heretical to say that the intellectual soul is transmitted with the semen."[87] This is heresy, according to Thomas, because it seems to imply that the rational soul "perishes with the body." However, while Augustine affirms both the resurrection of the body and the immortality of the soul, Aristotle had no conception of the former and what he thought about the latter is notoriously obscure.

It is true that Aristotle asserts that the rational soul is uniquely divine and enters "from outside,"[88] as he also argues that there is a part of the intellectual soul that is separable and that therefore survives death.[89] However, it is not at all clear what Aristotle thought about the origin and destiny of the rational soul. One possibility is that Aristotle never wholly abandoned the Platonic belief that individual souls both pre-exist and survive death. There

[86] *STh* I, q. 3, a. 4; *De Ente et essentia;* and elsewhere.
[87] *STh* I, q. 118, a. 2.
[88] Aristotle, *De gener. animal.* 2.3.736b28.
[89] Aristotle, *De anima* 3.5.430a25.

is evidence that he once believed this[90] and it is possible that he did not repudiate it. On the other hand, he refers only to "reason" (*nous*) entering from outside, not to the "rational soul" (*psuche noetike*). So also in *De anima* it is not rational soul but mind (*nous*) that is separable and immortal—and this seemingly pertains only mind as active for "mind as passive is perishable."[91] Another possibility, therefore, developed in detail by the Arab commentator Ibn Rushd (Latinized as Averroës) is that neither the pre-existence nor the postmortem existence of "reason" is individual. Rather, individual mortal human beings participate in a single intellect shared by all, and it is this intellect that is immortal. This seems to be implied by Aristotle when he states that human beings, like other animals, are eternal not as individuals but as a species, through generation.

> Since it is impossible that such a class of things as animals should be of an eternal nature, therefore that which comes into being is eternal in the only way possible. Now it is impossible for it to be eternal as an individual (though of course the real essence of things is in the individual)—were it such it would be eternal—but it is possible for it as a species. This is why there is always a *class of men* and animals and plants.[92]

Thomas famously criticized the Averroist doctrine of the "unity of the intellect," rejecting it both as an accurate exposition of Aristotle and as a credible account of the human person.[93] Nevertheless, while Thomas was able to show the problems with this interpretation of Aristotle (not least that it failed to recognize that the rational soul was a *soul,* the principle of life of a living body) he was not thereby able to demonstrate that Aristotle was clear either about the origin of the soul or its ultimate destiny. Furthermore, both the Platonic and the Averroist interpretations of Aristotle involve a symmetry between pre-existence and postmortem existence. This is in contrast with the Christian

[90] Anton-Hermann Chroust, "Eudemus or on the Soul: A Lost Dialogue of Aristotle on the Immortality of the Soul," *Mnemosyne,* fourth series, 19, fasc. 1 (1966): 17-30.

[91] Aristotle, *De anima* 3.5.430a25.

[92] Aristotle, *De gener. animal.* 1.23.731a 32-35; emphasis added.

[93] *STh* I, q. 76, a. 2; *De Unitate intellectus contra Averroistas;* and elsewhere.

narrative of a definite beginning and an eternal end. There is no evidence of such unidirectional cosmic history in Aristotle. Indeed, as Thomas himself admits, without belief in the resurrection of the body it is difficult to have a hope in eternal life for human beings.[94] Here again Thomas is in fact much closer to Augustine than he is to Aristotle.

It should be clear after a little reflection that Thomas's doctrine that the rational soul is "created by God" is not one that occurs explicitly in Aristotle. What is less clear, but evident from a close reading of the texts, is that while Aristotle seems to have thought that the rational principle enters "from outside," he did not think that it entered "at the end of generation" as Thomas argues. Aristotle states explicitly that the soul principle is transmitted in and with the semen, and this is true both of the separable (rational) soul and the inseparable (vegetative and sensitive) souls.

> Let us return to the material of the semen, *in and with which* comes away from the male the spiritus conveying the principle of soul. Of this principle there are two kinds; the *one is not connected with matter*, and belongs to those animals in which is included something divine (to wit, what is called the reason), while the other is inseparable from matter.[95]

Another subtle difference between Thomas and Aristotle is that, where Thomas presents embryological development as "a series of generations and corruptions,"[96] this in fact goes beyond the text of Aristotle. While Aristotle certainly regarded embryology as a process of generation, at no point does he describe this as a concomitant process of corruption. The idea of transient substantial forms that are successively generated and corrupted is rooted in Aristotelian concepts, but it is not something that is explicit in the text. Elizabeth Anscombe, sensitive to the

[94] *Super I Cor.* c. 15, lect. 2 (Marietti ed., 924); see Jones, *Approaching the End,* 137-38.

[95] Aristotle, *De gener. animal.* 2.3.737a8-13; emphasis added. This point shows the significance of Thomas's doctrine that the soul is created immediately by God. This gives reason to be wary of accounts of Thomas on the embryo (such as that given by Pasnau in *Thomas Aquinas on Human Nature*) which attempt to apply Thomas to modern biology without committing themselves to the doctrine of the creation of the soul by God.

[96] *STh* I, q. 118, a. 2, ad 2.

distinctions between Thomas's interpretation of Aristotle and the original text, suggests we read Aristotle as proposing the gradual acquiring of a specific soul (a gradual generation of form) but not the *series of substantial changes* hypothesized by Thomas. If it is replied that this is not the thought of a "good Aristotelian" it should be remembered that the very idea of an embryonic animal that is not an animal of any particular species is itself a quite astonishing idea, from an Aristotelian perspective.

> If however [Thomas] can think that surprising thing, it appears to me that he need not think that the changes from vegetative to animal to animal life have to be seen as substantial changes.[97]

Aristotle seems to have understood embryology as a process of generation involving a gradual movement from potentiality to act. All the powers of the soul are present potentially before they are actually and "in the embryo all the parts exist potentially in a way at the same time"[98] from the beginning. From a consideration of the Aristotelian concept of potential (from the *Physics,* the *Metaphysics,* and *De anima*) it might seem that the embryo is an animal of a particular species from the moment that it acquires its own vital powers of growth and sensation.[99] For the soul as "soul is the first actuality of a natural body having life potentially in it,"[100] and this is true as soon as the semen sets the menses to produce an embryo (seven days or so after insemination). However, this interpretation, though it is also a reasonable

[97] G. E. M. Anscombe, "The Early Embryo: Theoretical Doubts and Practical Certainties," in M. Geach and L. Gormally, eds., *Faith in a Hard Ground: Essays on Religion, Philosophy and Ethics by G E M Anscombe* (Exeter, U.K., and Charlottesville, Va., U.S.A.: Imprint Academic, 2008), 217.

[98] Aristotle, *De gener. animal.* 2.4.740a2.

[99] The view that the embryo has a human substantial soul as soon as it has its own vital powers is common among contemporary Thomists (e.g., Haldane and Lee, "Aquinas on Human Ensoulment") and Enrico Berti argues that this is the most consistent reading of Aristotle (E. Berti, "Quando esiste l'uomo in potenza? La tesi di Aristotele," in *Nascita e morte dell'uomo: Problemi filosofici e scientifici,* ed. S. Biolo [Genoa: Marietti, 1993], 115-23). However K. Flannery ("Applying Aristotle in Contemporary Embryology," *The Thomist* 67 [2003]: 249-78) raises difficulties with this as an account of Aristotle.

[100] Aristotle, *De anima* 2.2.412a29.

application of Aristotelian concepts, conflicts with the explicit assertion of Aristotle that the embryo is an animal before it is a human being (or any other specific animal).[101] It also seems to conflict with the insistence that development occurs due to "the movement set up by the male parent"[102] and that this is *in* the embryo but not, as it were, *of* the embryo, for "nothing generates itself."[103]

Despite his desire for a comprehensive and systematic vision of living things, Aristotle also shows an awareness of the limitations of his categories and an unwillingness to resolve ambiguity when that ambiguity is a feature of the object. Hence he states, for example, that

> Nature proceeds little by little from things lifeless to animal life in such a way that it is impossible to determine the exact line of demarcation, nor on which side thereof an intermediate form should lie. . . . So, in the sea, there are certain objects concerning which one would be at a loss to determine whether they be animal or vegetable.[104]

In Aristotle's understanding the human embryo surely also acquires soul "little by little," not by a distinct series of generations and corruptions but in a gradual process of generation towards a specific end point.

The embryo is, in Thomas's helpful phrase, "not a perfect being but is on the way to perfection."[105] This implies that the early embryo is already an animal *potentially,* as Aristotle says explicitly,

> Since the embryo is already potentially an animal but an imperfect one, it must obtain its nourishment from elsewhere; accordingly it makes use of the uterus and the mother, as a plant does of the earth, to get nourishment, until it is perfected to the point of being now an animal potentially locomotive.[106]

[101] Aristotle, *De gener. animal.* 2.3.736b2-5.
[102] Ibid. 2.1.734b35.
[103] Ibid. 1.2.716a14.
[104] Aristotle, *History of Animals* 8.1.588b4-10.
[105] *De Pot.,* q. 3, a. 9, ad 10.
[106] Aristotle, *De gener. animal.* 2.4.740a24-27.

Note here that imperfect and perfect are used in relation to different "perfections." This is evident in another passage of Aristotle where he says that animals whose nature is imperfect produce "a perfect embryo which, however, is not yet a perfect animal," while perfect animals are internally viviparous and keep the "developing animal" within them until they give birth to a "complete animal."[107]

Later interpretations of Aristotle, shaped partly by the interaction of this tradition with Judeo-Christian and Islamic influences, point to a single moment of animation/ensoulment, but this gives undue weight to what is one moment in the gradual acquisition of soul, and the point at which the human embryo becomes a complete animal at around forty days or so (for males). Aristotle never says that this moment is significant for rational life. Indeed it is neither the point at which the embryo become potentially rational nor the point at which it is actually rational.

It seems that, for Aristotle, the embryo possesses a rational soul potentially from the time that it is a being in its own right,[108] which is when the embryo sets[109] and has the power of development within it,[110] when it gains a heart[111] and starts to nourish itself,[112] when it becomes "an animal, potentially, though a simple one,"[113] that is, after the first week or so.[114] On the other hand,

[107] Ibid. 2.4.737b7-17.

[108] Ibid. 2.4.740a7-10, 20.

[109] Ibid. 2.4.739b21-35.

[110] Ibid. 2.1.734b12, 17.

[111] Ibid. 2.4.740a4: Thus Flannery ("Applying Aristotle") is correct to see the significance of the heart but mistaken in conflating the formation of the heart, at the very beginning of development, with the completion of organs and limbs at forty days.

[112] Aristotle, *De gener. animal.* 2.1.735a15-26.

[113] Ibid. 2.4.740a24.

[114] D. Balme, "Human Is Generated by Human," in *The Human Embryo: Aristotle and the Arabic and European Traditions,* ed. G. Dunstan (Exeter: University of Exeter Press, 1990), 30; cf. Aristotle, *De gener. animal.* 1.23.731a20; *Parts of Animals* 3.4.665a35. Before this point, the initial mixture of seed is called a conceptus (*kuema*), but not a living being (*zoon*). Furthermore, the destruction of the *kuema* was not called abortion (*ektroma*) but efflux (*ekruseis*); see *History of Animals* 7.3.583b12.

reason is not *actual* until the child starts to use his or her reason, that is, one or two years after the child is born.[115]

Perhaps even more stark than the distinction between Aristotle and Thomas on the origin of the soul is the distinction in moral matters. Whereas Aristotle does make a distinction between early and late abortion, this is in the context of the approval of infanticide for reason of disability[116] and approval of early abortion as a method of birth control.[117] Aristotle does not absolutely rule out the use of infanticide as a method of population control but proposes abortion "where custom does not allow infanticide."[118] At no point does Aristotle suggest that abortion or infanticide are forms of homicide, nor even that they are inherently morally problematic. In contrast Thomas regards infanticide, and abortion after animation, as murder, and regards abortion before animation as a sin second only to murder.

In this context it should also be noted that Aristotle regarded the end of human life (*eudaimonia*) as accessible only to a few and that slaves, barbarians, women, and children (born or unborn) did not deserve the full protection of the law. It is of course true that the Christian doctrine of equality before God did not have an immediate transformative effect on social mores, and is still indeed imperfectly applied. Nevertheless, this egalitarian idea is evident in Thomas's claim that, considering man as an individual, "it is unlawful to kill any man, since in every man though he be sinful, we ought to love the nature which God has made."[119] There is no parallel to this claim in Aristotle. Indeed, while the dignity of the human person finds some echo in other ancient philosophers it is transmitted to Thomas primarily from the Hebrew Scriptures, through the ideas of creation and the *imago Dei* present in all human beings. It is these ideas, reinforced by the

[115] W. Charlton, "Aristotle on the Place of Mind in Nature," in *Philosophical Issues in Aristotle's Biology,* ed. A Gotthelf and J. Lennox (Cambridge: Cambridge University Press, 1987); Balme, "Human Is Generated by Human."

[116] Aristotle, *Politics* 7.16.1335b20.

[117] Ibid. 7.16.1335b21.

[118] Ibid.

[119] *STh* II-II, q. 64, a. 6.

Christian concept of grace, that would help effect the final abolition of slavery and engender the modern concept of equal human rights. On moral matters, Thomas is far closer to Augustine (and indeed to Jesus) that he is to Aristotle. This is a further reason to resist the idea that Thomas, Augustine, and Aristotle shared a common view on the *moral* status of the human embryo.

VI. Conclusions

This exploration began with the relatively common claim that Augustine and Thomas, or Aristotle and Thomas, or all three shared a common view on the ensoulment of the human embryo. This claim has been reiterated in the context of moral disputes over abortion and embryo experimentation, but the focus of those disputes has been such that few on either side have challenged the claim. In general, the focus has been on applying these thinkers to the modern context rather than on making distinctions between them in their original contexts.

Direct examination of the claim shows it to be false. There are significant differences between these three thinkers. In particular, neither Augustine nor Aristotle affirmed the central Thomist thesis that the human rational soul is "created by God at the end of human generation."[120] Thus neither Aristotle nor Augustine accepted an account of "delayed animation" in the sense that the rational principle is created and infused at that point. Indeed, both Aristotle and Augustine seem to imply that the rational principle is present in some way from the time the embryo is conceived, though both also accept that there is also a process of development of the body. In sum, while the tradition of "delayed animation" is clearly influenced by Aristotle, it represents a fusion of Aristotelian and Judeo-Christian ideas and is not found either in Aristotle himself or in Augustine.

In some aspects, the contrast between Aristotle, Augustine, and Thomas shows the superiority of Thomas's thought. The doctrine that the soul is subsistent yet is created to be the soul of a particular body allows Thomas to resolve tensions and obscurities

[120] *STh* I, q. 118, a. 2, ad 2.

that are never resolved in Aristotle's account. Similarly the use Thomas makes of Aristotle allows him to unite theological and philosophical considerations in a way that is not possible for Augustine.[121] Nevertheless, while Thomas contributed insights lacking in his two great predecessors, he also suffered from intellectual flaws common in his age. For example, he showed an exaggerated deference to those earlier writers accounted as authorities. He was therefore reluctant to criticize Augustine or Aristotle directly, and rather than distinguish between his view and theirs he tended to attribute to them views that he thought were true. He followed Donald Davidson's "principle of charity" too keenly and without sufficient moderation, which led to the eliding of important distinctions.

Had Thomas made these differences explicit this would have helped distinguish more clearly between Aristotle's anthropology and his moral philosophy. Such a distinction was vividly illustrated in a later period in relation to the enslavement of the inhabitants of America. The Aristotelian concept of "natural slaves," invoked by the conquistadors, was not a denial of the *anthropological* claim that these people possessed a rational soul. It was rather a denial of the *moral* claim that they possessed an equality of dignity or moral worth.[122] The same contrast could be made with respect to the disabled newborn infant. Aristotle regarded such infants as human beings possessing rational souls, but for the sake of the *polis* he held that parents should be required to kill them. The error here lies not in his theoretical anthropology but elsewhere.[123]

[121] In his more mature writings Augustine became increasingly critical of some central tenets of Platonism, not least the assumption that the soul was better off separated from the body (see Jones, *Approaching the End,* 45-55). However, he did not find any better alternative philosophy with which to engage. He did not take Aristotle as a serious interlocutor.

[122] On the application of Aristotelian anthropology and ethics in the slavery debate see M. Banner, *Christian Ethics and Contemporary Moral Problems* (Cambridge: Cambridge University Press, 1999), 66.

[123] On the inestimable value of human life in Thomas's thought see also Haldane and Lee, "Aquinas on Human Ensoulment," 272-74; D. A. Jones, "Incapacity and Personhood: Respecting the Non-Autonomous Self," in *Incapacity and Care: Controversies in Healthcare and Research,* ed. H. Watt (London: The Linacre Centre, 2009).

Thomas shows a tendency to tidy up the thought of both Aristotle and Augustine, without always alerting the reader. This is not to deny that Thomas had a strong sense of the limits of all human knowledge or the utter impossibility of comprehending the divine. Nevertheless, on particular questions he was less inclined than Aristotle or Augustine to leave matters unresolved. Thus, for example, Thomas held that to deny that "the intellectual soul is created by God at the end of human generation" was not only erroneous but heretical. He understood the Church's rejection of pre-existence (as Origen expressed this) and of traducianism (in the form propounded by Tertullian) as leaving only one possibility, that asserted dogmatically by Gennadius: "The body of the embryo is first formed and then the soul is created and infused."[124] Yet Thomas was precipitate in taking creationism and delayed animation as matters of Church dogma, as is evident if one looks beyond Gennadius to his magisterial sources.

VII. Relevance to the Contemporary Debate

The focus of the present paper has not been with the contemporary context but with the thinkers in their own context, looking back from Thomas rather than looking forward. If we are to engage with the thought of great classical thinkers such as Thomas (or indeed Augustine or Aristotle), it is first necessary to be sensitive to the meaning of their thought in its original context. Otherwise we will miss many of the subtleties of their thinking. Nevertheless, it would be remiss to conclude without indicating, at least in outline, how this discussion is relevant to the contemporary use of the idea of "delayed animation" to promote abortion and embryo research.

In the first place, there is a tendency among contemporary thinkers to read Augustine and Aristotle through the later tradition (and in particularly through Thomas). The present discussion has demonstrated that this tendency can be misleading, and can obscure the thought of these thinkers. In particular it is misleading to present either Augustine or Aristotle as supporters

[124] Gennadius, *De ecclesiasticis dogmatibus* 14.

of "delayed animation" in the sense of implying the absence of the rational soul from the early embryo. Both thinkers in fact suggest that the rational principle is present in some way from the time the human embryo is constituted as a simple living being. This means that to destroy an embryo for them is not simply equivalent to destroying a plant or an irrational animal: it is to destroy a living being that already "included something divine"[125] even if "animated in an unformed way."[126]

Second, the comparison of Thomas with Aristotle shows that the question of moral status or protection is a complex issue and cannot be reduced to determining whether the subject is a human being. Work is also needed to recognize the dignity of a being who shares our human nature. Ironically, while it is accurate to present Aristotle as favoring abortion as a form of birth control, this is not because he accepted "delayed animation" but because he failed to respect the equal dignity of all human beings. The distinction between anthropological and moral issues is not always evident in modern discussions of "personhood" where it sometimes seems that the only moral issue is whether the individual is a being that is capable of rational thought.

Third, the comparison of Thomas with Aristotle shows the need to relate philosophical thought to a careful account of the biological reality. Aristotle, much more than Thomas, was attentive to the biology. To be sure Aristotle himself sometimes made mistakes in his biology on the basis of *a priori* reasoning, such as his identification of the male as the active principle and the female as passive. Nevertheless, he often shows an awareness of the fuzziness of biological categories, even in relation to categories as basic as plant and animal. Ironically while Thomas follows Aristotle very closely in his conclusions it is Albert who is closer to Aristotle in his empirical method. The philosophical understanding of the embryo should be approached with caution and requires a detailed knowledge of the biological reality. It is a mistake to claim Thomas Aquinas (still less Aristotle) as precedent for holding a doctrine of "delayed animation" today. The question

[125] Aristotle, *De gener. animal.* 2.3.737a13.

[126] Augustine, *Questions on Exodus* 80.

of animation can only be addressed in conjunction with reflection on modern biology.

Finally, the comparison of Thomas with Augustine shows that acknowledging the limits of knowledge can be a virtue. Much effort has been expended by contemporary moral theologians in attempts to demonstrate whether the soul is infused at fertilization or later. Notwithstanding the rational force of such arguments, the Magisterium has shown remarkable restraint in steadfastly refusing to make a declaration on the timing of animation.[127] The current article seems to bear out the wisdom of this approach.[128] It also suggests that the argument from intention or from the benefit of the doubt[129] may be more secure in the long run.

Augustine was concerned, with good reason, that advocacy of delayed animation might encourage the doctrinal error of Pelagianism. In the contemporary context there is equally good reason to suppose that advocacy of delayed animation may encourage moral error: the withdrawing of protection from the youngest human embryos. Philosophical counter-arguments may be convincing to some but if they are unconvincing these arguments may do more harm than good. In any case, Augustine helps us recognize that, in relation to the timing of ensoulment, it is "better to confess ignorance" than "to run into [moral] heresy which has been already condemned."[130]

[127] "The Magisterium has not expressly committed itself to an affirmation of a philosophical nature, but it constantly reaffirms the moral condemnation of any kind of procured abortion" (Congregation for the Doctrine of the Faith, *Donum Vitae* [1988]: 1.1); cf. John Paul II, *Evangelium vitae* (1995): 60; and Congregation for the Doctrine of the Faith, *Dignitas personae* (2008): 5.

[128] This caution certainly extends to the timing of ensoulment but, arguably, it applies even to the doctrine that the soul is created immediately by God, if this is taken to imply a denial of the involvement of the parents.

[129] R. Song, "To Be Willing to Kill What for All One Knows Is a Person Is to Be Willing to Kill a Person," in *God and the Embryo: Religious Voices on Stem Cells and Cloning,* ed. B. Waters and R. Cole-Turner (Washington, D.C.: Georgetown University Press, 2003), 98-107. Song's title is taken from G. Grisez, *The Way of the Lord Jesus,* vol. 2, *Living a Christian Life* (Quincy, Ill.: Franciscan Press, 1993), 497. This form of argument has been criticized by Carol Tauer ("The Tradition of Probabilism and the Moral Status of the Early Embryo," *Theological Studies* 45 [1984], 3-33), but her argument is itself open to criticism (Jones *The Soul of the Embryo*, 187-93; Johnson, "Delayed Hominization," 744 n. 4).

[130] Augustine, *De anima et eius origine* 1.34.

The Thomist 76 (2012): 37-71

EXPERIENCE AND EXPERIMENTATION: THE MEANING OF *EXPERIMENTUM* IN AQUINAS

MARK J. BARKER

Notre Dame Seminary
New Orleans, Louisiana

WHEN SEEKING TO UNDERSTAND a philosopher's use of a given term, one must both engage in precise textual analysis and consider the broader historical setting. Failing to distinguish technical from ordinary language meanings effectively underspecifies the term one is attempting to define. Diachronic changes in a term's nontechnical meaning and the tendency to retroject contemporary ideas into the past add to the interpretive challenge. Skewed translations misrepresent a philosopher's thought, especially to scholars not conversant with the source language.

A case in point is *experimentum,* which prominent classical and medieval dictionaries define as 'experiment'. This definition has been adopted in recent translations of Thomas Aquinas.[1] Given the controversial relationship between ordinary experience and experimentation, it is difficult properly to understand

[1] E.g., *STh* II-II, q. 95, a. 5, obj. 2: "Human knowledge begins by experimentation, according to Aristotle. But after a great deal of experimentation involving astronomical readings, men have discovered that certain future events can be predicted from the stars" (*Summa Theologiae,* vol. 40, trans. T. O'Meara [New York: Cambridge University Press, 1968], 51). Cf. "Human science originates from experiments [*ex experimentis*], according to the Philosopher (*Metaphysics* 1.1). Now it has been discovered through many experiments [*per multa experimenta*] that the observation of the stars is a means whereby some future events may be known beforehand" (*Summa Theologica,* trans. English Dominican Fathers, 3 vols. [New York: Benziger Bros., 1947], 2:1603). Section I, below, addresses these translations' inadequacies.

experimentum and *experientia*.[2] This study aims to surmount the hermeneutical difficulties inherent in Aquinas's use of these terms by linguistic, historical, and substantive analysis.

Section I first distinguishes between experience, tests, and experiments by establishing defining characteristics of each in light of a Thomistic philosophy of science. The section then argues that defining *experimentum* in Aquinas as 'experiment' is anachronistic. To prove this point requires apposite reference to medieval science, since Aquinas's terminology did not exist in a vacuum. Section II provides accurate and exhaustive definitions of *experimentum* and *experientia* as they occur in Aquinas, together with representative textual citations for each meaning.

Yet there is more at stake with *experimentum* than the adequacy of dictionary definitions; the semantic confusion regarding the term has contributed to the oversight of a crucial process in Thomistic epistemology. Aquinas most fully explains *experimentum*'s role in the acquisition of knowledge in his commentary on book 1, section 1 of Aristotle's *Metaphysics* (nn. 15-25). By a close analysis of this key text, section III shows that *experimentum* properly refers to a preabstractive function of the cogitative power.[3] Section IV indicates the cognitive imperfection

[2] "The subject of [medieval] experimentation and its corollary, experimental science, is fraught with semantic difficulties" (David C. Lindberg, "Experiment and Experimental Science," in *Oxford Dictionary of the Middle Ages,* ed. Robert E. Bjork [Oxford: Oxford University Press, 2010], 2:604). "Some clarification can be gained regarding [the problem of the origins of experimental methodology] through a careful analysis of just how important notions such as 'experience' and 'experiment' have functioned in various contexts, among different schools, within various historical periods, and in different disciplines. . . . A major desideratum in this regard would be to have a comprehensive study of the changing roles which 'experience' and 'experiment' have played in the development of Western thought, what meanings the terms have taken on under various circumstances, and what relation 'experience' and 'experiment' have had to other sources of knowledge" (Charles B. Schmitt, "Experience and Experiment: A Comparison of Zabarella's View With Galileo's in *De Motu*," *Studies in the Renaissance* 16 [1969]: 81).

[3] There has been almost no investigation of *experimentum* as such to date. James Stromberg's protracted "Essay on *Experimentum*," *Laval théologique et philosophique* 22 (1967): 76-115 and 23 (1968): 99-138, is little more than a collection of Scholastic quotations. Cornelio Fabro focuses exclusively on the role of *experimentum* in the induction of speculative first principles in *Percezione e pensiero* (2d ed.; Brescia: Morcelliana, 1962), chap. 5, sect. 3. Fabro studies a text from Cajetan, alleging (wrongly, as I will argue) that Aquinas's treatment of *experimentum* "does not contribute substantially new elements to

of experiential propositions by defining their quantitative and modal status in terms of Aristotelian and contemporary logic.

I. Semantic and Historical Analysis of 'Experiment', 'Experience', and *Experimentum*

In classical Latin, *experimentum* and *experientia* were approximate synonyms meaning 'experience' or 'test'; these two notions were contained indistinctly in the root *experior* ("test, experience, endure").[4] The fundamental meaning of *experimentum* as 'experience' or 'test' remained unchanged in the medieval period. William of Moerbeke followed his predecessors' use of both *experimentum* and *experientia* to render the Greek *empeiria* when translating book 1, chapter 1 of the *Metaphysics*.[5] Aquinas favors *experimentum,* employing it forty percent more often than *experientia* in his extant writings (327 as opposed to

[Aristotle's] theory." Robert Brennan holds that *experimentum* is a technical term and describes it as "the perfect form of sensitive cognition and the highest achievement of our sensitive powers," but does not say whether it is formal (i.e., imaginary) or intentional (i.e., cogitative) (*Thomistic Psychology* [New York: MacMillan, 1941], 145). Both Fabro and Brennan overlook the technical use of *experimentum* regarding the cogitative. In contrast, Joseph Lennon, "The Notion of Experience," *The Thomist* 13 (1960): 315-44, emphasizes the cogitative power's role in experience.

[4] The reference to trying experiences in book 1 of the *Aeneid* may be familiar: "Vos et Scyllaeam rabiem penitusque sonantis accestis scopulos, vos et Cyclopea saxa experti" (lines 200-01). In a philosophical context, Seneca used the terms to contrast experiential and instinctive animal cognition: "They appear to have knowledge of the harmful that is not gathered from experience; for they fear certain things before they are able to experience them" ("Apparet illis inesse scientiam nocituri, non experimento collectam. Nam antequam possint experiri, cavent") (*Epistula* 121, 19-23); cf. Richard Sorabji, *Animal Minds and Human Morals* (Ithaca, N.Y.: Cornell University Press, 1993), 35. All translations are mine unless otherwise indicated.

[5] See nos. 5-7 of the Moerbeke translation in Aquinas's I *Metaphys.,* lect. 1 (Marietti ed., p. 5). Cf. the translations of *Metaphys*. 1.1.980b25-981a29 in the *vetustissima*, *vetus* and *media latina. Metaphysica, libri I-IV.4: Translatio Iacobi sive 'Vetustissima' cum Scholiis,* in *Aristoteles Latinus,* vol. 25, part 1, ed. G. Vuillemin-Diem (Paris: Desclée de Brouwer, 1970), p. 5, line 16 to p. 6, line 19. *Metaphysica, libri I-IV.4: Translatio Composita siue 'Vetus',* in *Aristoteles Latinus,* vol. 25, part 1a, ed. G. Vuillemin-Diem (Paris: Desclée de Brouwer, 1970), p. 89, line 14 to p. 90, line 14. *Metaphysica, libri I-X; XII-XIV: Translatio Anonyma sive 'Media',* in *Aristoteles Latinus,* vol. 25, part 2, ed. G. Vuillemin-Diem (Leiden: Brill, 1976), p. 7, line 14 to p. 8, line 15. James of Venice authored the first translation before 1150; the authorship of the second and third is unknown.

232 uses).[6] The semantic difference between these cognate terms in Aquinas is unclear and has never been the object of a detailed study.

In order to determine the meaning and thus the proper translation of *experimentum,* one must first establish the meaning, scope, and use of 'experiment' and 'experience' in English. 'Experiment' was originally used in a broad sense to refer to any kind of test; given that the first references to this usage are from the late fourteenth century, it undoubtedly derives from the corresponding meaning of *experimentum*.[7] In current English, 'experiment' properly refers to tests undertaken to verify a hypothesis or to illustrate a known truth by means of the scientific method.[8] I submit that the more precise contemporary meaning of 'experiment' is a subset of the former generic meaning subsequent to semantic specialization. Since the generic sense is considered antiquated or metaphorical, I use 'test' to refer to tests in general.[9]

Tests can be divided into two subsets. Experimental tests employ the scientific method, experiential tests rely on unaided external sensation. Experiential tests are a subset of ordinary experience, which is distinct from experimentation, properly speaking.[10] Scientific experimentation is characterized by the conscious effort to prove or disprove a hypothesis by means of mathematical analysis, instruments, and the systematic manipulation of material reality. The proper subject of modern

[6] Omitting uses in scriptural quotations, patristic texts, and spurious works. Claims regarding the frequency of terms in Aquinas's works are based on, or verified in, the *Index Thomisticus,* ed. Roberto Busa et al. (online edition, ed. Eduardo Bernot and Enrique Alarcón, <http://www.corpusthomisticum.org/it/index>). All searches include the declined forms and, in multiword expressions such as *experimentalis scientia,* noncontiguous usage of the terms.

[7] *Oxford English Dictionary,* online edition (henceforth, *OED*), "Experiment," def. 1a.

[8] Cf. ibid., def. 2-4.

[9] An antiquated use: "To make another experiment of his suspition." Shakespeare, *Merry Wives of Windsor* IV. ii. 30 (cited in *OED,* def. 1a). A metaphorical use: "She's performing an experiment to see which flavor she likes best."

[10] One could illustrate these genus-species relationships by two intersecting circles, the larger one representing "ordinary experience," the smaller, "tests," with the intersection containing experiential tests, and the nonoverlapping area of "tests" containing experiments. Other subsets of the circle representing experience are suggested by the definitions of *experientia* and *experimentum* below, excluding metaphorical usage (as in angelic "experience").

science extends to truths or theories about things' physical properties and behavioral characteristics. In contrast, ordinary experience is broader in extension, insofar as it relies on the external senses independently of artificial techniques; more immediate, insofar as it deals with macroscopic objects; and more reliable, insofar as external sensory error is negative rather than positive.[11] Unlike complex scientific experimentation, learning based on ordinary experience requires neither quantitative analysis nor intricate instruments, and is thus fully accessible to the nonspecialist. (Sections III and IV present a fuller, principled explanation of ordinary experience.)

Ordinary experience (including experiential tests) is distinct from but not necessarily inferior to scientific experimentation as a basis for the investigation of nature and human behavior. Thomistic natural philosophers such as Wallace and Ashley grant the importance of experiments in reaching properly scientific certitude as well as probable conclusions.[12] On the other hand, reasoning based on ordinary experience can yield apodictic conclusions regarding real principles operative in the natural world. Such principles attained by philosophy of nature are of assistance in interpreting experimental data. For example, behavioral psychologists can benefit from applying foundational Aristotelian principles to their findings, since excessive reliance on mathematical analysis leads to investigations that risk statisticizing

[11] "Such examples [as the earth's apparent immobility in relation to the sun] do not prove that our senses are in positive error. All that they show is that while our senses correctly inform us about the broader aspects of reality, they cannot directly fill in all the details. The 'errors' of normal sense knowledge (if they can even be called that) are purely *negative*; they are *insufficiently* sensitive to show reality in all its details. But what they do show us is really there. Relative to us on the surface of the earth, the earth is stationary and the sun moves" (Benedict Ashley, *The Way toward Wisdom: An Interdisciplinary and Intercultural Introduction to Metaphysics* [Notre Dame, Ind.: University of Notre Dame Press, 2006], 86; cf. 85-91). This presupposes Aristotle's view that the proper sensibles are more reliable than the common, and that errors in incidental sensation are not attributable to external sensation but to one's interpretation thereof by means of the cogitative power and intellect.

[12] Cf. William Wallace, *The Modeling of Nature: Philosophy of Science and Philosophy of Nature in Synthesis* (Washington, D.C.: The Catholic University of America Press, 1996); and Ashley, *Way toward Wisdom,* for further explanation of the relationship presented herein between philosophy of nature or "natural science" (in the Aristotelian sense) and experimental science.

the obvious.[13] Although experimentation provides detailed knowledge inaccessible to the unaided senses, it only contributes indirectly to the ethical, metaphysical, or natural theological sciences, which are architectonic with respect to the specific modern sciences in important respects.

The neglect of a realist philosophy of nature under the influence of Cartesian methodic doubt and mechanism has led modern science to reject experiential inferences in favor of a purely experimental method. The complementarity in methodology between animal psychologists and ethologists provides one illustration of the need to harmonize rather than oppose experience and experimentation. Laboratory experiments cannot replace observation of animal activity in the wild.[14] While less accurate in revealing discrete physical properties, field observation may better reveal individual and group behavioral characteristics and dispel illusions generated by the lab setting. In reply to scientific reductionists, natural philosophers grant the perennial value of the strictly mathematical and instrumental method, but hold that both the experimental and the observational approaches can provide the basis for further dialectical and demonstrative inquiry.

Having outlined the distinction between experiments, tests, and experience from both an ordinary language and a philosophical perspective, we may now turn to the proper definition of *experimentum* and its cognates in the classical Latin that is at the

[13] The conclusions of such studies range from the superficially descriptive to the misleading, as when Daniel Gilbert concludes that children cause unhappiness, based on a majority of parents interviewed (*Stumbling on Happiness* [New York: Vintage Books, 2005], 243-44). This apparent appeal to objectivity reflects an emotivist reduction of happiness to the absence of stress; it thus commits the fact/value fallacy. If one understands happiness as an activity of the soul in accord with perfect virtue (Aristotle, *Nic. Ethic*. 1.7.1098a7), happiness need not be attained independently of stressful situations (such as child-rearing), but may be found in the midst of them.

[14] "The complexity of animal behavior study does not depend on elaborate mathematical treatments, on delicate instruments or giant computers—the paraphernalia that people usually associate with science. Although these devices have their place, they are after all only a means of wringing facts from nature. . . . The challenge is mainly to the intellect, to the judgment and patience of the observer rather than to his technical ingenuity" (Kenneth D. Roeder, "Introduction," in Nikolaas Tinbergen, *Animal Behavior* [New York: Time Books, 1965], 7).

root of medieval Latin usage. The *Oxford Latin Dictionary* defines *experimentum* as "a method or means of testing, trial, experiment" and *experientia* as "the testing of possibilities, trial, experiment."[15] Given that the ancients had not codified controlled experimentation into an established practice, this makes the exception into the norm. While these Latin terms may mean "test or trial," neither was consciously used to signify an 'experiment' in the specific sense. The definition of the cognate *peira* as 'experiment' in Liddell and Scott's *Greek-English Lexicon* is equivalently eisegetical.[16] The proper translation is the generic 'test', rather than the specific 'experiment'. One can only substitute 'experiment' for 'test' at the price of anachronism.

The textual citations provided by these dictionaries tend to disregard the terms' fundamental semantic value as 'experience'. In none of the examples listed under the *Oxford Latin Dictionary*'s first definitions of *experimentum* and *experientia* do the terms mean 'experiment' in the specific sense, but 'test' or 'trial', and in some cases 'experience'. Pliny the Elder wrote: "When wells are dug, if sulphurous fumes occur . . . they kill the well-diggers. The *experimentum* for this danger is to send down a lit lamp."[17] This refers to a practical test whose purpose is to avoid harm, not to an experiment aimed at knowledge for its own sake. According to Liddell and Scott, Aristotle states that the Greeks learned by 'experiment' (*peira*) that listening to certain types of music affects one's character. This portrays the Greeks as performing methodical tests to determine music's psychological effect. With

[15] S.v., ed. P. G. Glare (Oxford: Clarendon Press, 1968-82). Cf. "experimental knowledge," s.v. "Experientia," *Latin-English Dictionary*, William Smith and John Lockwood (Edinburgh: Chambers-Murray, 1933); "the knowledge gained by repeated trials, experimental knowledge," s.v. "Experientia," *A Latin Dictionary*, Charlton Lewis and Charles Short (Oxford: Clarendon Press, 1879).

[16] Henry Liddell and Robert Scott, *A Greek-English Lexicon* (9th ed.; Oxford: Clarendon Press, 1996), s.v. "Peira," def. 2.

[17] Pliny the Elder, *Natural History* 31.49 (cited in *Oxford Latin Dictionary*, s.v. "Experimentum").

Jowett, I read Aristotle as asserting that attentiveness to experience over time reveals the effect of music on the inclination to virtue.[18]

Although the ancients' and medievals' ignorance of experimental methodology inhibited their understanding of the natural world, the same cannot be said of their nescience of Humean methodic skepticism. To define *experientia* as "the testing of possibilities" retrojects a modern understanding of tests as the search for possibilities as such into the premodern mindset. The insertion of "possibilities" seems to invoke Hume's view that any causation one experiences is merely one possibility among others, and thus there can be no observation of causality, only of contingently related facts. Such a definition runs counter to the common-sense understanding of 'test' in ancient and medieval ordinary language.[19] For Aristotle and Aquinas, as well as for the ordinary person, the mind has reality as its proper object. The intellect and reality are not in an adversarial relationship unless the intellect is confused by sophistic arguments or the will suppresses the understanding of first principles (*nous archōn*).

Privileging the sense of 'test' over that of 'experience' suggests that only hypothetical-deductive tests can yield certain knowledge. Yet learning from common experience need involve neither conscious testing nor method. One does not claim to know by "methodic experience," experimentation, or testing that spending hours on the beach causes sunburn.[20] One learns this by

[18] "Later experience [*peira*] enabled men to judge what was or was not really conducive to virtue, and they rejected both the flute and several other old-fashioned instruments" (Aristotle, *Politics* 8.6.1341a37 [Benjamin Jowett trans., *The Basic Works of Aristotle,* ed. Richard McKeon (New York: Random House, 1941), 1314]).

[19] Whether it is accurate regarding ancient or medieval skeptics would require a separate study; regardless, the exception does not establish the rule.

[20] Although I cannot analyze Alfarabi and Avicenna on experience here, one finds a similar anachronism in the rendition of *tajriba* in these philosophers by "methodic experience" in *Classical Arabic Philosophy: An Anthology of Sources,* trans. Jon McGinnis and David Reisman (Indianapolis: Hackett, 2007), rather than by "experience," as in Deborah Black, "Knowledge *(îlm)* and Certitude (*yaqīn)* in Al-Fārābī's Epistemology," *Arabic Sciences and Philosophy* 16.1 (2006): 40-42; and Avicenna, *Remarks and Admonitions, Part One: Logic*, Sixth Method, ch. 1 (trans. Shams C. Inati; Toronto: PIMS, 1984), 120. Still, "methodic experience" is an improvement on "experimentation" (McGinnis, "Scientific Methodologies in Medieval Islam," *Journal of the History of Philosophy* 41.3 [2003]: 307-27), which evinces a lack of distinction between experiments as confusedly conceived by the medievals and the

experience, though one could perform experiments to find out more about the phenomenon. Similarly, experiencing that children behave less rationally than adults requires neither tests or experiments. Following in Hume's footsteps, contemporary thinkers habitually reject experiential inferences based on non-enumerative induction, granting credence instead to experimental enumerative induction.[21] In contrast, Aristotle and Aquinas characterize experience as a non-enumerative, abstractive induction.[22] 'Experience' for them refers to the mind's receptivity to reality by means of sensation, memory, and reflection. Overlooking this leads to the translation of ancient and medieval texts as if they had been authored by protomoderns.

To render *experimentum*, *experimentalis*, and *experimentaliter* in Aquinas as 'experiment', 'experimental', and 'experimentally' is to transliterate rather than translate.[23] The first meaning for *experimentum* in Deferrari's *Lexicon of St. Thomas Aquinas* ("trial, test, experiment") echoes that in the *Oxford Latin Dictionary* and

experimental method explicitly espoused in the modern era. For a similar critique of "experimentation," cf. Jules Janssens, "'Experience' (*tajriba*) in Classical Arabic Philosophy (al-Fârâbî–Avicenna)," *Quaestio* 4 (2004): 46 n. 4; 54 n. 24.

[21] In 1748, David Hume wrote: "As to past *Experience*, it can be allowed to give *direct* and *certain* information of those precise objects only, and that precise period of time, which fell under its cognizance . . ." (*An Enquiry Concerning Human Understanding,* sect. 4, part 2, par. 29, ed. L. Selby-Bigge, revised by P. Nidditch [Oxford: Clarendon Press, 1975], 33). "Experimental" refers to a subset of enumerative induction that corrects for such induction's inherent fallibility by experimental method.

[22] For an in-depth study of the different kinds of inductive reasoning in Aristotle that replies to modern and contemporary critiques, see Louis Groarke, *An Aristotelian Account of Induction: Creating Something from Nothing* (Montreal: Mcgill-Queen's University Press, 2009).

[23] Roy Deferrari and M. Barry, *Lexicon of St. Thomas Aquinas: Based on the Summa theologica and Selected Passages of His Other Works* (Washington, D.C.: The Catholic University of America Press, 1948); Roy Deferrari, *Latin-English Dictionary of St. Thomas Aquinas* (Boston: St. Paul Editions, 1960). Cf. G. Klubertanz, *The Discursive Power: Sources and Doctrine of the vis cogitativa according to St. Thomas Aquinas* (St. Louis: Modern Schoolman, 1952), 207-10; V. Rodríguez, "La cogitativa en los procesos de conocimiento y afección," *Estudios filosóficos* 6 (1957): 254. The medieval Latin dictionaries consulted were not more helpful, e.g., the truncated definition of *experimentum* as "information" in *Medieval Latin Dictionary,* ed. J. Niermeyer and C. van de Kieft, revised by J. Burgers (Leiden: Brill, 2002), s.v. The definitions suggested below might provide a helpful starting point for the corresponding entries in a medieval Latin dictionary.

duplicates that in Schütz's *Thomas-Lexikon* ("Versuch, Probe").[24] Neither Deferrari nor Schütz clarify how to understand 'experiment' or *Versuch* nonanachronistically. In all but one of the texts cited under the first definition of *experimentum* in both Deferrari and Schütz, the term means 'experience'. Aquinas never consciously uses *experimentum* to refer to the specific 'experiment' as opposed to the generic 'test' or 'trial'.

Translating *experimentum* as 'experiment' is equivocal insofar as it overlooks the limitations of medieval scientific methodology. A representative example may be found in the *Secunda Secundae,* question 95, article 5. Contrary to both English translations, Aquinas refers therein not to experiments, but to experience: "Human knowledge arises from experience [*ex experimentis*], as is clear from the Philosopher, in the beginning of his *Metaphysics*. Yet by repeated observations [*per multa experimenta*], some discovered that certain future things can be foreknown by observing the stars."[25] Aquinas here considers ordinary experience as the basis for subsequent mathematical or demonstrative reasoning, as in the discovery of the cause of a lunar eclipse in book 2, chapter 2 of the *Posterior Analytics*.[26] The insufficient medieval distinction between astronomy and astrology indicates the inappropriateness of 'experiment' or 'experimentation' in this context. Aquinas lacked the natural science inerrantly to distinguish legitimate inferences regarding the celestial bodies' influence (as in predicting tides) from idle speculation.[27] Although he stressed that both reasoning and experience are crucial to natural science, he realized that the medieval study of nature often

[24] Ludwig Schütz, *Thomas-Lexikon* (Stuttgart: Frommanns Verlag-Günther Holzboog, 1958; reprint of 1895 edition), s.v. Deferrari acknowledges his dependence on Schütz (*Lexicon,* vii).

[25] Cf. n. 1. "Scientia humana ex experimentis originem sumit, ut patet per Philosophum, in principio *Metaphysicorum*. Sed per multa experimenta aliqui compererunt ex consideratione siderum aliqua futura posse praenosci" (*STh* II-II, q. 95, a. 5, obj. 2).

[26] Schmitt reaches a similar conclusion on the observational rather than properly experimental character of medieval astronomy ("Experience and Experiment," 88).

[27] E.g., *STh* I, q. 115, a. 3, ad 2; q. 115, a. 4; *De Pot.,* q. 5, a. 8; etc. For bibliography, see Thomas Aquinas, *The Division and Methods of the Sciences: Questions V and VI of His Commentary on the "De Trinitate" of Boethius,* trans. A. Maurer (Toronto: Pontifical Institute of Mediaeval Studies, 1986), 44 n. 24.

yielded belief rather than certain knowledge.[28] In those cases where he uses *experimentum* in its classical sense, translating it as 'test' avoids all risk of confusion, while 'experiment' invites anachronism.[29]

A discussion of *experimentum* as used in the medieval sciences may help delineate the extent of this anachronism, and thus help explain the rationale for the translations suggested below. Experience conceived in Aristotelian terms entailed little use of methodical tests until after Aquinas's death, barring rare exceptions such as Robert Grosseteste and Roger Bacon.[30] Albert the Great, while a pioneer in the observation of the natural world, still relied heavily on tradition, as evidenced in his biological works.[31] Medieval thinkers rarely or never made use of controlled experimentation. Even when reality was manipulated, no attempt was made to mathematize the result, with the exception of the four intermediate sciences (*scientiae mediae*) situated between natural philosophy and mathematics. Yet one cannot extrapolate

[28] E.g., "The Philosopher shows this . . . both by reason, and by sensory experience, which are the more accurate sources of belief in natural matters" ("et per rationem, et per experimenta sensibilia, quae magis in rebus naturalibus faciunt fidem") (III *Sent.,* d. 3, q. 5, a. 1).

[29] See textual citations under *experimentum,* def. 5, below.

[30] Grosseteste and Bacon argued for the importance of empirically testing one's claims, but *experimentum* seems to be best rendered as "test" or "experience" in their case as well. Although Bacon is sometimes credited with inventing "experimental science" (*scientia experimentalis*), he includes both magic and divine revelation within the scope of this generically experiential knowledge. Nor is *scientia experimentalis* a Baconian neologism, as it was simultaneously employed at least by Aquinas. For an overview of the debate, see Jeremiah Hackett, "Roger Bacon on *scientia experimentalis,*" in *Roger Bacon and the Sciences,* ed. Jeremiah Hackett (Leiden: Brill, 1997), 277-316.

[31] Albert did not consciously use *experimentum* to refer to properly experimental as opposed to experiential tests. For example, Albert concludes from his test (*experimentum*) of snuffing out a candle with a spider that spiders have a "cold complexion." Such a test is only inchoatively and remotely related to the specific use of "experiment" that requires the systematic isolation of the different factors at work, as later suggested by Francis Bacon. Other scholars have reached the same conclusion: "The line between 'to experience' and 'to learn through experience' (that is, to 'experiment') is not always clear. . . . The term 'experiment' has generally been avoided as being too specific and carrying too many modern overtones" (glossary entry for *experimentum* in *Albertus Magnus*, *On Animals: A Medieval Summa Zoologica,* 2 vols., trans. Kenneth Kitchell and Irven Resnick [Baltimore: Johns Hopkins University Press, 1999], 2:1770).

from the use of mathematics in astronomy, optics, harmonics, and mechanics to its use in other fields of inquiry.

Subordinate sciences such as medicine or alchemy might seem to be an exception insofar as they occasionally employed empirical tests. Yet, in both the intermediate and the subordinate sciences, the medievals did not consciously use *experimentum* to refer to methodic experimentation as distinct from experiential tests or mere observations. Despite the use of experience and occasional tests (*experimenta*), medieval science often failed to distinguish medicine from superstition, alchemy from chemistry, or natural causality from divine influences or magic. *Experimentum* came to mean 'remedy' in medical texts.[32] Yet it was not always clear whether natural or magical causes were at work.[33] *Experimentum* even occurs in explicit references to magical healings and curses; in such cases, I suggest it is best rendered as 'spell'.[34] Proper experimental method (as opposed to random observation or magic) remained almost entirely un-codified during Aquinas's era.

Schmitt's extensive textual evidence for the lack of distinction between *experientia* and *experimentum* in the medieval and renaissance periods confirms my research.[35] Buonamici (Galileo's

[32] E.g., "For curing jaundice, know that the proper remedy [*experimentum*] is ivory rubbings and liver extract" ("Ad curandam ictiteiam proprium experimentum recipe rasure eboris, succi epatice") (Peter of Spain, *Liber experimentorum vel Thesaurus pauperum* [Antwerp, 1497, f. d2r]; cited in Schmitt, "Experience and Experiment," 87 n. 18; my translation). Lynn Thorndike notes "the common medieval use of the word 'experimentum' for almost any medicinal recipe or remedy" (*A History of Magic and Experimental Science,* 8 vols. [New York: Columbia University Press, 1923-58], 2:495). Thorndike consistently renders *experimentum* as "experiment." I submit that *Liber experimentorum* is a "book of remedies," not a "book of experiments," especially in light of the folkloric cures prescribed therein.

[33] Cf. Schmitt's characterization of *experimentum* as "a recipe or formula of some sort used to bring about a non-natural change in the course of natural events" ("Experience and Experiment," 87).

[34] E.g., the acts of a provincial Dominican chapter in 1311 commanded the remission of all "libros nigromanticos, experimenta, conjurationes et quecumque scripta supersticiosa" (cited in ibid., 87 n. 18). The inadequacy of "remedy" seems clear in the Hermetic books, which refer to spells (*experimenta*) of invisibility or of destruction; contrast Thorndike's "experiments" (*History of Magic and Experimental Science,* 2:227).

[35] Even in strictly medical contexts, *experimentum* and *experientia* were not clearly distinguished as late as a sixteenth-century medical lexicon (Schmitt, 'Experience and Experiment," 87 n. 18).

teacher) used *experientia* and *experimentum* interchangably to refer to experience or observations.[36] As late as the seventeenth century, both Zabarella and Galileo called their experiments on motion *pericula* (not *experimenta*).[37] There appears to be no clear definition of *experimentum* (as opposed to *experientia*) referring exclusively to the scientific manipulation of nature until Christian Wolff in 1732: "An experiment is an experience, which deals with those facts of nature that do not happen except by human intervention."[38] There is thus concrete evidence supporting the thesis that *experimentum* was not explicitly conceived of as intrinsically manipulative as opposed to observational during the medieval period.

However, contrary to the belief that the Scientific Revolution constituted a complete break with what preceded, there were successful (albeit rare) experiments among medieval Aristotelians seeking the causes of natural phenomena. Aristotle had engaged in careful and methodic observation, including dissection. Yet his empirical approach to natural sciences such as zoology was eclipsed by Platonic indifference to the study of nature for its own sake, and thus fell into desuetude for a millennium and a half.[39] With the Aristotelian renaissance of the thirteenth century, there was a renewed interest in proper empirical and scientific method; for example, Theodoric of Freiberg perfected Grosseteste's and Bacon's research to achieve an accurate definition of the rainbow using experimental optics.[40] Beginning around 1400, the Paduan Aristotelians developed the methodology of scientific investigation until the time of Galileo, who conceived his research on the model

[36] Ibid., 90ff.

[37] Cf. Wallace, *The Modeling of Nature,* 305, 343.

[38] "Experimentum est experientia, quae versatur circa facta naturae, quae nonnisi interveniente opera nostra contingunt" (Christian Wolff, *Psychologia empirica*; cited in Schmitt, "Experience and Experiment," 80; my translation).

[39] Cf. Michael W. Tkacz, "Albert the Great and the Revival of Aristotle's Zoological Research Program," *Vivarium* 45 (2007): 30-68.

[40] William A. Wallace, *The Scientific Methodology of Theodoric of Freiberg* (Fribourg: The University Press, 1959); cf. Wallace, *The Modeling of Nature,* 324-34.

of the *Posterior Analytics*.[41] Indeed, the elderly Galileo considered himself a truer Aristotelian than many of his Scholastic contemporaries.[42] The scientific method is a natural continuation of Aristotelian method, with the addition of novel elements such as Descartes's Platonic use of mathematics in areas not traditionally considered intermediate sciences.[43] One must not allow the semantic imprecision of *experimentum* to obscure the reality of methodic experiments in the medieval and renaissance periods.[44]

II. Definitions of *Experimentum* and Related Terms

The following proposed definitions and textual references for *experientia, experimentalis, experimentaliter,* and *experimentum* are intended to supersede those in the current *lexica* of Thomistic Latin. The meanings are listed in the order of their frequency of use. This order does not indicate the meanings' relative philosophical import; I will argue that cogitative *experimentum* is the term's most significant meaning, despite the paucity of references. The definitions account for every use of the terms, excluding direct or indirect citations from other sources (scriptural

[41] John H. Randall. "The Development of Scientific Method in the School of Padua," *Journal of the History of Ideas* 1 (1940): 177-206. William A. Wallace, *Galileo's Logic of Discovery and Proof: The Background, Content, and Use of His Appropriated Treatises on Aristotle's "Posterior Analytics"* (Dordrecht: Kluwer Academic, 1992); cf. Wallace, *The Modeling of Nature,* 334-40.

[42] "Against all reason I am impugned as an impugner of the Peripatetic doctrine, whereas I claim (and surely believe) that I observe more religiously the Peripatetic or, I should say, Aristotelian teaching than do many who wrongfully situate me as averse to good Peripatetic philosophy" ("Letter to Fortunio Liceti" [1640], in *Le opere di Galileo Galilei,* ed. A. Favaro et al. [Florence: Barbèra, 1968], 18:248; cited and translated in William Carroll, "Galileo Galilei and the Myth of Heterodoxy," in *Heterodoxy in Early Modern Science and Religion,* ed. John Brooke and Ian Maclean [Oxford: Oxford University Press, 2005], 143).

[43] In this I concur with Randall, Wallace, and Ashley; e.g., Randall, "Development of Scientific Method," 203-5.

[44] Cf. Lindberg, "Experiment and Experimental Science," 604-5.

quotations, patristic authors, etc.) whose usage sometimes differs from that of Aquinas.[45]

experientia, -ae, *f*.

1. Experience, broadly speaking, i.e., external and internal sensory knowledge of things vs. purely intellectual knowledge. *Experientia proprie ad sensum pertinet* (experience is properly placed under sense knowledge) (*De Malo,* q. 16, a. 1, ad 2).
    a. in view of practical, i.e., prudential or ethical, knowledge. *In singularibus [actibus hominum] perfectam cognitionem adipisci non possumus nisi per experientiam* (we can only acquire perfect knowledge about singular human actions by experience) (*STh* I-II, q. 97, a. 2, obj. 3); *prudentia magis est in senibus . . . propter experientiam longi temporis* (prudence is found more in older people due to long experience) (*STh* II-II, q. 47, a. 15, ad 2).
    b. in view of practical, i.e., artistic or productive, knowledge. *Per experientiam homo acquirit facultatem aliquid de facili faciendi* (by experience one acquires the ability to do something with ease) (*STh* I-II, q. 40, a. 5); cf. I *Metaphys.,* lect. 1 (Busa ed., 18-20).
    c. in view of speculative knowledge. *Cognitio per experientiam longi temporis est accipientis scientiam a rebus* (by long experience one acquires knowledge from things) (II *Sent.,* d. 7, q. 2, a. 1, obj. 4); *in rebus sensibilibus . . . per experientiam . . . accipimus universalem notitiam* (we acquire universal knowledge of sensory things by

[45] For ease of reference, references to several of Aquinas's commentaries use the numbering found in *Sancti Thomae Aquinatis Opera Omnia: Ut sunt in Indice Thomistico additis 61 scriptis ex aliis Medii Aevi auctoribus,* 7 vol., ed. Roberto Busa (Stuttgart-Bad Cannstadt: Frommann-Holzborg, 1980); electronic edition, ed. Enrique Alarcón (Pamplona: Universidad de Navarra, 2006, accessible at <http://www.corpusthomisticum.org/iopera>).

experience) (I *Post. Anal.*, lect. 30 [Busa ed., n. 4]); *Plato . . . circa intelligibilia intentus, sensibilibus non intendebat, circa quae est experientia* (Plato . . . was so intent on intelligible things that he ignored sensory things, which are the object of experience) (I *De Gen. et corrup.*, lect. 3 [Busa ed., n. 8]).

d. of divine things. *Experientiam in dono (the experience of a gift [of the Holy Spirit])* (I *Sent.*, d. 15, q. 5, a. 3, expos.); *concepta est ex experientia divinae bonitatis* (it is conceived based on the experience of the divine goodness) (*In Ps.* 39 [Busa ed., n. 6); cf. *In Ps.* 33 [Busa ed., n. 9]).

2. Experience, in a metaphorical sense, i.e., being consciously the subject of a state or condition not restricted to sensory knowledge, over some period of time.[46] *Transfertur enim experientiae nomen etiam ad intellectualem cognitionem* (the term 'experience' is said metaphorically even of intellectual knowing) (*De Malo,* q. 16, a. 1, ad 2); *Deus et beatitudo . . . non sunt ita nobis per experientiam nota sicut virtutes* (God and beatitude are not as well known to us by experience as the virtues are) (*STh* II-II, q. 145, a. 1, ad 2).

   a. of evil. *Post peccatum factus est cautior per experientiam mali* (after the fall he grew more cautious due to the experience of evil) (II *Sent.*, d. 21, q. 2, a. 1, ad 4); cf. III *Sent.*, d. 19, q. 1, a. 3, qcla. 1 (experience of eternal punishment); *In Lam.* 3, lect. 6.

   b. of knowledge. *Per experientiam scientiae* (by the experience of knowing) (II *Sent.*, d. 22, q. 1, a. 2, ad 3); cf. *STh* III, q. 12, a. 1, ad 1.

   c. in angels. *Experientia in angelis et daemonibus dicitur secundum quandam similitudinem prout scilicet cognoscunt sensibilia praesentia* (experience

[46] Cf. *OED,* "Experience," definition 4a: "The fact of being consciously the subject of a state or condition, or of being consciously affected by an event."

is said of angels and demons by way of a certain similitude, that is, inasmuch as they know present sensible things) (*STh* I, q. 58, a. 3, ad 3); cf. *STh* I, q. 64, a. 1, ad 5.

experimentalis, -e, adj., experiential. Usually used with *scientia* regarding Christ's experiential knowledge (*STh* III, q. 12, *passim*).

experimentaliter, adv., experientially, from experience.

experimentum, -i, n.

1. Experience, broadly speaking, as either repeated or discrete observations or sensations, vs. purely intellectual knowledge; cf. *experientia,* def. 1.[47]
    a. external sensory. *Multa experimenta sensitiva demonstrant . . . quod natura non patitur vacuum* (many sensory observations show that nature does not admit of a vacuum) (II *Sent.,* d. 1, q. 1, a. 5, obj. 4); *fluidum non potest consistere super corpus rotundum, ut experimento patet* (a fluid cannot rest on a sphere, as experience shows) (*STh* I, q. 68, a. 2, obj. 2); *mare esse altius terra experimento compertum est in mari rubro* (it has been discovered by experience that the sea is higher than the earth in the case of the Red Sea) (*STh* I, q. 69, a. 1, ad 2).
    b. internal sensory. *Ad vaporationem cujusdam fumi trabes domus videntur serpentes, et multa experimenta hujusmodi* (upon the emission of certain fumes, the beams seem to be snakes, and many similar experiences) (II *Sent.,* d. 8, q. 1, a. 5, ad 4); *dormiens, ut experimento scitur, interdum argumentatur* (one sometimes reasons in one's sleep, as is known from experience) (IV *Sent.,* d. 9, q. 1, a. 4, qcla. 1, obj. 3).
    c. of divine things. *Adam . . . per experimentum cognovit ea quae nos credimus* (Adam knew by

[47] For independent confirmation of the translation by "observation," see Schmitt, "Experience and Experiment," 88.

experience those things that we believe) (*De Verit.*, q. 18, a. 3, obj. 3); *In Ps.* 41 (Busa ed., n. 6).

2. Experience, properly speaking, as a technical term from Aristotle, i.e., intermediary between sensory memory and universal knowledge. *Experimentum nihil aliud esse videtur quam accipere aliquid ex multis in memoria retentis* (experience seems to be nothing other than to receive something from many things stored in memory) (II *Post. Anal.*, lect. 20 [Busa ed., n. 11]); cf. I *Metaphys.*, lect. 1 (Busa ed., n. 18); II *Sent.*, d. 7, q. 2, a. 1, obj. 4; III *Sent.*, d. 34, q. 1, a. 2; *ScG* II, c. 76.
    a. in view of speculative knowledge. *Experimento indiget et tempore intellectualis virtus* (intellectual virtue requires experience and time) (II *Sent.*, d. 20, q. 2, a. 2, s.c. 2 [citing Aristotle, *Nicomachean Ethics* 2.1.1103a16]); *principia universalia posteriora, sive sint rationis speculativae sive practicae . . . habentur . . . secundum viam experimenti* (secondary universal principles, whether they belong to speculative or practical reason, are acquired by way of experience) (*STh* II-II, q. 47, a. 15); *ostendit virtutem experimenti tam in speculativis quam in operativis* (he shows the importance of experience in both speculative and practical matters) (*In Job* 12 [Leonine ed., vol. 26, part 2, p. 81, ll. 181-85 (henceforth, 26/2:81.181-85)]).
    b. in view of practical, i.e., prudential or ethical, knowledge. *Prudentia . . . indiget . . . experimento et tempore* (prudence requires experience and time) (*STh* II-II, q. 47, a. 14, ad 3).
    c. in view of practical, i.e., artistic or productive, knowledge. *Quia potentiam recte et faciliter operandi praebet experimentum, videtur fere esse simile arti* (because experience gives the ability to work rightly and with ease, it seems almost the

same as art) (I *Metaphys.*, lect. 1 [Busa ed., n. 17; n. 20]).

3. Experience, in a metaphorical sense; cf. *experientia,* def. 2. *Experimento discere possumus quod circa incarnationem Dei plurimi errores sunt exorti* (by experience we can learn that many errors arose regarding the Incarnation) (*ScG* IV, c. 53).
    a. of evil. *Hoc consecutum est ex peccato suo quod malum per experimentum cognosceret* (it resulted from his sin that he knew evil by experience) (II *Sent.*, d. 22, q. 1, a. 2, ad 3).
    b. of knowledge. *Hoc experimento cognoscimus dum percipimus nos abstrahere formas universales* (we know this by experience, when we perceive that we abstract universal forms) (*STh* I, q. 79, a. 4); cf. *STh* I, q. 89, a. 1; *ScG* II, c. 66.[48]
4. Proof.
    a. proof or indication based on experience. *Aliud signum experientiae, sive aliud experimentum* (another sign from experience, that is, another experiential proof) (*In Ps.* 36 [Busa ed., n. 18]); *ut sumatis experimentum divinitatis meae* (that you may receive a proof of my divinity) (*In Jn.* 11, lect. 3); *ut ei humana ratio experimentum [Eucharistiae] non praebeat* (so that human reason be unable to provide an experiential proof [of the Eucharist]) (*In 1 Cor.* 11, verse 23 [reportatio Reginaldi de Piperno]); *nullus scit se esse in Christo certitudinaliter, nisi per quaedam experimenta et signa* (no one is certain that he is in Christ, except by certain proofs from experience and signs) (*In 2 Cor.* 12, lect. 1).
    b. rational proof. *Ratio praebens sufficienter experimentum fidei facit visionem* (when reason offers sufficient proof of faith it makes vision) (III

[48] Aquinas only speaks of *experimentum* in spirits once, when he writes that demons can predict future events due to their "long experience" (*In Is.* 3.3 [Leonine ed., 28:32.552-54]).

Sent., d. 24, q. 1, a. 3, qcla. 3, ad 1); *[fides] experimentum rationis effugiat* (faith puts rational proof to flight) (IV *Sent.*, d. 11, q. 1, a. 1, qcla. 2, obj. 2).[49]

5. Test, trial. *Cum enim experimentum non sit nisi de dubiis* (a test is only of that which is doubted) (II *Sent.*, d. 22, q. 2, a. 2); *experimentum sumitur de aliquo, ut sciatur aliquid circa ipsum* (someone is put to the test so that something may be learned about him) (*STh* I, q. 114, a. 2); *tentare proprie est experimentum sumere de eo qui tentatur* (to tempt is properly to put to the test he who is tempted) (*STh* II-II, q. 97, a. 1); *cum aliquis equum currere facit ut evadat hostes, hoc non est experimentum de equo sumere, sed si equum currere faciat absque aliqua utilitate, hoc nihil aliud esse videtur quam experimentum sumere de equi velocitate* (when one makes one's horse run to escape the enemy, this is not testing the horse; but if one were to make it run without any useful end, this is seen to be nothing other than to test the horse's speed) (ibid.); cf. *STh* II-II, q. 97, a. 2.
6. Remedy, cure (in a medical context). *Accipiens doctrinam alicuius experimenti* (one who is given knowledge of a cure) (*Quodl.* XII, q. 14, a. 2, *tit.*); *uti illo experimento in salutem corporalem aliorum* (to use that remedy for others' bodily health) (ibid., *corp.*) Unique occurrences in Aquinas.[50]

These definitions show the extent to which *experimentum* and *experientia* are, and are not, synonymous. Aquinas never uses *experientia* to mean "test," "proof," or "remedy"; nor does he ever refer to cogitative *experientia*. *Experientia* is more frequently used in an abstract or broad sense, while *experimentum* can refer to one instantiation of *experientia*: Aquinas never uses *experientia* in the plural, but he often uses *experimenta* (as in the frequent *ex multis experimentis*). When used in the precise sense described in the

[49] *Experientia* is used in this sense in the patristic Latin found in the *Catena aurea* (e.g., Remigius, *Catena in Matt.* 10, lect. 6), but never by Aquinas.

[50] For independent confirmation of this definition, see n. 32.

following discussion, *experimentum* can refer to an inference or conclusion from the larger phenomenon of *experientia*. While the second meaning of *experimentum* presupposes the first, *experimentum* as mere repeated observation does not necessarily engender *experimentum* properly speaking.

III. *EXPERIMENTUM* AS COGITATIVE *COLLATIO*

Aquinas's fullest explanation of "experiential knowledge" (*experimentalis scientia*) follows Aristotle's account in *Metaphysics* 1.1. This text and its parallel in *Posterior Analytics* 2.19 are the two key Aristotelian texts, and Aquinas's respective commentaries are the key Thomistic texts. In the remainder of this article I read Aquinas's account of experience as an organic development of Aristotle's and thus refer to the latter's texts when Aquinas does little more than paraphrase them.

Metaphysics 1.1 asserts that "experience is knowledge of singulars."[51] In speaking of "experiential notions," Aristotle indicates that experience constitutes an inchoative kind of knowledge.[52] The technical usage of "experience" (*empeiria*) refers to the highest stage of sensory cognition. *Posterior Analytics* 2.19 states that experience results from many memories of similar external sensory impressions.[53] *Metaphysics* 1.1 adds a crucial detail: "many memories of the same thing produce finally the potency for a single experience."[54] "The potency for" experience implies that one must make a comparison of one's memories of the characteristics of similar things in order for the memories to engender experience, properly speaking.[55] Mere repeated observations of a fact (cf. *experimentum,* def. 1) are insufficient to

[51] I *Metaphys.,* lect. 1 (Marietti ed., n. 18); Aristotle, *Metaphys.* 1.1.981a17.

[52] Aristotle, *Metaphys.* 1.1.981a6. Moerbeke translates "tes empeirias ennoematon" as "experimentales conceptiones" (I *Metaphys.,* lect.1, n. 6 [Marietti ed., p. 5]), though Aquinas nowhere adopts this expression.

[53] "So from sensation comes what we call memory, and from memory, when it is generated repeatedly of the same thing, there comes experience. For memories that are many in number constitute a single experience" (Aristotle, *Post. Anal.* 2.19.100a4-6).

[54] Aristotle, *Metaphys.* 1.1.981a1.

[55] Pavel Gregoric and F. Grgic reach a similar conclusion in "Aristotle's Notion of Experience," *Archiv für Geschichte der Philosophie* 88 (2006): 9-11.

constitute experience (in the sense of *experimentum,* def. 2). The same principle applies to the acquisition of practical knowledge. One must actualize one's memorative capacity by reflection in order to attain experience.

One way such reflection takes place is when one notices similar cause-effect relationships, culminating in an experiential judgment. That a given remedy can heal many instances of a given symptom is a matter of experience. In contrast, "to judge that it has done good to all persons of a certain constitution, marked off in one class, when they were ill of this disease, e.g., to phlegmatic or bilious people when burning with fever—this is a matter of art."[56] Subsequent to this initial stage of experiential comparison and judgment, the intellect may use deductive reasoning to conclude to universal, necessary judgments, whether they be productive (*techne*), prudential (*phronesis*), or speculative (*episteme*). Alternatively, the intellect can form universals by abstraction as described in *Posterior Analytics* 2.19.

Although the account of experience in the two key Thomistic texts coincides with Aristotle's on most points, Aquinas makes two historically significant additions:

> In humans, the next thing above memory is experience [*experimentum*], which certain animals participate in to a slight degree. For experience [*experimentum*] comes from the comparison [*ex collatione*] of many singulars that have been received in memory. But this kind of comparison [*collatio*] is proper to man, and it pertains to the cogitative power, which is called particular reason, and which is able to compare [*collativa*] particular intentions, just as universal reason does with universal intentions. . . . Beyond experience [*experimentum*], which belongs to particular reason, humans have universal reason, by which they live, as by that which is principal in them.[57]

[56] Aristotle, *Metaphys.* 1.1.981a10-12. Note that "of one class" renders "kat'eidos hen," "according to one form."

[57] "Supra memoriam autem in hominibus, ut infra dicetur [n. 18], proximum est experimentum, quod quaedam animalia non participant nisi parum. Experimentum enim est ex collatione plurium singularium in memoria receptorum. Huiusmodi autem collatio est homini propria, et pertinet ad vim cogitativam, quae ratio particularis dicitur: quae est collativa intentionum individualium, sicut ratio universalis intentionum universalium. . . . Homines autem supra experimentum, quod pertinet ad rationem particularem, habent rationem universalem, per quam vivunt, sicut per id quod est principale in eis" (I *Metaphys.*, lect. 1, [Marietti ed., n. 15]).

First, where Aristotle does not say which faculty is involved, Aquinas repeatedly asserts that the cogitative power is responsible for *experimentum*. (The common sense, imaginative, cogitative, and memorative powers are the four internal senses for Aquinas, with the cogitative operating in direct continuity with intellect to enable humans to know singulars.)[58] Since Aquinas never affirms that the cogitative yields *experientia,* it is clear that *experimentum* in the proper sense refers to one or more acts of the cogitative or the cognitional product thereof (i.e. some kind of sensory intention).[59]

Second, Aquinas introduces the term *collatio* to describe how experience is acquired, and attributes *collatio* to the cogitative. *Collatio* is a polyvalent term that stems from *conferre,* and thus has three meanings: "comparison," "gathering," and "inference." Each meaning manifests some aspect of this cogitative act. The process by which one "gathers together" (*confert*) different shared characteristics of a given natural or artificial kind is termed a "gathering of one thing from many" (*collatio unius ex multis*). The cogitative acquires experience by a comparison (*collatio*) of one thing to another to see what they have in common. One then infers (*confert*) that certain individuals belong to a given class, as Aquinas explains in the parallel text in his commentary on the *Posterior Analytics* (II *Post. Anal.,* lect. 20). (Neither *conferre* nor

[58] See *STh* I, q. 78, a. 4 for Aquinas's only *ex professo* treatment of the internal senses; see also my forthcoming book on the cogitative power. Following Aquinas's own usage, I often refer to the cogitative power (*vis cogitativa*) as "the cogitative" (*cogitativa*) for the sake of brevity (e.g., II *Sent*., d. 24, q. 3, a. 4, ad 5; *STh* I, q. 78, a. 4; *ScG* II, c. 76; *De Verit*., q. 10, a. 5).

[59] Schütz and Deferrari do not bring this out in their definitions of *experimentum*. In light of Deferrari's dependence on Schütz, the following is significant: "A critical and negative point of view [regarding the cogitative] was assumed by Dr. Schuetz. In what was intended to be a very carefully documented study, he concluded that the *vis cogitativa* is superfluous and self-contradictory" (Klubertanz, *Discursive Power,* 8; referring to "Die *vis aestimativa seu cogitativa* des hl. Thomas von Aquin," *Görres-Gesellschaft zur Pflege der Wissenschaft,* Jahresbericht der Section für Philosophie für das Jahr 1883 [Cologne: J. P. Bachem, 1884]: 38-62). While the incomplete Thomistic dictionary entries have contributed to the oversight of cogitative *experimentum,* this very incompletion seems to stem from the dismissal of the cogitative power as "self-contradictory."

collatio is used with this meaning in Moerbeke's translation of the two key Aristotelian texts.)

The analysis of *experimentum* is of great significance for a proper understanding of the cogitative power. In the only *ex professo* book on the cogitative power in English, George Klubertanz holds that *experimentum* is purely practical and plays no role in speculative knowledge.[60] The textual references under *experimentum,* definition 2a (as well as 1c and 3) falsify this claim. *Metaphysics* 1.1 states that "science [*episteme*] and art come to men through experience," and Aquinas reiterates this assertion of experience's role in the acquisition of speculative knowledge.[61] Aquinas employs *experimentum* more often regarding speculative knowledge than regarding practical. Klubertanz's reading of Aquinas as reverently quoting Aristotle causes him to misrepresent Aquinas on *experimentum*.

Klubertanz's claim that both *experimentum* and *collatio* are strictly practical stems from a misreading of Aquinas's commentary on *Posterior Analytics* 2.19.[62] Having excluded the cogitative from the acquisition of theoretical knowledge, Klubertanz sees no place for the cogitative in this key text. Yet Aquinas states in his commentary on *Metaphysics* 1.1 that the cogitative performs *experimentum*, that is, it notices similarities among different individuals by a comparison (*collatio*). He clearly refers to *experimentum* and *collatio* as closely related phenomena in both key texts. Although Klubertanz rightly observes that Aquinas does not develop experience's role in speculative knowledge in his commentary on *Metaphysics* 1.1, this is because Aquinas follows Aristotle's treatment closely. *Metaphysics* 1.1 argues that the wise, in contrast to the experienced, have knowledge of causes and principles: "we suppose that artists are wiser than men of experience."[63] Aristotle uses "wise" in a broad sense that includes practical architectonic knowledge, as distinguished from the proper use that refers to knowledge of the absolutely (*haplos*)

[60] Klubertanz, *Discursive Power,* 206-12.

[61] Aristotle, *Metaphys.* 1.1.981a2. Cf. I *Metaphys.*, lect. 1 (Marietti ed., n. 18).

[62] Klubertanz, *Discursive Power,* 210-12.

[63] Aristotle, *Metaphys.* 1.1.981a25.

highest causes. This analogical use of "wisdom" is contrasted with the inferior practical cognition of one who has the experience of a cure's effectiveness without knowing the cause thereof. Aristotle focuses on practical experience since one can more readily grasp the nature of wisdom in a concrete analogate ordered to producing physical effects. Yet *Posterior Analytics* 2.19 and Aquinas's commentary on it focus on the precise sense of experience (*empeiria*/*experimentum*) as it is operative in the speculative realm. Noticing common traits, such as that some humans are white, is preparatory to the acquisition of speculative as opposed to practical knowledge.[64]

Aquinas defines both abstract knowledge and experience in general terms as "one notion [*acceptio*] of something taken from many," then specifies that, while *scientia* grasps universals, "singulars are grasped by experience."[65] This statement does not specify whether "singulars" refers to individuals taken one by one, or as a group. A. Suárez opts for the first view and portrays *experimentum* as "the perception of a singular of a determinate nature by the cogitative in imagination's phantasm."[66] This accurately describes the cogitative's role in the intellectual reflexive judgment on a singular subsequent to having apprehended its nature. It is also a valid interpretation of "singulars" as used in the context of the cogitative's formation of the minor premise for a practical syllogism, as in Aquinas's commentary on book 6, chapter 12 of Aristotle's *Nicomachean Ethics*: "singulars are properly known by an interior sense . . . namely, the cogitative power."[67]

[64] Aristotle, *Post. Anal.* 2.19.100b1; II *Post. Anal.*, lect. 20 (Marietti ed., n. 596).

[65] "experimentum videtur fere esse simile arti et scientiae. Est enim similitudo eo quod utrobique ex multis una acceptio alicuius rei sumitur. Dissimilitudo autem, quia per artem accipiuntur universalia, per experimentum singularia" (I *Metaphys.*, lect. 1 [Marietti ed., n. 17]; cf. II *Post. Anal.*, lect. 20 [Marietti ed., n. 592]). For "experience is of singulars," cf. "cum ars sit universalium, experientia singularium" (I *Metaphys.*, lect. 1 [Marietti ed., nn. 22 and 18]).

[66] A. Suárez, "Los sentidos internos en los textos y en la sistemática tomista," *Salmanticensis* 6 (1959): 468.

[67] "Singularia proprie cognoscuntur per sensum . . . interiorem . . . scilicet vim cogitativam" (VI *Nic. Ethic.*, lect. 9 [Marietti ed., n. 1249]).

However, insofar as the two key texts characterize cogitative *experimentum* as pre-abstractive collative knowledge, they invalidate Suárez's interpretation. If "singulars" referred to individuals viewed exclusively insofar as they are individuals, and thus independently of gathering (*collatio*) their commonalities, experience could not help form "one notion from many." In the context of *Metaphysics* 1.1, knowing singulars by experience essentially refers to the recognition of a commonality as shared by several individuals, and to the resulting experiential notion or judgment. Many singular phantasms are related to an experiential notion as matter to form, or as potency to act. I suggest that experience in the potential sense of repeated memories be termed "material,'" and that properly cogitative experience be called "formal."

The "singulars" in question need not be unique individuals under the aspect of their being perceived as such, even though formal experience presupposes such cogitative perception by means of individual intentions. Neither the cogitative's judgment on incidental sensibles nor its instrumental role in intellectual judgments on a primary substance as such are the focus of the discussion. Nor can the "one experiential knowledge generated from many memories" correspond to a common name understood in a scientific, comprehensive way.[68] Rather, in the process of experience, the cogitative's object consists of the notion, limited in extension, which refers to *several* individuals insofar as they share one or more characteristics. As evidenced by the statement "experience is *only* concerned with singulars," the plural is meant to refer to more than one, but less than all.[69] Aquinas follows Aristotle's view that experience refers to *some,* while science and art refer to *all,* using the Latin *alii* to express the quantity "some":

> When one has learned [*accepit in sua cognitione*] that this medicine has helped Socrates and Plato and many other [*multis aliis*] individuals suffering from a given sickness, whatever it may be, this pertains to experience. On the other

[68] "ex multis memoriis fit una experimentalis scientia" (I *Metaphys.*, lect. 1 [Marietti ed., n. 18]).

[69] "experimentum *tantum* circa singularia versatur" (ibid.; emphasis added).

hand, when one learns that this helps all [*omnibus*] those with a determined type of illness and with a given constitution . . . this now pertains to art.[70]

Aquinas uses *accepit in sua cognitione* rather than *intelligit* or some other expression that would indicate fully intellectual knowledge. For Aquinas, individual intentions such as "Socrates" or "Plato" must be involved in the judgments from which formal experience can arise. In light of the foregoing, it appears that not only individual intentions but also experiential notions are stored in the memorative power, since, being nonintellectual, such notions cannot be retained in the potential intellect.

IV. Linguistic and Logical Analysis of Experiential Propositions

The logical status and linguistic equivalent of cogitative experiential judgments require further clarification. One must first recall Aristotle's distinction between experiential and scientific knowledge. In explaining the difference between experience as cognition of singulars, and science and art as cognition of universals, *Metaphysics* 1.1 relies on the distinction from *Posterior Analytics* 2.1 between knowing that (*hoti*) something is the case and knowing why (*dioti*) it is so. The "why" is provided by the cause or explanation, ordinarily expressed as the middle term of a syllogism. *Metaphysics* 1.1 states that science and art are superior to experience because they both know that (*to hoti*) and can provide the explanation for why (*to dioti*), whereas experience alone cannot explain why.[71] In the parallel text in *Nicomachean Ethics* 6.7, Aristotle notes that the experienced person knows

[70] "cum homo accepit in sua cognitione quod haec medicina contulit Socrati et Platoni tali infirmitate laborantibus, et multis aliis singularibus, quidquid sit illud, hoc ad experientiam pertinet: sed, cum aliquis accipit, quod hoc omnibus conferat in tali specie aegritudinis determinata, et secundum talem complexionem . . . id iam ad artem pertinet" (I *Metaphys.*, lect. 1 [Marietti ed., n. 19]).

[71] Cf. I *Metaphys.*, lect. 1 (Marietti ed., n. 24): "Those who know the cause and the reason why [*propter quid*] are more knowledgeable and more wise than those who are ignorant of the cause, but only know that [*quia*] something is so. Now the experienced know that [*quia*], but not the reason why; while the artist knows the cause and the reason why, and not just that something is the case."

simply that eating fowl is healthy, while the one with scientific knowledge (*episteme*) possesses the explanation for why this is so, namely, because light meat is healthy.[72] In practical matters, a case where inexperienced scientific knowledge would be worse than experience alone would be knowing that light meat is healthy but not which animals have light meat.

One can provide a fuller account of the contrast between universal and experiential knowledge by elucidating the syllogistic basis for explanatory as opposed to merely factual cognition. The juxtaposition of explanatory science and art with nonexplanatory experience helps explain why experience does not extend to all possible cases. Formally speaking, experiential knowledge means knowing a demonstrative syllogism's conclusion without knowing its premises. Take the following:

(1) Meat that is low in saturated fat is healthy.
(2) Ostrich has low-fat meat.
(3) Therefore, ostrich is healthy.

Exclusively scientific knowledge of nutrition would only grasp the major premise, thus leaving one unaware of what kinds of animal have low-fat meat. To construct a practical version of the syllogism, the major premise and conclusion would change to "Low-fat meat should be eaten" and "Ostrich should be eaten," while the minor premise would remain the same. Independently of this syllogism, one could notice that one gains less weight on a diet of ostrich, and thus discover proposition (3) from experience alone, yet without knowing proposition (3) *as* a conclusion. In practical decisions, experience alone is more helpful than knowledge of universals alone: the experienced person does not need to know the underlying syllogism in order to judge correctly. One could conceivably learn proposition (1) through scientific knowledge and proposition (3) through experience, and not realize that they are logically connected.

While experiential judgments stem from the cogitative's activity of *collatio,* they also rely on the intellect if they are expressed

[72] Aristotle, *Nic. Ethic.* 6.7.1141b14-21.

propositionally using universal terms, given that only the intellect can cognize universals as such. However, insofar as the explanatory premises are unknown, such experiential judgments only qualify as imperfect or vague knowledge. Thus, particular reason's practical application of universal reason's concept is of limited extent in an experiential judgment. On this interpretation, Aristotle's example of knowing that fowl is healthy without knowing why refers to experiential *quia* knowledge in one who lacks an explanation, and whose knowledge is therefore not necessary as being "said of all" as described in *Posterior Analytics* 1.4.

Properly experiential knowledge of singulars refers to a classification that is particular (i.e., it extends to more than one but less than all) or that is universal but not known to be such with certainty. Since those who possess scientific knowledge can explain why something is the case, the propositions they formulate are reliably universal in extension, even regarding cases not previously encountered. Thus, "all fowl have lean meat" entails that ostriches have lean meat. In contrast, the experienced person might believe that only one kind of fowl is lean. His cognition is inferior to that of one who grasps the middle term of the relevant syllogism, and thus his experiential judgment has limited extension. The proposition's less-than-universal extension reflects the possible mode of experiential judgments prior to clarification by philosophical reflection or scientific investigation.

One can infer from Aquinas's explanation of prudential experience that experiential judgments are not just possible, but probable: "The infinite number of singular things cannot be comprehended by human reason. . . . Yet *through experience the infinite singulars are reduced to the finite number of things which happen for the most part,* the knowledge of which suffices for human prudence."[73] Elsewhere, Aquinas makes a similar observation regarding experience in the theoretical domain: "For ex-

[73] "Infinitas singularium non potest ratione humana comprehendi. . . .Tamen *per experientiam singularia infinita reducuntur ad aliqua finita quae ut in pluribus accidunt*, quorum cognitio sufficit ad prudentiam humanam" (*STh* II-II, q. 47, a. 3, ad 2; emphasis added).

perience in particular matters is most efficacious in proving, the more so, the more often something has been observed and the more infallibly discovered."[74] Experience is knowledge of "what happens for the most part" as distinguished from knowledge of "what is necessarily and simply true."[75] Examples of necessarily true knowledge are the law of gravity, or the judgment "humans cannot survive without air."

Knowing what usually happens allows one to assess probabilities or, practically speaking, risks. Although the law of gravity does not necessarily entail that one who falls fifty feet perishes, survival is improbable; rationalizations aside, extreme sports such as free climbing (climbing without safety gear) or free diving (diving great depths without air tanks) evidence imprudence and rashness. Yet humans commonly ignore both universal laws and the lessons of sensory judgments. Even after years of experience (nontechnically understood), the cogitative power may remain unactualized with regard to the reflection required for *experimentum* (in the technical sense). Consequently, the memorative power remains in potency to practical experience, and, *a fortiori,* the practical intellect is not actualized by the habit of prudence. Thomistic psychology can explain risk-indifferent or self-destructive human behavior by pointing out the tension between the limpid universal intellectual judgment and the cogitative power's erroneous judgment on a singular action, particularly when swayed by the sensory appetite.

In terms of ordinary-language Aristotelian logic, experiential knowledge would ordinarily be formulated as a particular proposition, that is, one whose extension is less than universal, but greater than individual or singular, as in: "Most kinds of fowl are

[74] "Experimentum enim in rebus particularibus maxime efficax est ad probandum, et tanto magis quanto diuturnius est observatum et infallibile inventum" (*In Job* 8, verse 8 [Leonine ed., 26:54.127-30]).

[75] "Prudence is about contingent matters of action. In such matters man cannot be directed by what is necessarily and simply true, but by what happens for the most part. . . . And one must consider what is true for the most part by experience" ("Prudentia est circa contingentia operabilia, sicut dictum est. In his autem non potest homo dirigi per ea quae sunt simpliciter et ex necessitate vera, sed ex his quae ut in pluribus accidunt. . . . Quid autem in pluribus sit verum oportet per experimentum considerare" (*STh* II-II, q. 49, a. 1).

healthy." The experience of singulars could also be expressed as an indefinite proposition that leaves the quantity undetermined. "Fowl is lean meat" refers indeterminately to one, some, or all kinds of fowl; since it is not known to be universal, it too is an experiential judgment. Experiential propositions can be expressed modally, as in: "It is probable that this kind of fowl is healthy."[76] In contrast, a universal proposition holds for all singulars of a given class. If the predicate is essentially related to the subject, it can be expressed as a modally necessary proposition.

In symbolic logic, universal propositions are symbolized using the universal quantifier. Thus, "All swans are feathered" would be written as "All A are C" and symbolized as: $\forall x[Ax \rightarrow Cx]$. An experiential proposition such as "Some swans are white" is of limited quantity and thus not distributed to all individuals. Such a proposition would be written as "Some A are B" and symbolized as: $\exists x[Ax \,\&\, Bx]$. Since the existential quantifier refers to "at least one," it does not distinguish between singular and particular propositions; nor do these formulations express whether such propositions are stated scientifically or experientially, since contemporary logical symbolization is concerned with the formal rather than the material aspects of logic. Still, one could stipulate a singular's uniqueness by further symbolization.

In order to establish whether one can use the existential quantifier to symbolize an experiential proposition, one must determine whether a singular affirmative proposition can be experiential, that is, whether a single case suffices for experience. Since experience requires many memories of many sensations, such a proposition seems formally insufficient, as in: "This free diver passed out at -50 meters and survived." Since the most likely outcome of such an event is death, treating this single event as a sound basis for a theoretical or prudential experiential generalization commits the fallacy of the exception proving the rule.

[76] Although logic traditionally only admits of necessary and possible as modal categories, the statistical rationale for the use of "probable" is sound. My reasoning is supported by Avicenna's statement that "experience may necessitate a certain judgment, or it may necessitate a probable one" (Avicenna, *Remarks and Admonitions, Part One: Logic*, Sixth Method, ch. 1 [trans. Inati, 120]).

Yet a unique occurrence shows that an event is not impossible, and thus justifies a factual universal negative judgment, in other words, one infers by way of contradictory opposition that "Every free diver who passes out at -50 meters drowns" is false. Such a judgment could be expressed modally ("It is not necessary that all apnea divers who pass out at -50 meters perish") and symbolized by negating the modal operator for necessity. (Practically speaking, it might be helpful to establish a modal operator symbolizing probability.)

Determining whether a singular proposition functions experientially requires examining its content and use. One must establish whether the judgment bears upon a singular as such and thus functions independently, or whether it is in the context of *collatio* and functions experientially. If the proposition's subject is considered insofar as it is uniquely singular, as in "Socrates is human," the subject stands independently of *collatio;* one already possesses the universal "human" and is applying it to an individual. Forming such a proposition requires the joint activity of both particular and universal reason. The cogitative supplies an individual intention for "Socrates" in subordination to the intellect's reflexive knowledge of singulars, and the intellect provides the note of universality in "human." In terms of Aquinas's presentation of *experimentum* as collative, a judgment on a singular as singular is not experiential, properly speaking; judgments on singulars as such provide the remote matter of experience, while the apprehension of their similarities by *collatio* provides its proximate matter. The formal aspect that is applied to the matter would be best termed a sortal, that is, a less-than-universal sensory generalization.[77]

Nonetheless, a judgment on one instance may suffice to form an experiential proposition in the proper context. Such a judgment qualifies as experiential when one inductively compares and contrasts a novel object to one's memories of other similar objects. The process may be more or less conscious depending on its ease and rapidity. In contrast to small children, adults habitually

[77] I argue in my forthcoming book that this is the most likely interpretation of the "first universal" in II *Post. Anal.*, lect. 20.

classify things with relatively little need for deliberate comparison. Thus, one's cogitative forms an experiential notion of a novel species upon viewing a specimen in a zoo exhibit by comparing it with one's recollections of similar animals. This serves as the basis for the abstraction of a universal by the active intellect.[78]

A judgment on a singular object can be rendered experiential when one compares and collates the object's different essential sensibles (i.e., proper and common). The subsequent singular proposition can qualify as experiential (as in: "This specimen looks like a new kind of beetle"). One's judgment is vague insofar as one does not yet know the insect's properties with certainty, but experiential insofar as one believes that it is a new kind of insect by comparing its characteristics with each other, recalling other beetles that one has seen, remembering one is in an unexplored stretch of jungle, etc. For the more experienced, such a judgment takes place connaturally and requires less reflection than it does for the inexperienced. The novice may need actually (i.e., consciously) to form a series of judgments which are only potentially present in the veteran's connatural judgment. As long as one is uncertain what the specimen is, one lacks explanatory knowledge.

Aristotle and Aquinas only mention experientially recognizing similarities, but one must also notice differences, such as that this object is not like any previously encountered. One could call such negative judgments contrastive as opposed to comparative. They rely on previous generic or specific comparisons. An experiential cogitative judgment on only one specimen may prepare the way for abstraction or insight into the thing's essential nature, thus

[78] The standard account of Thomistic epistemology omits the intermediary experiential notion, presenting instead a direct passage from a singular phantasm to a universal concept. While this would require further discussion, Aquinas explicitly teaches the contrary in at least one text: "It is impossible to discover universals independently of induction. And this is more manifest in sensory [as opposed to mathematical] things, because we receive universal knowledge from them by our experience of sensory individuals, as is made clear in *Metaphysics* 1" ("Impossibile est universalia speculari absque inductione. Et hoc quidem in rebus sensibilibus est magis manifestum, quia in eis per experientiam, quam habemus circa singularia sensibilia, accipimus universalem notitiam, sicut manifestatur in principio *Metaphysicae*") (I *Post. Anal.*, lect. 30 [Busa ed., n. 4; cf. n. 5]).

yielding a scientific judgment that depends on universal reason.[79] If certainty is achieved, one can state: "This specimen is a new kind of beetle." If one determines that it is not a new species, this raises no problems for the present account insofar as the experiential proposition only expressed a probable cogitative judgment. Given that a single case can suffice for experience, the existential quantifier's lack of distinction between singular and particular propositions need not be an obstacle to the symbolization of experiential propositions.

Language can be of great assistance in the experiential process, since it allows one to benefit from others' knowledge. Aquinas seems to link *experimentum* to learning by language when he notes that *experimentum* by means of hearing "is of the greatest importance for the contemplative sciences."[80] "Hearing" (*auditus*) refers primarily to spoken language (*sermo*).[81] One relies more on language-based experience in natural science, mathematics, or metaphysics than in the fine or useful arts, where nonlinguistic external sensory experience is ordinarily more important. By hearing (or otherwise sensing) examples expressed in language, the

[79] Cf. Ashley, *Way toward Wisdom,* 283-84: "A zoologist meeting a single animal can sometimes come to the intuitive judgment that this animal has some different properties that distinguish it from other species in the category of substances. . . . In seeking assurance that the special traits of a specimen indicate a truly essential difference in the substance, [one may] be puzzled, but it is not beyond possibility that the close relationship among these traits may make it entirely certain that they reveal the unique character of a new species. Thus, such difficulties common to all research are not proof that genuine insight into the essential character of an object cannot at least sometimes be gathered from a single specimen. Many examples in the history of science show that in fact many discoveries of this sort have been made, such as the identification of extinct species of animals from single fossils."

[80] "Because experience is from sensation, he fittingly shows the importance of experience by sensory judgment, and especially by hearing . . . because, among all the senses, hearing is more capable of learning, whence it is of the greatest value for the contemplative sciences . . . he shows the importance of experience in both speculative and practical matters, when he adds that 'wisdom' that pertains to contemplation 'is in the elderly,' because the elderly have heard much" ("Quia experimentum a sensu est, convenienter per iudicium sensuum virtutem experimenti manifestat, et praecipue per auditum . . . quia auditus inter omnes sensus est disciplinabilior, unde plurimum ad scientias contemplativas valet . . . ostendit virtutem experimenti tam in speculativis quam in operativis, cum subdit 'in antiquis est sapientia,' quae ad contemplationem pertinet, quia scilicet antiqui multa audierunt" (*In Job* 12 [Leonine ed., 26/2:81.172-77 and 181-85]).

[81] See Aristotle, *De sensu et sensato* 1.1.437a4-15; I *De sensu,* lect. 2 (Marietti ed., n. 31).

cogitative gradually prepares notions for intellectual abstraction. The mental terminus of a neither entirely obscure nor fully understood externally sensed or imagined word is thus a formally experiential notion. One can conclude that nonlinguistic and language-based learning are two species of cogitative experience (*experimentum*).

***

While the broad sense of *experimentum* includes any act of external or internal sensation, the proper sense refers to an inductive gathering of commonalities by the cogitative power prior to abstraction proper. This collative process actualizes many memories, whether by deliberate reflection or by an immediate intuitive judgment. Granting the imperfection of cogitative experiential notions allows one to admit the validity of empiricist claims regarding the fallibility of human cognition, while still maintaining the accuracy of properly intellectual abstraction. Experiential propositions can be integrated into the life of universal reason by philosophical analysis and scientific investigation, thus allowing the natural scientist to determine whether a material substance's characteristics are properties or mere accidents.

The Thomist 76 (2012): 73-124

AQUINAS ON THE GOODNESS OF CREATURES AND MAN'S PLACE IN THE UNIVERSE: A BASIS FOR THE GENERAL PRECEPTS OF ENVIRONMENTAL ETHICS

MARIE I. GEORGE

St. John's University
Jamaica, New York

ENVIRONMENTAL ETHICS is a field of inquiry that has blossomed only in recent times. It addresses questions concerning the way we ought to treat nonrational natural beings. It might not seem that Aquinas could shed much light on such questions, given that he was ignorant of or in error about many natural things. For example, he was wrong in thinking that species never become extinct, and he lacked the concept of "ecosystem." He also had a relatively static vision of nature compared to the evolutionary vision modern science provides us with. Such deficiencies admittedly limit both the questions he asks about how we ought to treat natural things and the answers he comes up with. For example, he says in one place that human beings wield a solely tyrannical rule over nature, rather than a kingly one,[1] arguably because he did not know that humans can

[1] "The mode of headship is twofold: one is certainly ordered to governance, the other, however, to domination. The headship of master to servant is as that of tyrant to subject. A tyrant, however, differs from a king . . . because the king orders his headship to the good of the people whom he directs, making statutes and laws for their benefit; the tyrant, however, orders his headship to his own benefit; and therefore the twofold mode of headship spoken of above differs in this, that in the first the good of the subjects is aimed at, whereas in the second the proper good of the head; and therefore, the second mode of headship in the state of unfallen nature could not exist, except with respect to the things which are ordered to man as to an end. These, however, are irrational creatures, all of which he directed to his advantage much more fully than now. But the rational creature, of itself, is not ordered to the end of another, as man to man; but if this happens, it will not be except insofar as man on account sin is compared to irrational creatures" (II *Sent.*, d. 44, q. 1, a. 3). Quotations from

sometimes choose to do things to prevent species from going extinct.

Nevertheless, I will make a case that on certain points one finds in Aquinas pivotal teachings about creatures from which follow a view of man's relationship to nature that is opposed to the one he explicitly enunciates, and that if his knowledge of science were to be updated he would renounce his stated position.[2] On these points, I will take care to put forth what Aquinas actually said before arguing that his ignorance of science prevented him from seeing what follows from what he regards to be fundamental truths about God, human beings, and nature. The reader may decide whether I indulge in "greenwashing" Aquinas's thought, something not uncommon in the literature.

I will proceed by examining a text that is key to understanding Aquinas's views on God's love and care of creation, namely, question 65, article 2 of the *Prima Pars.* This text is cited by all who attempt to formulate some form of "eco-Thomism," but has never been systematically developed.[3] I intend to derive from this

the commentary on the *Sentences* of Peter Lombard are based on the Latin edition in *Scriptum super libros Sententiarum magistri Petri Lombardi Episcopi Parisiensis,* ed. P. Mandonnet and M.-F. Moos (Paris: Lethielleux, 1929-47).

[2] In his article "Thomas Aquinas and Environmental Ethics: A Reconsideration of Providence and Salvation," *Journal of Religion* (2005): 446-76, Francisco Benzoni maintains that there is no way one can overlook Aquinas's flawed science so as to find in him the basis for an ethical precept obligating us to avoid the loss of biodiversity. According to Benzoni, Aquinas's error about species extinction is inseparably tied to certain of his fundamental teachings on God's power and providence (see ibid., 465). Later in this paper I will try to show that this is not the case, but rather that certain positions that are non-negotiable for Aquinas allow us to draw Thomistic conclusions concerning how we ought to treat nature that take into account the reality of extinction.

[3] There have been relatively few attempts to date to formulate an environmental ethics based on Thomistic principles. I will list here the more comprehensive and/or substantive treatments of this topic in chronological order. Note that virtually all address at some point the question of whether Aquinas would advocate care of the environment for any reason other than the "anthropocentric" reason that failure to do so would constitute an injustice to other human beings who also need to use the goods of the earth. (1) Patrick Halligan, "The Environmental Policy of Saint Thomas Aquinas," *Environmental Law* 19 (Summer 1989): 767-806. Halligan is a non-Thomist who misunderstands Aquinas on a number of basic points (e.g., "the difference between human beings and higher animals is qualitative," when Aquinas maintains the difference is one in kind). He concludes that "Thomas's writing suggests a toleration of, but not a preference for, the use of fictions like personhood and standing of

nonhuman things" (806). The couple of thoughts he has that are worthy of consideration are better articulated by others. (2) Pamela A. Smith, *Aquinas and Today's Environmental Ethics: An Exploration of How the Vision and the Virtue Ethic of "EcoThomism" Might Inform a Viable Eco-Ethic* (Dissertation: Duquesne University, 1995). Smith maintains that one can find in Aquinas the bases for holding that we have a responsibility to care for creation that is not limited to our well-being; as intelligent beings we are to exercise government over nonrational creatures leading them towards the common good of the universe, and doing so is a matter of justice. Her approach is somewhat different than that of others in that she proposes a "visional ethic and a virtue ethic," i.e., one that "is not so much about principle formulating or rule-making as it is about offering an exposition of the vision and the virtue to be found in the character of ecologically sensitive, morally good people" (ibid., 285). Smith only considers what Aquinas says in two of his works (although two others are cited). (3) Jill Leblanc, "Eco-Thomism," *Environmental Ethics* (Fall 1999): 293-304. Leblanc argues against the thesis that Aquinas thinks that "the only reason to respect nature is that doing so would benefit humans" (293). She does so by examining Aquinas's positions on: nature being for the sake of humans; on human dominion of nature; and on the absence of plants and animals in the final state of universe. (4) Willis Jenkins, "Biodiversity and Salvation: Thomistic Roots for Environmental Ethics," *The Journal of Religion* (2003): 401-420. Jenkins argues that Aquinas would see us as having a ministerial role within God's providence consisting in our leading creation to God-given ends that include ends other than human well-being and that he would regard this stewardship as rooted in justice. (5) Benzoni, "Thomas Aquinas and Environmental Ethics." Benzoni sharply criticizes Jenkins's views. Benzoni maintains that Aquinas's views of providence and justice, as well as on the state of the universe at the end of time show, contrary to Jenkins, that Aquinas would deny that we have any responsibility to care for creation beyond its utility for human well-being. (6) Jame Schaefer, "Valuing Earth Intrinsically and Instrumentally: A Theological Framework for Environmental Ethics," *Theological Studies* 66 (2005): 783-813. Schaefer develops the thesis that God values all of creation in both an intrinsic and instrumental way, and that we should do likewise. To some extent, Schaefer's treatment of Aquinas and mine coincide, one significant difference being that I bring up and address texts that Schaefer fails to cite which indicate that Aquinas rejects the notion that we have a role to play in preserving the diverse species and in maintaining the overall order of creation. Schaefer later published a book elaborating further on the ideas contained in her article: *Theological Foundations for Environmental Ethics: Reconstructing Patristic and Medieval Concepts* (Washington, D.C.: Georgetown University Press, 2009). (7) Daniel P. Scheid, "Saint Thomas Aquinas, the Thomistic Tradition, and the Cosmic Common Good," in *Green Discipleship: Catholic Theological Ethics and the Environment,* ed. Tobias Winright (Winona, Minn.: Anselm Academic, 2011), 129-47. Scheid, writing for an audience of undergraduate students, brings out a number of the views articulated by Aquinas that are applicable to questions of environmental ethics. He ends his essay with the suggestion that Thomas Berry follows in the Thomistic tradition as to key views that have bearing on environmental ethics. This, however, is far from being the case; the two disagree on quite a few fundamental points. For example, Aquinas, unlike Berry, does not regard nonrational beings *qua* created beings as sacred, and nor does Aquinas regard all creatures as subjects, but rather distinguishes persons (creatures who are in the image of God in virtue of possessing the immaterial faculties of intellect and free will) from nonpersons (purely material creatures). (8) Christopher Thompson, "Perennial Wisdom: Notes Toward a Green Thomism" in *Nova et*

text certain moral precepts concerning how we ought to treat creation, on the assumption that we should model our love and care of nonrational creatures on God's love and care of them, to the extent that this is possible. The precepts will be of the most general sort. Although I think it likely that some more specific guidelines can be discovered in Aquinas's thought, even determining the most general ones is no small task. These precepts are necessary but not sufficient for allowing one to determine what to do in specific cases, first because they are so general and second because moral decision-making is not a deductive science, but requires prudence. One cannot choose to act justly while lacking the general knowledge that justice requires that one gives each person his due; yet knowing this hardly suffices for determining the specific matter of how justly to remunerate people for their labor. And even when one has more specific guidelines concerning just wages, this is no substitute for prudence in determining what wage to pay a given person for a given job. In a similar way, the very general precepts I intend to derive do not immediately allow one to determine the correct thing to do in regard to specific environmental questions. These precepts are at the foundation of such determinations, yet more specific principles are also needed, at least for the most part, and prudence also must be exercised.

When it comes to loving created things, there is certainly a tremendous difference between God's love of them and ours: God's love, unlike ours, bestows upon things both the good of

Vetera, English ed., 10 (2012): 67-80. Thompson argues that "Thomas's vision of creation and man provides for us today a methodology still adequate to our task of developing a sound Catholic environmental stance." With the exception of Halligan, I think all these authors make insightful remarks and are worth reading. All of them address issues in contemporary discussions of environmental ethics, and some derive ethical principles of a certain specificity, neither of which I attempt here. While I disagree with their understanding of Aquinas as it relates to at least one of their central positions, it would be contrary to my purpose here to engage in any extensive critique of one or more of these authors, as what I am trying to do is to provide an ordered exposition of Aquinas's thought on God's love and care of creation (using his own language and looking at his entire corpus) insofar as it provides a foundation for articulating general principles of what may be regarded as a Thomistic environmental ethics.

existence and every other subsequent perfection.[4] Yet apart from this, our love of created things should be patterned on God's love for them. The things God loves most are as a result of his love the things that are best;[5] they are the things we should love most. In addition, God's providential care of things corresponds to his love of things: "The governance of providence proceeds from the divine love by which God loves the things created by him: for love chiefly consists in this that the one loving wants the good to the loved. Therefore to the extent that God loves certain things more, they fall more under his providence."[6] Our care for things should respect God's providential plan for them. In order to understand how God cares for things, leading them to their per-fection, we must first understand the ends to which God has ordered things, as "the ultimate perfection of anything whatsoever is in the attainment of its end."[7] Aquinas's position is the following:

> It is to be considered that the whole universe is constituted from every creature, as a whole from parts. If, however, we want to assign the end of some whole and of its parts, we find, first, that the individual parts are for the sake of their acts, as the eye for seeing; secondly, that the less noble part is for the sake of the more noble part, as sense is for the sake of the intellect, and the lungs for the sake of the heart. Third, all parts are for the sake of the perfection of the whole, as also matter is for the sake of form; for the parts are as the matter of the whole. Further, however, the whole man is for the sake of some extrinsic end, for instance, that he may enjoy God.
>
> Thus, therefore, also in the parts of the universe, each and every creature is for the sake of its proper act and perfection.
>
> Secondly, however, the less noble creatures are for the sake of the more noble ones, as the creatures that are below man are for the sake of man.

---

[4] See *STh* I, q. 20, a. 2. Quotations of the *Summa* are based on the Latin edition edited by Instituti Studiorum Medievalium Ottaviensis (Ottawa: Commissio Piana, 1953); all translations of Aquinas in this article are my own.

[5] See *STh* I, q. 20, a. 4: "According to what was said earlier, it is necessary to say that God loves better things more. For it was said that that God love something more is nothing other than to want a greater good for it; for the will of God is the cause of goodness in things. And thus some things are better because God wants for them a great good. Whence it follows that he loves better things more."

[6] *ScG* III, c. 90. Quotations from the *Summa contra Gentiles* are based on the Latin edition edited by C. Pera, O.P., et al. (Turin: Marietti, 1961).

[7] *STh* I, q. 103, a. 1.

Further, however, individual creatures are for the sake of the perfection of the whole universe.

Further, moreover, the whole universe, with its individual parts, is ordered to God as to an end, insofar as divine goodness is represented in them by means of a certain imitation, to the glory of God; although rational creatures have God as their end in a certain special mode beyond this, whom they can attain by their own operation, by knowing and loving [him]. And thus it is manifest that divine goodness is the end of all corporeal beings.[8]

Aquinas raises many questions that bear on God's love and care of creation in reference to the above-stated finalities and their interrelation. For example, he considers whether God loves the lower creatures solely insofar as they serve the higher one, or also in some sense for their own sake.[9] Aquinas also addresses questions that arise as to whether one finality conflicts with another: for example, does the lower creature's being for the sake of the higher conflict with its being for the sake of the whole?[10] If this were so, then it could not be loved or cared for with a view to both ends. Thus, in order to understand how God loves and cares for creatures, I will investigate how the different finalities of creatures relate to one another. Before I proceed to do so, it is useful to set forth a distinction that Aquinas repeatedly relies on when discussing love, namely, between love of friendship and love of concupiscence:

As the Philosopher says in Bk. II of the Rhetoric, to love is to want the good for someone. The motion of love, therefore, thus tends to two things, namely, to the good that a person wants for someone, either for himself or another; and to the one for whom he wants the good. Therefore, love of concupiscence is had towards the good that someone wants for another; love of friendship, however, is had towards the one for whom someone wants the good. However, this division is according to what is prior and posterior. For the one that is loved with the love of friendship is loved simply and per se; what is loved, however, with the love of concupiscence is not loved simply and according to itself, but is loved for another.[11]

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

[9] See *ScG* I, c. 91 (quoted below).

[10] See *ScG* III, c. 112 (quoted below).

[11] *STh* I-II, q. 26, a. 4.

The ultimate end of all created things is God's goodness, and all their other ends are subordinated to it and are only fully intelligible in light of it. From this point of view it makes sense to first speak of things' ordering to God, then of their ordering to the universe, then of the ordering of inferior things to superior ones, and finally of things' ordering to their proper acts. At the same time, each level of finality has a certain intelligibility looked at in itself. Thus, while laxatives are only fully understood in light of their ultimate goal, health, still the immediate goal of the laxative, purging, has its own intelligibility.[12] In addition, when it comes to understanding a whole, Aquinas maintains it is useful to consider first the parts; thus in the commentary on Aristotle's *Politics,* before considering the civil society, he considers (as does Aristotle) the family and its immediate finalities.[13] Thus, though I will first begin by treating a question concerning how the ordering of created things to their existence and acts compares to their ordering to their ultimate end, God, I will subsequently return to creatures' more immediate ends in sequence, building back up to their ordering to God as ultimate end.

I. God's Love and Care of Nonrational Creatures Seen in Light of His Ordering Them Both to Their Proper Perfection and to Himself

God uses all things by directing them to himself, for he made them for himself.[14] He communicates goodness to things so that

[12] This comparison is borrowed from the *Compendium Theologiae* I, c. 148.

[13] See I *Polit.,* lect. 1 (esp. nos. 16, 26, and 28). *In Libros Politicorum Aristotelis,* ed. Raymundi M. Spiazzi, O.P. (Turin: Marietti, 1951).

[14] See *ScG* III, c. 64: "Whoever makes something for the sake of an end uses that thing for that end. However, it was shown above that all things that have being in any mode whatsoever are effects of God, and that God made all things for the sake of the end which is himself. Therefore, he himself uses all things by directing them to an end."

by both their being[15] and their activity[16] they bear a likeness of his goodness, to his glory. This does not mean that the goodness of creatures is merely instrumental. On the contrary, if the things themselves did not have their own inherent goodness, they would not serve the purpose that God destined them to serve, which is to witness to his goodness. In the words of Aquinas:

> God, however, wants the universe of creatures for its own sake, granted that he also wants it for his own sake; for these two things are not opposed to each other. For God wants creatures to exist for the sake of his goodness, that, namely, they might imitate it and represent it in their own way; which certainly they do insofar as they have being from him, and subsist in their natures. Whence it is the same to say that God makes all things for his own sake . . . and that he makes creatures for the sake of their existence, which is stated in Sap. 1, 14: "For he [God] created all things that they might exist."[17]

The goodness inherent in the things themselves[18] does not preclude their ordering to God's goodness, but rather is what allows them to be so ordered: "God produces things for the sake

[15] *ScG* III, c. 65: "Things are ordered to the ultimate end that God intends, however, not only through the fact that they act, but also through the fact that they exist, because insofar as they exist they bear a likeness to divine goodness which is the end of things."

[16] See *ScG* II, c. 45: "Moreover, to the extent that something is like God in more ways to that extent it more perfectly approaches likeness to him. Therefore, the created thing more perfectly approaches likeness to God if it is not only good, but also able to bring about goodness for others than if it was only good in itself; just as what shines and illuminates is more like the sun than what shines only. A creature could not bring about goodness for another creature, unless there was plurality and inequality in created things. . . . Therefore, it was necessary to the end that there be a complete imitation of God in creatures that diverse grades in creatures be brought about."

[17] *De Pot,* q. 5, a. 4. Quotations from the *Quaestiones Disputatae de Potentia* are based on the Latin edition in *Quaestiones Disputatae*, vol. 2, ed. P. Bazzi et al. (Turin: Marietti, 1965).

[18] See *De Verit.,* 1, q. 21, a. 4: "[I]f the first goodness be productive of all good things, it is necessary that it impress its likeness in the things produced; and thus each and every thing is said to be good as by a form inhering in it in virtue of a likeness innate to it of the highest good, and further in virtue of the first goodness as through an exemplar and efficient cause of all created goodness. . . . [A]ll things are formally good by created goodness as an inhering form, and by uncreated goodness as by an exemplar form." Quotations from the *Quaestiones Disputatae de Veritate* are based on the Latin edition in *Quaestiones Disputatae*, vol. 1, ed. Raymundi M. Spiazzi, O.P. (Turin: Marietti, 1964).

of communicating his goodness to creatures, and through them to represent his goodness."[19]

One might think then that God loves things for their own sake (that is, with the love of friendship) since the good he communicates to them is their own good and is not merely instrumental to witnessing to God's goodness. This is what Aquinas initially seems to say in the *Summa Theologiae,* when he answers the question of whether God loves all things:

> God loves all existing things. For all existing things, insofar as they are, are good; the being itself of every thing is a certain good, and similarly any perfection whatsoever of it. It was shown above, however, that the will of God is the cause of all things, and thus it is necessary that the extent to which something has being or any good whatsoever is the extent to which it is willed by God. Therefore, God wants for every existing thing something good. Whence, since to love is nothing other than to want the good for something/someone, it is manifest that God loves all the things which are. . . . The love of God pours in and creates goodness in things.[20]

According to this passage it sounds like God loves things simply speaking. However, in response to an objection, Aquinas says something other. The objection reads:

> Love is twofold, namely of concupiscence and of friendship. But God does not love irrational creatures with the love of concupiscence, because he is in need of nothing outside of himself; nor with love of friendship either, since this cannot be had towards irrational things. . . . Therefore, God does not love all things.[21]

Aquinas's response is:

> Friendship cannot be had except with rational creatures, in whom there happens to be a mutual return of love and a sharing in the works of life, and for whom it happens that things occur well or badly, according to fortune and happiness; as also there is benevolence properly speaking towards them. Irrational creatures are not able to reach so far as to love God, nor as to share in the intellectual and

[19] *STh* I, q. 47, a. 1. See also *STh* I, a. 65, a. 5, ad 1: "by the fact that some creature has being it represents divine being and divine goodness. And therefore that God created all things in order that they might be does not exclude that he created all things for the sake of his goodness."

[20] *STh* I, q. 20, a. 2.

[21] *STh* I, q. 20, a. 2, corp. and obj. 3.

happy life by which God lives. Thus, therefore, properly speaking, God does not love irrational creatures with the love of friendship, but with a love as if of concupiscence; insofar as he orders them to rational creatures, and also to himself; not as if he needed them, but for the sake of his goodness and our utility. For we desire [*concupiscimus*] something both for ourselves and for others.[22]

Multiple reasons are given here as to why nonrational creatures cannot be loved with the love of friendship. These creatures are unable to possess the good, and so strictly speaking one cannot want the good for them. Animals, for example, pursue food as a good, but they do so merely by nature, being incapable of rationally[23] assessing the value or goodness of food as such (e.g., squirrels do not have a conceptual understanding of the tie between the nuts they have gathered and health, much less do they have the idea that they should hit the mean of virtue in consuming them). Insofar as these creatures lack reason, they plainly cannot share in the life of reason, and, as a consequence, they are also unable to love in return (love here is understood not as a passion, but as proceeding from choice, something which presupposes reason).

If God does not love nonrational creatures with the love of friendship, properly speaking, this does not preclude him from loving them thus in some looser sense. In a key text from the *Summa contra Gentiles,* Aquinas affirms that this is the case:

It is required for genuine love [*ad veritatem amoris*] that one wants the good of another according as it is that other's good. For someone whose good one wants only insofar as it yields to the good of another is loved *per accidens,* just as he who wants to safeguard wine to drink it or a man to be useful or pleasurable to himself, loves that wine or man *per accidens; per se* he loves himself. But God wants the good of each and every thing according as it is its good; for he wants

[22] *STh* I, q. 20, a. 2, corp. and ad 3. See also *STh* II-II, q. 25, a. 3, which names the same impediments to loving irrational creatures with the love of friendship and adds a reason proper to the love of friendship that is charity: "The third reason is proper to charity, for charity is founded upon the sharing of eternal beatitude of which the nonrational creature is not capable. Whence, the friendship of charity cannot be had towards the nonrational creature."

[23] Animals can make connections that depend on their senses (including their internal senses). For example, a chimpanzee that is trying to extract termites from a small hole knows to pick up a thin twig rather than a thick one. Doing so does not require abstract thought.

each thing to exist according as it is good in itself, granted he also orders one thing to the utility of another. Therefore, God truly loves both himself and other things.[24]

No creature is loved by God *solely* as an instrument or means, though it may be also ordered by God to be useful to another, and even primarily to serve another. Something that is loved solely as a means to an end has no value once its purpose is served. When an older technology is superseded by a newer it becomes junk (e.g., 8-track audiotapes). No creature, as lowly as it might be, is ever junk or destined to become junk, although it may be meant to yield another's good, and in doing so be destroyed. Each in some way imitates the divine essence and as such shares in some manner in God's perfection: "For the proper nature of each and every thing has consistency according as it shares in divine perfection in some manner."[25] For this reason, God's love of nonrational creatures does not entirely fall under love of concupiscence; he does not love them solely for another's sake.

What then are we to make of the several passages where Aquinas affirms without qualification: "Therefore, among beings, those things that always exist are wanted by God for their own sakes; those that do not always exist, however, are not wanted for their own sakes, but for the sake of another"?[26] This particular passage appears in the *Summa contra Gentiles,* and it is not plausible that Aquinas changed his position in the very same work. We need to go back to how he addressed this very same issue in a passage cited earlier from the *Summa Theologiae* (I, q. 20, a. 2),

[24] *ScG* I, c. 91. See also, *De Verit.,* q. 27, a. 1: "For God to accept or love something, which is the same thing, is nothing other than to want some good for it. For God wants for every creature the good of nature, on account of which all things are said to be loved: 'You love all the things that are, and you approve of all of them' (Ws. 11:25); 'God saw all that he made [and indeed it was very good]' (Gn. 1:31)."

[25] *STh* I, q. 14, a. 6. See also, *De Verit.,* q. 2, a. 4, ad 2: "For the divine essence is the *ratio* of something according as that thing imitates the divine essence." See also I *Phys.,* lect. 15 (no. 270): "Certainly it [form] is divine because every form is a certain participation of the likeness of the divine being which is pure act: for anything whatsoever is in act insofar as it has form." Quotations from the commentary on Aristotle's *Physics* are based in the Latin edition *In octo libros de Physico auditu commentaria*, ed. Angeli M. Pirotta, O.P. (Naples: M. D'Auria Pontificius Editor, 1953).

[26] *ScG* III, c. 112.

namely, by explaining why God, *strictly speaking,* does not love nonrational creatures for their own sake. For Aquinas, God's love of nonrational creatures does not perfectly fit the definition of either love of friendship or love of concupiscence; however, since these creatures are incapable of beatitude and are destined to go out of existence once they have served their roles in the universe, God's love of them is more rightly seen to be love of concupiscence. Thus, Aquinas generally speaks of it in this way, as most contexts do not call for further nuance.

The next topic to be considered is that of the more immediate ends of things, and how each lower creature's ordering to its own act and perfection relates to its further finality of being ordered to higher creatures.

II. Love and Care of Nonrational Creatures Seen in Light of God's Ordering Them Both to Their Proper Perfection and to Rational Creatures

A) God's Love of Nonrational Creatures Insofar as They Both Have Their Own Intrinsic Goodness and Are Ordered to Man

In many places, Aquinas reasons that God does not love nonrational creatures for their own sake, but only as ordered to other beings, namely, rational ones (as well as to God's own glory):

> Whence, the friendship of charity cannot be had towards irrational creatures. Irrational creatures are nevertheless able to be loved from charity as goods that we will for others, insofar as we want them to be conserved for the honor of God and the utility of human beings. And in this manner God also loves them from charity.[27]

What Aquinas says concerning God's providential care of creatures predictably parallels what he maintains concerning God's love of creatures:

[27] *STh* II-II, q. 25, a. 3.

Thus, therefore, they [rational beings] are said to be cared for for their own sake and other things for their sake [i.e., for the rational beings' sake] because the goods which are apportioned by reason of divine providence are not given to them for the utility of another; whereas the goods that are given to others, yield to their use [i.e., the use of the rational beings] from divine ordination.[28]

Aquinas is not saying here that nonrational creatures are only loved *per accidens,* as means. He is contrasting creatures that are in some sense loved for themselves and also as a means with creatures that are only loved for themselves and not as a means. It is only the latter sort of creature that is said to be cared for for its own sake (*propter se procurari*). There are three possible situations: one can love something solely as a means (e.g., an 8-track tape), or solely for its own sake (e.g., a human being), or both for its own sake and as a means (e.g., health). Again, Aquinas's words in the *Summa contra Gentiles* (I, c. 91) indicate that he places nonrational creatures in the third category.

Plainly, when it comes to care, one cannot care both for the rational creature who needs to eat (and be clothed, etc.), and for the nonrational creature that serves as food. Caring for the one is necessarily to the detriment of the other. Unlike the case of rational beings, what is detrimental to nonrational creatures cannot be ordered in some way to their own good:[29]

[B]rute animals and all of their acts even in the singular fall under divine providence, nevertheless not in the same manner by which men and their acts do; for there is providence concerning men for their own sake even individually, whereas individual brute animals are not provided for except for the sake of another, as was also said about other corruptible creatures. And therefore the evil which happens to the brute animal is not ordered to its good, but to the good of another, as the death of an ass is ordered to the good of a lion or wolf. But the death of man who is killed by a lion is not only ordered to it, but more principally to man's punishment or increase of merit which grows through patience.[30]

[28] *ScG* III, c. 112.

[29] See *De Verit.*, q. 5, a. 5: "But defects happening to sensible creatures are ordered only to that which belongs to others, as the corruption of this fire to the generation of that air."

[30] *De Verit.*, q. 5, a. 6.

The good of nonrational creatures is meant to yield to the good of the rational creature. For this reason, although God does not love the former solely as a means, he does not care for them for their own sake—the latter can only be said of rational creatures.[31]

Also, there is only so much good that God in his wisdom can want for nonrational creatures in view of the overall plan for the universe, and consequently only so much care he can bestow upon them. The universe would be less perfect if corruptible creatures were absent from it,[32] and it would defeat the whole purpose of having corruptible creatures in the universe if God were to prevent them from ever corrupting.[33] It would be contrary to their very natures never to corrupt. It would also be contrary to the natures of the beings that were naturally capable of causing corruption.[34] Moreover, removing corruption from the material world would result in a universe that was a static assemblage of beings arranged in a hierarchy, rather than in an interactive whole. While God does not directly intend the destruction of any particular corruptible thing, he is a *per accidens* cause of it, and he

[31] Aquinas notes that the affirmation that God cares for intellectual substances for their own sake should not be taken to mean that they "have no further ordering to God and to the perfection of the universe," for of course they do (*ScG* III, c. 112).

[32] See *De Verit.,* q. 5, a. 3: "[A]lthough corruptible things would be better if they possessed incorruptibility, nevertheless the universe that is composed of corruptible and incorruptible things is better than one that would only be composed of incorruptible things, for both of the two natures are good, namely, the corruptible and the incorruptible; and it is better to have two good things than only one."

[33] See I *Sent.,* d. 39, q. 2, a. 2: "Providence supposes disposition which determines order in things in diverse natures maintained according to grade. . . . Another grade of nature is that which is able to be impeded and to fail, as is the nature of the generable and corruptible. And although this nature is inferior in goodness [to that which cannot fail], nevertheless it is also good; and it is better that both exist at the same time than only one of the two. If God, however, changed this nature so that it would never fail, it would no longer be this nature, but the other; and thus there would not be both natures, which would derogate from the perfection of the universe."

[34] See *ScG* III, c. 71: "It would be contrary to the notion of divine rule not to allow created things to act according to the mode of their own nature. However, from the fact that creatures so act follows corruption and evil in things; since on account of the contrariety and opposition that is in things, one thing is corruptive of another. Therefore, it does not pertain to divine providence entirely to exclude evil from the things governed." See also *De Verit.,* q. 5, a. 4, ad 4.

intentionally permits it, ordering it to the good of the whole universe:

> But the evil that consists in the corruption of some things is reduced to God as to a cause. And this is manifest in things both natural and voluntary. For it is said that the one doing something, insofar as by its power it produces some form in consequence of which follow corruption and defect, causes that corruption and defect by its power. It is manifest, however, that the form which God principally intends in created things is the good of the order of the universe. The order of the universe, however, requires, as was said above, that there be certain things that are able to fail and that sometimes fail. And thus God, in causing the good of the order of the universe, as a consequence, and quasi *per accidens,* causes the corruption of things; as is said in 1 Sam. 2:6: "the Lord causes death and life." But what is said in Wis. 1:13, "God does not cause death," is understood as *per se* intended.[35]

God does want the good of the individual corruptible being, and only indirectly wants what is bad for it insofar as this is necessary in order to ensure the good of the entire universe. Corruptible things are thus intended by God as means to the generation of new individuals, along with the conservation of their species, as well as being a means to the sustenance and well-being of the highest of material beings, the human being.

The love that God has for nonrational beings is thus not an unqualified love that would preserve these things from all evil that did not potentially contribute to their ultimate good.[36] As Aquinas puts it, those things one loves simply speaking one wants to exist forever.[37] God does not want nonrational creatures to last forever:

> For since the good of the creature comes forth from the divine will, therefore, from the love of God by which he wants good for the creature flows some good into the creature. The will of man, however, is moved from the good pre-existing in things; and whence it is that the love of man does not entirely cause the

[35] *STh* I, q. 49, a. 2. See also *STh* I, q. 22, a. 2, ad 2.

[36] See *De Verit.,* q. 5, a. 7, where Aquinas distinguishes God's care of those humans who provide for themselves in keeping with his providence from those who do not.

[37] See *De Pot.,* q. 5, a. 4: "Whoever, however, wants something for its own sake [*propter se ipsum*] wants it always to exist, from the very fact that he wants it for its own sake. For what someone wants to exist at some time and afterwards not to exist, he wants to exist so that it may perfect some other thing; when this other thing is perfected, the one that was wanting the thing in question does not need it for the sake of perfecting that other thing."

goodness of a thing, but presupposes it either in whole or part. Therefore, it is manifest that from any love on the part of God follows some good caused in creatures; nevertheless sometimes not [a good] coeternal to his eternal love. And according to the difference of the sort of good is discerned a differing love of God for the creature. One [love] indeed is common, according to which "he loves all things that exist," as is said in Wis. 11:25; according as he bestows natural being on created things. Another love, however, is special, according to which he draws the rational creature above the condition of nature to a sharing in the divine good. And according to this love something is said to be loved simply speaking, because according to this love God wants simply speaking the eternal good that is himself for the creature.[38]

God does love each existing creature in some sense for its own sake, insofar as he himself bestows its existence and its ability to act. However, although he wants these goods for each thing from all eternity, he does not will for each thing a good that is coeternal with this eternal love. Nonrational creatures are destined to perish, and accordingly God's love sustains them for a limited span of time with an eye to the greater good of the universe; he loves them primarily as instruments. The only things that God loves for their own sake properly and without qualification are those for whom he wants the eternal good which is himself.[39] It is only in a loose and qualified sense that God loves for their own sakes the nonrational creatures that are destined to perish, and he cares for them accordingly. Again, in the order of God's providence, the instrumental roles these beings play is an end that takes precedence over their performing their proper acts.

A comparison with friendships that are based on utility and pleasure is helpful for understanding God's love and care of the nonrational individual insofar as it has a certain intrinsic goodness and insofar as its goodness lies primarily in being an instrument:

[38] *STh* I-II, q. 110, a. 1.

[39] See II *Sent.,* d. 26, q. 1, a. 1, ad 2: "He [God] is said to love all things, according as he gives them the good of nature; but there is a love that is perfect, and simply speaking love, as like to friendship, by which he not only loves the creature as an artist loves his work, but also by way of a certain friendly companionship, as friend loves friend, insofar as he draws them in the fellowship of his enjoyment [*fruitionis*], so that in this the glory and beatitude by which God is blessed may be theirs. And this is the love by which he loves the saints, which is called love by antonomasia."

In friendships of utility and of pleasure, someone wants some good for a friend, and to this extent the notion of friendship is preserved there. But because that good refers further to one's own pleasure or utility, friendships of utility and of pleasure to this extent draw near to love of concupiscence, and fall short of the true notion of friendship.[40]

There is a difference between a friendship of utility and the out-and-out exploitation of a person. One does not wish any good to the exploited person, except to the extent doing so advances one's own good, whereas in a friendship of utility one does want the useful good for the person, but ceases to want it effectively if that other person becomes no longer useful; this love is conditional and generally temporary. To this extent it is more a love of concupiscence than a love of friendship. In a similar way God's love of nonrational creatures is conditional and temporary, and thus, while not being unqualified love of concupiscence, it is more like the love of concupiscence than the love of friendship.

Aquinas's repeated affirmations to the effect that nonrational creatures cannot be loved with the love of friendship[41] and that they are not cared for for their own sake[42] tend to obscure his position that they are also not to be loved solely as instruments. In addition, passages that seem to imply that we can use nonrational creatures any way we please are readily misconstrued as indicating that Aquinas maintains that nonrational creatures are mere instruments:

[40] *STh* I-II, q. 26, a. 4, ad 3. Love of pets is another example of a love that is not readily categorized. If one had to get rid of one's dog for some reason, is it not reasonable to want it to go to someone who would care for it, rather than to want it to be put to sleep? The person who wants the former seems similar to the mother who wants the best education for her children, even when this means that they will live in a place where she cannot see them.

[41] See *STh* II-II, q. 25, a. 3: "The friendship of charity cannot be had towards irrational creatures. Irrational creatures are nevertheless able to be loved as goods that we want for others, insofar as namely from charity we want them to be conserved for God's honor and the utility of men. And in this manner God also loves them with charity."

[42] See for example the opening argument in *ScG* III, c. 112 ("Whether rational creatures are governed for their own sakes, and others as ordered to them") which speaks of the nonrational creature as having the notion of an instrument. Again, Aquinas acknowledges that an instrument made by a human being to serve some purpose differs from a nonrational creature in that the latter has an end and good other than simply serving human well-being.

> The affective disposition of man is twofold: one is according to reason, the other according to passion. Thus, according to the affective disposition of reason, it does not matter how a man treats animals, because all things have been made subject to his power by God. . . . And accordingly, the Apostle says that "God has no concern for cattle" because God does not require anything of man when it comes to how he treats cattle or other animals.[43]

Whether we are satisfied or not with Aquinas's position regarding the proper treatment of animals, we can see that his concern here is to repulse views that would attribute any sort of claim of the animal upon us which would preclude our usage of it or amount to a right in the modern sense of the word. In another place he says, "God does not care for brute animals in this manner that he would give to man a law on behalf of these animals, namely, that man treat them well or abstain from killing them, for brute animals are made for the use of man; whence they are not provided for for their own sake, but for the sake of man."[44] I do not want to examine the issue of the humane treatment of animals here, but simply to point out that at first glance it does not seem that one can speak of respecting a thing that one is meant to use and cannot use without destroying it. It is much easier to see that one should have respect for plants and animals that one does not eat or use in any way as instruments. This being said, there are grounds in Aquinas's thought to distinguish abuse from use of nonrational creatures in terms of impeding them from achieving their immediate natural ends for no good reason (trampling on plants when a pathway is at hand; killing animals for mere sport). God does not want destruction for the sake of destruction; nor should we. Part of our care of creation, then, entails avoiding needless destruction of creation due to the intrinsic goodness of nonrational individuals.

B) Our Role in Ordering Nonrational Creatures to Mankind

Thus far we have spoken about the love and care that God has for each creature insofar as it is ordered by him to its proper act

[43] *STh* I-II, q. 102, a. 6, ad 8.
[44] *De Verit.*, q. 5, a. 6, ad 1.

and perfection while also being ordered to higher things, that is, to rational creatures. Before we proceed to examine the remaining finalities spoken of in our main text, let us considers what role Aquinas sees us as having in ordering the lower to the higher, that is, ordering nonrational beings to ourselves.

A sermon of probable authenticity, which comments on the parable of the crafty steward (Luke 16:1-8), nicely sums up Aquinas's views on how we are to be stewards of God's creation by taking care of the needs of our fellow humans. It accords with what Aquinas says elsewhere. The reason it is of special interest is that the word "steward" is used in it, for stewardship is a common theme in Christian environmental ethics.

Aquinas (assuming he is the author) first points out that everything belongs to God: "God is rich in possessions because all things are his. 'The earth is the Lord's, etc.; there are glory and riches in his house'" (Ps 23:1).[45] Aquinas then goes on to explain who the steward in the parable is:

> I say that the steward [*villicus*] is the administrator of a country home [*villa*]. God could do all things by himself through his power, but he does not want to, but rather entrusts administration to others, and he both reserves government for himself, and wants others to act as ministers, so that the beauty of order and perfection of the universe remains intact. For if one thing did not need another, there would not be the beauty of order. . . . Further, God wants to entrust administration to others on account of his liberality. For God wants the goodness of one thing to pass into other things. Whence Dionysius . . . says that nothing is more divine than to become a cooperator with God.[46]

Aquinas then goes on speaks of God's first-rank administrators: "God set in place the Angels who minister over every creature. . . . These are the major lords." He continues:

> But the lesser ones are those who are set in charge of terrestrial things. Whence in Gen. 1:16 it says: "let us make man to our image and likeness: and let him rule

[45] See *STh* II-II, q. 66, a. 1, ad 1: "God has principal dominion of all things. And he himself according to his providence orders certain things to the corporeal sustenance of man. And for this reason man has natural dominion of things so far as the power to use them."

[46] The sermon is entitled: "Homo quidam erat dives," 1879 edition of the text of the Lutetian Parisians, ed. Robert Busa and Enrique Alarcón, in the online *Corpus Thomisticum,* ed. Enrique Alarcón, University of Navarre.

over the fish, the beast, and the fowl," and in short over all things. "All things lie subject under his feet" (Ps. 8:8), but "know that the Lord himself is God" (Ps. 99:3).[47]

He goes on to spell out exactly what our stewardship should consist in:

Whence Blessed Peter says: each of you, according to the grace you receive, be helpers of one another, as good stewards of Christ. And the sage says "what I have learned without pretence, I share without envy" (Ws. 7:13). Furthermore, you ought to administer temporal goods to others and not keep them [to satisfy] your will alone. The Apostle says: "warn the rich not to have a taste for the sublime things of this world and to distribute their goods readily" (1 Tim. 6:17). The Philosopher says that the best states are those in which possessions belong to distinct individuals and the use of these possessions is common (*Politics*, Bk. II, lec. 4). Basil says . . . "Men are accustomed to say that God is not just. Why is God not unjust in dispensing things to us unequally? The unjust one is not he. Why therefore are you enjoying abundance while that one begs, if not so that by dispensing life-sustaining food you may obtain the reward of life and he be crowned with the wreath of patience? Are you not the predator in appropriating what was entrusted to you to dispense? It is the bread of the needy that you hold back, the tunic of the naked that you store in your closet, the shoes of the barefoot that you on rare occasion stroll in, the money of the indigent that you hide in the ground; that is why there are as many injuries as what you are able to give" (Sermon on Lk. 16).[48]

These are strong words about our duty to be good stewards, that is, to dispense the goods we have from the earth to others in need. We may expand briefly on some of these thoughts by appealing to authenticated texts.

Aquinas, as we have seen, maintains that nonrational beings are intended by God to serve the higher being that is the human being. Since it is in virtue of their rationality that humans have been given dominion over other earthly creatures,[49] Aquinas sees this

[47] Ibid.

[48] Ibid.

[49] *STh* II-II, q. 66, a. 1: "[M]an has natural dominion over external things, because through reason and will he is able to use external things to his advantage, as they were made for him; for things that are less perfect are always for the sake of the more perfect. . . . And starting from this reason the Philosopher, in Bk. 1 of the *Politics,* proves that the possession of external things is natural to man. This natural dominion over the other creatures, which belongs to man in virtue of [possessing] reason, which is what the image of God consists in,

dominion as belonging to all humans, and not just to some. This view is clearly enunciated in his discussion of the moral legitimacy of private property. He argues that possession of private property is generally the best means to insure that all peacefully derive what they need from the earth,[50] while insisting that it is only a means:

> The things which pertain to human law cannot derogate natural law or divine law. According to the natural order instituted by divine providence, lower things are ordered to the end that human necessity be alleviated from them. And therefore the division and appropriation of things proceeding from human law may not impede that human need be alleviated by things of this sort.[51]

We are not to let our possession of private property be an obstacle to the ability of other human beings to benefit from the instrumental goodness of created things; rather, we have an obligation to dispense our goods to those in need. As Aquinas explains, there is a difference between the power to procure and dispense external goods and the usage of these goods. As to the former, the private possession of goods is generally necessary to insure an orderly and peaceful usage of these goods. However, when it comes to the usage of these goods: "a man ought not hold material goods as proper to him alone, but should hold them as common, namely, so that he readily shares them when it is a question of others' basic necessities."[52] Our stewardship of creation thus

is, however, manifested in the very creation of man, in Genesis 1:26 where it says: 'Let us make man to our image and likeness; and let him have dominion over the fish of the sea.'"

[50] See *STh* II-II, q. 66, a. 2.

[51] *STh* II-II, q. 66, a. 7.

[52] *STh* II-II, q. 66, a. 2. See also, *STh* II-II, q. 66, a. 7: "And therefore things which some possess in abundance are according to natural law owed to the sustenance of the poor. Whence Ambrose says, and so it is held in the Decretals, that: 'The bread of the hungry is that which you hold back; the clothing of the naked is what you shut in your closets; the redemption and acquittal of the unfortunate is the money that you bury in the ground.' But because many are suffering need, and not everyone is able to be helped from the same thing, the dispensation of one's own things is entrusted to the judgment of each, so that from them he may help those suffering need. If, nevertheless, there is an evident and urgent need where drawing help from the things found at hand is of manifest necessity, for example, when danger to a person is imminent and cannot be dealt with in any other way, then it is licit for someone to help himself by using another's belongings, taking them either openly or secretly. Nor does this have the notion of theft or robbery."

includes the obligation to see as best we can that earthly goods are available to all humans to meet their basic needs.

III. Love and Care of Nonrational Creatures insofar as They Are Ordered to the Perfection of the Universe and the Glory of God

A) The Perfection of the Universe Consists in Its Order

We may now consider the other finalities of individual creatures, namely, their ordering to the perfection of the whole universe, and then their further ordering to God insofar as they constitute the whole universe which reflects God's goodness.

With respect to the ordering of individual creatures to the whole, Aquinas maintains: "What is best, however, in created things is the perfection of the universe which consists in the order of distinct things. For in all things, the perfection of the whole surpasses the perfection of the individual parts."[53] The goodness belonging to each individual thing contributes to the greater end of the goodness of the whole:

> Moreover, to take away the order in created things is to take away what they have that is best; for individual things are good in themselves. At the same time all things are best for the sake of the order of the universe. For the whole is always better than the parts, and is the end of the parts.[54]

Aquinas sees the order of the universe as consisting in two things;

> The order of the universe includes in itself both the conservation of the diverse things instituted by God, and the motion of them; because according to these a twofold order is found in things, namely, according as one thing is better than another, and according as one thing is moved by another.[55]

---

[53] *ScG* II, c. 45.

[54] *ScG* III, c. 69. Aquinas often notes that "any part whatsoever naturally loves the common good of the whole more than its own particular good" (*STh* II-II, q. 26, a. 3); and "the common good is more eminent than the individual good" (*De Verit.*, q. 5, a. 3).

[55] *STh* I, q. 103, a. 4, ad 1.

The hierarchical order of beings ranked according to their different natures contributes to the perfection of the universe insofar as "to the extent that some things are nearer to God, they share more likeness to him; and to the extent that some things are farther from God, they fall short of likeness to him . . . and in this the beauty of order appears."[56] A display of good things is enhanced where there are contrasting gradations of goodness. For example, it is the variation in singing voices that heightens our appreciation of the very best voices, while allowing us also to enjoy lesser voices that are suitable for a choir, and even at times to appreciate those that simply manage to hold a tune.

Aquinas recognizes that, in addition to hierarchy, there is a second intrinsic good of the universe, namely, that which consists in the interactivity of the parts of the universe:

> If, however, one takes things' actions away from them, one takes away the order of things to each other. For there is no assembling of things which are diverse according to their natures in a unity of order, except through this that certain of them act and certain of them are acted upon.[57]

Even if the universe were to have the order that stems from hierarchy, a lack of interaction among the various beings would result in a universe that was simply a collection of things, rather than in a unified whole. Aquinas thus sees the interactivity and harmony of the various beings that constitute the universe as the universe's crowning perfection.

B) The Role Species Play in the Order of the Universe

At this point it becomes important to speak about the role that species play in the universe, "for the perfection of the universe is attendant upon species and not upon individuals, since in the universe many individuals are continually added to pre-existing

[56] *ScG* III, c. 72. See also *Comp. Theol.* I, c. 102.

[57] *ScG* III, chap. 69. See also, XII *Metaphys.*, lect. 12 (nos. 2661-63). Quotations from the commentary on Aristotle's *Metaphysics* are based on the Latin edition in *In Duodecim Libros Metaphysicorum Aristotelis Expositio*, ed. Raymundi M. Spiazzi, O.P. (Rome: Marietti, 1950).

species."[58] This is true when it comes both to hierarchy in nature[59] and to the interactions among created things.[60] Consequently, the care of God for species differs from his care for individuals of these species:

> However, the providence of God stands otherwise to humans and to other corruptible creatures, because they stand otherwise to incorruptibility. For humans are not only incorruptible according to the common species, but also according to their proper forms which are rational souls; which cannot be said about other corruptible things. For it is manifest that the providence of God is chiefly concerned with things which remain perpetually; the providence of God concerns the things that pass away insofar as they are ordered to perpetual things. Thus, therefore, the providence of God compares to particular humans, as it compares to particular genera or species of corruptible things.[61]

God's providence plainly concerns species insofar as they exist in reality, and not as an unchanging idea in the divine mind. The perpetuity of a species in the former sense consists in the uninterrupted succession of its members through time. The transient individuals are ordered to their species;[62] they serve to instantiate and perpetuate it. Again, it is not that God's love and providence in nowise touches individuals, for he gives being to each one of them, rather, his care corresponds to the passing character of such beings which he orders to higher ends:

> For everything is seen to exist for the sake of its operation; for operation is the ultimate perfection of a thing. Thus, therefore, everything whatsoever is ordered by God to its act, according as it stands under divine providence. However, the rational creature stands under divine providence as governed and provided for for itself, and not only for the sake of the species, as is the case of other

[58] *ScG* II, c. 84. See also *ScG* II, c. 45: "The good of the species exceeds the good of the individual, as what is formal to what is material. Therefore, a multitude of species adds more to the goodness of the universe than a multitude of individuals belonging to one species."

[59] *ScG* II, c. 45 explains at length the need for a diversity of forms if God's goodness is to be represented, and how this entails diverse grades of perfection.

[60] The interaction of things in the universe, essential to the order of the universe, is dependent upon differences in species. If the species cow was not ordered to being food for humans, an individual human could not nourish himself by eating an individual cow (or part thereof); see *ScG* III, c. 112.

[61] *STh* I, q. 113, a. 2.

[62] See *ScG* III, c. 112.

corruptible creatures, the individuals of which are only governed for the sake of the species and not for their own sake, whereas rational creatures are governed for their own sake.[63]

The nonrational individual is primarily a place-holder bearing the species, though it is not just a place-holder. Spot cannot exist apart from the nature, dog; but the nature of dog can exist apart from Spot—it is found just as well in Bowser. Spot is not loved by God with a love coeternal to his eternal love, nor is he primarily loved as the individual he is, but rather more as bearing the nature dog (and as serving man). As the *Summa contra Gentiles* (I, c. 91) affirms, to the extent that God wills the good of existence for Spot so that Spot is good in itself, he does not want Spot solely as a means to continuing the species, dog. However, since the good of existence God wants for Spot is temporary, and the existence of the species, dog, is of higher concern, Aquinas affirms that nonrational individuals are not governed for their own sake, but only for the sake of the species.[64] Again, Spot is not meant to last forever, much less to share in the beatific vision, and the evils befalling Spot are not ordered to his own good, but to the good of another.

Aquinas does nuance his view that God cares for species in a manner similar to human individuals in virtue of their perpetuity, primarily on the grounds that many Scripture passages indicate that the heavenly bodies will cease moving, spelling death for all living things on earth.[65] He has to reconcile this with his position that nothing God makes is destined to go out of existence, and the only way he can do so is to acknowledge that certain things will continue to exist only in their causes: "all the works of God continue in eternity, either as themselves, or in their causes: for in

[63] *ScG* III, c. 113.

[64] See *De Verit.*, q. 5, a. 3: "But corruptible things cannot have perpetuity except in the species; whence the species themselves are provided for for their own sakes, but the individuals belonging to them are not provided for except for the sake of conserving the perpetual being of the species."

[65] See *De Pot.*, q. 5. a. 5: "This [that the motion of the heavens will cease] is more held by faith than it is able to be demonstrated by reason. . . . Granted that both positions [that the motions of the heavens will or will not cease] can be rationally sustained, nevertheless the one which accords with the faith seems more probable for three reasons."

the latter manner do animals and plants remain [at the end of time], while the heavenly bodies and elements continue in existence [in the former manner]."[66]

The important point for our purposes here is that Aquinas defends nonrational creatures as being more than mere instruments. If they were mere instruments, once they served their purpose there would be no reason to show them any further concern whatsoever. Obviously, the concern they will be shown is rather minimal; it could hardly be other given their inherently corruptible nature. For God to preserve plants and animals from corruption "would in a certain manner be violent and it would not be fitting that this go on perpetually," for such beings have "an aptitude for corruption, both on the part of their matter and on the part of their form."[67] Accordingly, Aquinas says that plants and animals do not pertain to the essential good of the universe, but to the universe insofar as it presently exists in the state of motion (a point we will return to later on).[68] Again, they are primarily instruments.

C) Our Responsibility to Safeguard the Order of Creation

We turn now to questions of our responsibility vis-à-vis the perfection of the universe: what role should we play in the preservation of species? What should be our attitude toward the extinction of species (naturally occurring or humanly induced)? What role do we play in the preservation of the harmony in nature (i.e., in preserving the interactivity characteristic of ecosystems)? Certainly, Aquinas would think that we should be concerned

[66] *De Pot.,* q. 5, a. 9, ad 1. See also *De Pot.,* q. 5, a. 9, ad 11: "A certain continuation of these natures will appear in man himself insofar as in him are gathered together the nature of the mixed body and of the vegetative body and of the animal body."

[67] *De Pot.,* q. 5, a. 9. That Adam's body could have been preserved perpetually is not absurd because "the rational soul exceeds its proportion to bodily matter . . . and so it was suitable that in the beginning it be given the virtue through which the body is able to be conserved above the nature of bodily matter" (*STh* I, q. 97, a.1); similarly, in the case of the glorified body, immortality naturally redounds to it from the beatification of the soul (see *STh* I, q. 97, a.1). No such things can be said of plants or animals, as their souls are not immaterial.

[68] See *De Pot.,* q. 5, a. 9; and *Comp. Theol.* I, c. 170.

about nonrational individuals not primarily as individuals having a certain transitory goodness but rather as continuators of the species, the multiplicity of which is needed for the beauty of order of the whole universe. In other words, not only should we not abuse individual nonliving natural things because of their individual, albeit passing, goodness, we should be even more concerned about them insofar as they perpetuate a species. Beyond this, it is hard to give a more precise Thomistic answer to questions concerning any moral obligation on our part in regard to species and ecosystems because it did not occur to Aquinas that a species could go extinct, nor did he think that human activity could have significant impact on the order of creation as a whole.

Aquinas explicitly affirms in a number of places that God intends for rational beings to share in his rule over the universe. For example: "to whatever is given some power by God, it is given to it in due order to the effect of that power. . . . The intellective power is of itself one that orders and rules. . . . Therefore the plan [*ratio*] of divine providence requires that other creatures are ruled by intellectual creatures."[69] For Aquinas, however, the primary stewards of creation are the angels,[70] whose governance extends to human beings,[71] to the heavenly bodies (something extremely important for the harmony of nature),[72] to many occurrences on earth,[73] and ultimately to all corporeal creatures.[74] While Aquinas

[69] *ScG* III, c. 78. In the same chapter he also reasons: "Any creature whatsoever executing the order of divine providence has this insofar as it shares something of the virtue of the provident being itself. . . . For since both the disposition of order and its execution are required for providence, and the former comes to be through a cognitive power, while the latter comes to be through an operative power, and [since] rational creatures share both powers, while other creatures have operative powers only, therefore all other creatures are ruled by divine providence through rational creatures." See also *ScG* III, c. 24; and *Comp. Theol.* I, c. 124.

[70] See "Homo quidam erat dives," quoted above.

[71] See *STh* I, q. 113; and *De Verit.*, q. 5, a. 8, ad 6.

[72] See *STh* I, q. 110, a. 1, ad 2.

[73] See ibid.: "But he [Aristotle] did not posit that there would be some spiritual substances that had immediate direction over lower bodies, except perhaps human souls. And he held this because he did not consider any operations to be exercised in lower bodies other than natural operations, for which the motion of the heavenly bodies sufficed. But because we hold that many things in lower bodies come to be outside the natural actions of bodies, and for which the powers of the heavenly bodies do not suffice, therefore, according to us, it is

recognizes that we are to rule over earthly creation, and indeed often quotes Psalm 8:6 ("you [God] made him [man] lord over the works of your hands, and set all things under his feet"), he does not think that humans have the intelligence requisite to oversee the global order of the natural realm:

> Rational souls hold the last grade among them [i.e., intelligent beings], and their light is dim in comparison to the light that is present in angels; whence they also have particular knowledge . . . and whence it is that their providence is confined to few things, namely, to human things, and those things which are able to become of use in human life.[75]

Human intelligence suffices for making prudent moral decisions and for mastering to some extent certain arts that minister to nature, for example, farming[76] and medicine;[77] however, our mastery over nature does not go beyond our own practical concerns.[78] Moreover, Aquinas acknowledges that our limited

necessary to posit that angels have immediate direction not only over the heavenly bodies, but also over lower bodies."

[74] See *De Verit.,* q. 5, a. 8: "But the providence of the angels is universal and extends over all corporeal creatures; and therefore it is said by both saints and philosophers that all bodies are ruled and governed by divine providence with the angels mediating."

[75] *De Verit.,* q. 5, a. 8. See also, *STh* I, q. 96, a. 2: Man's dominion over nonrational creatures consists primarily in his ability to "use their aid without impediment" and to rule them "by command" (as in the case of domestic animals; see *STh* I, q. 96, a. 1, ad 4).

[76] See *De Verit.,* q. 5, a. 8, ad 4. See also, *STh* I, q. 96, a. 1, ad 2: "And of this providence [of God over all of nature] man [in the state of innocence] was the executor, as even now appears in domestic animals, for chickens are served to domestic falcons as food by men." See also *ScG* III, c. 22.

[77] See *De Verit.,* q. 11, a. 1: "the doctor in healing is a minister to nature."

[78] In II *Sent*., d. 44, a. 1, a. 3 (quoted above n. 1), Aquinas characterizes our rule over creation as solely tyrannical, rather than also kingly, because he does not realize that we can play a role in safeguarding the integrity of nature. Jill Leblanc asserts that Adam's rule over the animals was kingly (i.e., for the sake of the ruled rather than for the sake of the ruler) basing herself in part on *STh* I, q. 96, a. 1, ad 4, which reads: "all animals have a certain sharing in prudence and reason according to natural estimation; from which it happens that cranes follow a leader and bees obey a king. And thus at that time all animals obeyed man of their own accord as now domestic animals obey him." She fails to note that in a subsequent question Aquinas concludes that man's being placed in paradise to work it and care "yielded entirely to the good of man, and thus Paradise was ordered to the good of man, and not vice versa" (*STh* I, q. 102, a. 3). Thus, while I agree with Leblanc that Aquinas would have viewed man as having a kingly role if he were aware of certain facts about the environment, I think it is a mistake not to acknowledge that he in fact explicitly denied this. See Leblanc, "Eco-

ability to govern nature is due not simply to a lack of understanding, but also to a lack of power: for example, we lack the power to move stars, a power which the angels have.[79] It never crossed his mind that we could eradicate a species or that we could disrupt the harmony of nature to any significant extent either by eliminating species or by disrupting the inanimate natural environment upon which they depend. Aquinas did not foresee any potential conflict between our use of lower things and the ability of these things to contribute to the order of the whole universe:

> It is not the case that by the arguments just set forth [indicating that the lower is ordered to the higher] the contrary has been shown as to all parts of the universe being ordered to the perfection of the whole. For all of the parts are thus ordered to the perfection of the whole insofar as one serves another. As in the human body, it is apparent that the lungs belong to the perfection of the body because they serve the heart: whence it is not contrary for the lungs to be for the sake of the heart, and for the sake of the whole animal. And similarly it is not contrary for other natures to exist for the sake of intellectual beings and for the sake of the perfection of the universe: for if those things which the perfection of the intellectual substance require were lacking, the universe would not be complete.[80]

If Aquinas lived today he could not help but see that we can bring about extinction and can disrupt the overall harmony of nature. He would then acknowledge that we have a responsibility to avoid causing extinction and the destruction of ecosystems, given that what is best in creation is the order of the universe which consists in a diversity of interacting natural things. However, how to accord this responsibility with the responsibility of seeing that creation meet the material needs of the human family is not something that Aquinas addresses, because he did not foresee the potential conflict. One could argue that our actions in view of these two ends need not conflict in principle. The fact remains,

Thomism," 297-98.

[79] See *STh* I, q. 110, a. 1, ad 2 and ad 3; and q. 110, a. 3. Another example of the angels' superior power is when they brought all the animals to Adam to name: "The angel is naturally superior to man. Whence some effect regarding animals is able to come about by angelic power which could not come about by human power, namely, that all the animals were congregated at once" (*STh* I, q. 96, a. 1, ad 1).

[80] *ScG* III, c. 112.

however, that at present there are many situations where people's survival or emergence from poverty depends on them doing things to the environment that degrade the environment (like cutting down rainforest or burning dung), given that wealthier nations are not offering these peoples the aid they need to develop technology in a manner less destructive of the earth. In general, our use of the earth involves disruption or destruction of the natural things in question. How does one determine what level of destruction or disruption to the order and integrity of the universe is acceptable when measured against human wants and needs? While I think Thomistic reflections of interest can be made on this subject, I intend to leave the topic to others.

D) Objection: There Cannot Be a Thomistic Mandate to Safeguard the Order of Creation

Francisco Benzoni maintains that it is not possible to find in Aquinas's thought the basis for a proscription against unnecessarily causing the extinction of species. His argument is that in order for Aquinas to acknowledge that human beings could cause a species to go extinct, he would have to concede that the order of the universe, which above all consists in the order of species to one another, was the product of chance. Benzoni quotes chapter 42 of the second book of the *Summa contra Gentiles,* where Aquinas argues that the distinction and order of the parts of the universe cannot simply be the end product of the confluence of diverse causes, but must be attributed to one intelligent cause. Benzoni then reasons that if the extinction of species is dependent on the contingencies of the human will, then the resulting order of species would be due to chance. I think the argument is interesting, and would be worth responding to at greater length; I will, however, restrict myself to the bare essen-tials of a response.

Benzoni fails to acknowledge that the "one intelligent cause" is capable of using contingent causes in the production of the order of the universe without this order then being the result of chance.

The certitude of divine providence is compatible with the operation of contingent causes.[81]

Benzoni could counter that God multiplies species because doing so more adequately represents divine goodness.[82] God would not then seemingly will that the number of species be lessened. It can be pointed out in response, however, that the extinction of existing species is in some cases necessary for the evolution of new species, as it would not be possible for all the species that have existed on the earth to exist together all at the same time. Evolution allows for the multiplication of species over time; extinction is thus a means to a more adequate representation of God's goodness. Someone might object that if this is true then humans are not doing anything morally wrong in causing extinction, but are simply executors of God's plan. However, that God draws some good from a given human act does not necessarily mean that the act was not morally bad. We cannot be sure that our elimination of species will eventually lead to the evolution of new ones, whereas we can be sure that the immediate result is that creation becomes a less adequate representation of divine goodness.[83]

It can also be said in response to Benzoni that while Aquinas generally seems confident of his views that the order of the universe consists of a specific number of species and that these species will continue in perpetuity, he backs away from his initial stance that species will exist in perpetuity in light of scriptural passages concerning the end of time and motion (as Benzoni

[81] See *STh* I, q. 23, a. 4, ad 2: "the order of divine providence is certain and immobile in this that all the things that are provided for by him come about in the manner that he himself provides, either as necessary or as contingent." See also *ScG* III, c. 94.

[82] See *ScG* III, c. 97; and *STh* I, q. 47, a. 1, quoted below.

[83] It is possible in principle that when God allows us to eliminate species this may be ordered to goods beyond the natural order. Benzoni, who is so insistent that Aquinas regards natural things as purely instrumental to the human good, ironically fails to consider that human-caused species loss looked at from the point of view of a natural evil could be permitted by God as a means to the moral perfection of human beings. It is factually the case that the drastic disruptive impact humans have had on the environment has provoked much recent reflection on nature, the place of humans in nature, and the Author of nature. There seems something providential about environmental concerns having arisen of late, as they offer our secularized world a way back to the Creator.

himself notes).[84] It follows that it would be highly unlikely that Aquinas would rigidly adhere to his conception of the order of the universe upon being presented with evidence that extinction occurs. He explicitly acknowledges:

> Any knowledge of things that a man could attain by natural ingenuity, all this Adam knew habitually by natural knowledge. But there are many things in creatures that are not able to be known by natural reason, namely, those to which the power of the first principles does not extend . . . such as the dispositions of creatures according as they are subject to divine providence: for it [natural reason] could not comprehend divine providence; whence neither the order of creatures themselves according as they are subject to divine providence—for sometimes creatures are ordered to many things beyond the faculty of nature.[85]

If evidence showed that in the first order of creation God wanted a given set of species to exist during one period of time and another set of species to exist during some later period of time (even a set that was fewer in number and even if the reduction of species took place at our hands), Aquinas would either acknowledge that this providential ordering of things was beyond his comprehension, or perhaps he would find some fitting reason for why this is so. Thus, contrary to what Benzoni maintains, Aquinas, upon learning that species can and have gone extinct, would not be compelled to give up his positions on God's omnipotence and providence in order to remain logically consistent, but could acknowledge that his relatively static understanding of the universe in terms of a fixed number of perpetually lasting species represented a failure to understand God's providential ordering of creation. Consequently, Aquinas's error concerning extinction does not preclude one from deriving from his teachings on the goodness of species as ordered to the completion of the universe a moral precept prescribing concern for the preservation of biodiversity.

E) The Whole Universe's Silent Witness to God's Glory

[84] Benzoni, "Thomas Aquinas and Environmental Ethics," 471.
[85] *De Verit.,* q. 18, a. 4.

It is plain from what has been said above that the whole universe with its individual parts represents divine goodness to the glory of God in virtue of the hierarchy and interactivity of its parts, the former making it a more adequate representation of God's goodness[86] and the latter making it a coherent whole instead of a collection of unconnected beings.

F) The Whole Universe's Witness to God's Glory via Its Effect on Our Minds

The manner in which the whole universe gives glory to God can also be seen by considering its effect on the intellectual and spiritual well-being of human beings:

> All corporeal beings are believed to be made for the sake of man; whence even all things are said to be "subject" to him. However, they serve man in two ways: in one way, to the end of sustaining his corporeal life; in another way, to advance his knowledge of what is divine, insofar as man "perceives the invisible things of God through the things that are made," as is said in Rom. 1:20.[87]

Aquinas elaborates on this point in the *Summa contra Gentiles*:

> In a certain manner meditation on what God has made is necessary as a preparation for human faith about God. First, certainly from the meditation of what he has made, we are able in a certain manner to admire and consider divine wisdom. For those things which are made by art are representative of the art itself, as being made to the likeness of art. God, however, produces things in being by his wisdom. . . . Whence, from a consideration of divine works, we are able to gather what divine wisdom is, as in things made through a certain impressed communication of his likeness; for it is said: "He pours out his wisdom over all his works."
>
> Secondly, this consideration leads to admiration of the highest power of God, and as a result it gives birth to reverence of God in the human soul. For it is

[86] See *STh* I, q. 47, a. 1: "God produces things for the sake of communicating his goodness to creatures, and through them to represent his goodness. And because it cannot be adequately represented through one creature, he produces many and diverse creatures, so that what is lacking in one for the purpose of representing divine goodness is filled up by others; for the goodness which exists simply and uniformly in God is in creatures multiple and divided. Whence the whole universe more perfectly shares in and represents divine goodness than any other creature whatsoever."

[87] *STh* Suppl., q. 91, a. 1. See also *Super Rom.* c. 1, lect. 6.

necessary that the power of the maker be understood as more eminent than the things that are made. . . .

Thirdly, this consideration inflames in the souls of men love of divine goodness. For whatever goodness and perfection is distributed individually in diverse creatures, is completely united in him as in a fountain of all goodness. . . . If therefore the goodness, beauty, and sweetness of creatures thus attract the souls of men, when the fountain of goodness of God himself has been diligently compared to the rivulets of goodness dispersed among individual creatures, it draws to itself the souls of men completely inflamed.[88]

Probably the most accessible argument for God's existence is based on the observed ordering to an end in nature and the beauty that accompanies it.[89] Thus, to destroy that order and beauty is to destroy the readiest route to natural knowledge of God. Yet another argument for God's existence is based on the hierarchical order of the goodness of natural things and the beauty[90] that

[88] *ScG* II, c. 2. See also the sermon "Puer Jesus," Latin codex 15034, National Parisian Library, ed. Enrique Alarcón, in the online *Corpus Thomisticum,* ed. Enrique Alarcón, University of Navarre: "But where ought you to seek wisdom? . . . You ought to reflect upon your examination of creatures; for as it is said in Eccl. 1: 'God pours out his wisdom over all of his works.' The works of God are witnesses of his wisdom; just as we are able to conjecture many things about the wisdom of a master builder in his artifact. Whence [the words of] Job 12: 'ask the beasts and they will teach you, the birds of the air and they will speak to you.'"

[89] Aquinas, in the prologue to his commentary on the Gospel of John, compares four of the ways that philosophers arrived at knowledge of God and says the most effective of the four is the one is that is based on the observation that natural things arrive at determinate ends.

[90] See *Comp. Theol.* I, c. 102: "For the multitude and distinction of things is devised by the divine intellect and instituted in things to the end that divine goodness be represented in diverse ways by created things, and that they share it according to diverse grades so that from the very order of diverse things a certain beauty were to resound in things, which highlights divine wisdom."

accompanies it.[91] And this gives us yet another reason to safeguard the natural order.

It is also noteworthy that while Aquinas acknowledges that Adam and Eve in Paradise did not need animals either to meet their corporal needs or to know God, he still affirms that "they needed them in order to gain experimental knowledge of the natures of these beings."[92] This indicates that these beings are worth knowing as a reflection of divine goodness, something they are only because of the goodness that belongs to them, having been bestowed on them by God.[93]

G) Summary: Our Threefold Responsibility to Care for the Order of Creation

From what we have seen above, it follows from Thomistic principles that our responsibility to care for species and ecosystems is threefold: first, insofar as they are essential to the perfection of the universe which in turn gives glory to God; second, insofar as they are means to our appreciating the wisdom and goodness of

[91] The argument of the Fourth Way is "taken from the grades that are found in things" (*STh* I, q. 2, a. 3). I note here that some environmentalists, while rightly affirming the intrinsic value of all natural things, fail to see the hierarchy of goodness in natural things, and consequently maintain that "all species are equally valuable." Even then, they put living things on a different footing than nonliving natural things. There is a reason why people sometimes (mistakenly) treat their pets as people, but not their houseplants, or (mistakenly) want to attribute human right to great apes, but not to earthworms. There really are different grades of goodness in things. It is not enough to be able to witness with one's senses representatives of the various grades of being and goodness in nature; one must also be able to recognize with one's mind the different grades they represent, if the Fourth Way is to bring one to God.

[92] *STh* I, q. 96, a. 1, ad 3. See *ScG* III, c. 22: "And above this [i.e., above serving our material well-being] all sensible things are made use of for the perfection of intellectual knowledge." See also *STh* I, q. 102, a. 3: "Nor nevertheless was this activity [of caring for the garden of Paradise] something laborious, but it was enjoyable on account of the experience of the virtue of nature [gained through it]."

[93] Aquinas notes that creatures possess such goodness, apart from the goodness that consists in their usefulness to us, that they can pose a temptation to idolatry: "A corporeal creature can be said to be made either for the sake of its own act or for the sake of another creature or for the sake of the whole universe or for the glory of God. But Moses, in order to turn the people away from idolatry, only touches upon the reason according to which things are made for the utility of man" (*STh* I, q. 70, a. 2).

our creator; third, insofar as the sustenance and material well-being of the human family depends upon them.

H) To What Virtue Does Our Responsibility to Care for Creation Pertain?

At this point we might ask: Under what virtue do our various obligations to care for creation fall? Plainly, our care of creation insofar as it affects human well-being (be it physical or intellectual) falls under justice. But what about the obligations to avoid unnecessary harm to individual creatures and to avoid species loss? Wrongful (or vicious) acts have to be opposed to the acts of one of the cardinal virtues. Acts of imprudence never stand alone; an imprudent act must also be either an intemperate one or a cowardly one or an unjust one. Temperance and courage concern our emotions, and the unnecessary destruction of a creature is an act. It seems then that such an act must be a form of injustice.

Some authors consider any unnecessary destruction of individual nonrational creature and/or of species to be an injustice to God, namely, blasphemy.[94] Aquinas does say that "to curse irrational beings insofar as they are creatures of God is the sin of blasphemy."[95] However, he also notes that cursing nonrational creatures for other reasons is not blasphemy: "To curse them, however, considered in themselves, is pointless and vain, and as a consequence, illicit."[96] Also, blasphemy is a sin that does not pertain to action, but rather to thought or speech.[97] Even if we broaden its meaning to include anything where one "intends to do harm to divine honor,"[98] again, not everyone who damages or destroys some creature intends harm to divine honor (otherwise homicide as such would be blasphemous). Thus, while it would be akin to blasphemy for someone to whack away at a tree for the specific purpose of disrespecting the Creator by damaging his

[94] See Leblanc, "Eco-Thomism," 300-301; and Jenkins, "Biodiversity and Salvation," 416.
[95] *STh* II-II, q. 76, a. 2.
[96] Ibid.
[97] *STh* II-II, q. 13, a. 1.
[98] *STh* II-II, q. 13, a. 3, ad 1.

creature, this would not be the case if the person performed the act without this intention in mind. It could be argued, though, that since God has put us in charge of overseeing the perfection of the universe that is ultimately ordered to his glory, we are acting unjustly towards him when we neglect this responsibility or act in a way contrary to it.

Still, one wonders whether Aquinas could acknowledge that causing unnecessary damage to nonrational creatures involves something in the line of injustice towards the creatures themselves. Some authors try to root an obligation in justice to care for creatures in God's justice towards creatures.[99] Aquinas's own words, however, indicate that God's justice entails that other creatures serve us, and not that we serve them:

> Something is also due to every created thing, namely, that it have what is ordered to it; in the case of man, that he have hands and that other animals serve him. And thus God also works justice when he gives to each thing what is owed to it according to the notion of its nature and condition.[100]

Also, as we have seen, Aquinas makes statements that clearly indicate that he thinks that we have no obligations in justice towards animals. It seems then unlikely that one will find in Aquinas grounds for justice in the strict sense towards nonrational creatures. Perhaps, though, there is some way to argue that he would acknowledge that there is some qualified form of justice towards creatures that is participative of divine justice.

On this point, I am only able to offer a few suggestions. At the root of the problem is the difficulty in understanding the kind of love that we are to have towards nonrational beings. They are not to be loved like persons, that is, with the love of friendship, yet at the same time they are not to be loved as if they were mere

[99] See Jenkins, "Biodiversity and Salvation," 414-16; and Smith, *Aquinas and Today's Environmental Ethics*, 161-62.

[100] *STh* I, q. 21, a. 1. At the same time Aquinas also maintains that: "To the extent that something is more perfect in virtue and more eminent in its grade of goodness it has a greater appetite of the common good, and more seeks and works towards the good in beings that are distant from itself. For the imperfect tend only to the proper good of the individual; the perfect, to the good of the species; the yet more perfect, to the good of the genus; God, however, who is the most perfect in goodness, to the good of all of being" (*ScG* III, c. 24).

instruments; in some sense they are to be loved for their own sake. So while there can be no justice in the strict sense towards them, for justice is towards persons, at the same time it seems that they are in some way owed treatment that corresponds to their inherent, albeit limited goodness. Now Aquinas does discuss virtues that in some way fall short of strict justice, for example, gratitude and liberality.[101] This opens up the possibility that certain kinds of treatment of nonrational creatures might be regarded as pertaining to justice, though falling short of strict justice—an idea I leave to others to try to develop. A further observation is that in Aquinas's earliest work, the *Commentary on the Sentences,* he actually speaks as if something were owed to an artifact: "It is not more owed [*debitum*] to clay that a noble rather than an ignoble vase be formed from it; but when a noble vase is formed from clay, it is owed [*debitum*] to the nobility of that vase that it be deputed to a suitable use."[102] If something can in some sense be owed to an artificial thing, which lacks the unity of being and the goodness of a natural thing, *a fortiori* it seems that something can be owed to a natural thing. Perhaps, then, there is some way of providing needed nuance to the view of those who maintain that Aquinas would see human justice towards creatures to be rooted in divine justice towards them.

IV. Love of the Universe Compared to Love of the Rational Material Being, Man

A) Humans Complete the Material Universe in a Unique Way by Knowing and Loving God

Thus far we have determined how we are to love and care for lower creatures by examining their God-given ends. Remaining to be considered are the ends that rational creatures are ordered to, and how we are to love and care for the universe in comparison to ourselves.

Our opening text is of help:

[101] See *STh* II-II, q. 80, a. 1; *STh* II-II, q. 106, a.1, ad 2; *STh* II-II, q. 114, a. 2.
[102] IV *Sent.*, d. 46, q. 1, a. 2, qcla. 1, ad 2.

Further, moreover, the whole universe, with its individual parts, is ordered to God as to an end, insofar as divine goodness is represented in them by means of a certain imitation, to the glory of God; although rational creatures have God as their end in a certain special mode beyond this, whom they can attain by their own operation, by knowing and loving [him].[103]

Rational creatures, like all other parts of the universe, are meant to represent divine goodness. They, unlike other earthly creatures, do so in a very specific way through their operations:

Second perfection in things adds something above first perfection. However, just as the being and nature of a thing is weighed as pertaining to the first perfection, so too its operation is weighed as pertaining to the second perfection. Therefore, it was necessary for the consummate perfection of the universe that there be some creatures which come back to God, not only according to likeness of nature, but also through operation; which certainly cannot be except through the act of the intellect and will, for God himself does not have an operation in regard to himself in any other way.[104]

In addition, rational creatures have God as their end insofar as their faculties of reason and will render them capable of being called to share in God's own life. In the words of Aquinas:

Moreover, whenever there are things that are ordered to some end, if some among them of themselves are not able to attain the end, it is necessary that they be ordered to the things which do attain the end, [i.e.,] to the things which for their own sake are ordered to the end; as the end of the army is victory which soldiers attain through their own act of fighting, who alone are wanted for their own sakes in the army. All others, however, are charged with other duties, e.g., taking care of horses, preparing arms, [etc.] for the sake of the soldiers who are wanted in the army. From what has been said earlier, it stands that God is the ultimate end of the universe, which only the intellectual nature can attain in itself, namely, by knowing and loving him. . . . Therefore, only the intellectual nature is prized [*quaesita*] in the universe, and other things for its sake.[105]

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

[104] *ScG* II, c. 46. The next paragraph of this chapter recalls a teaching of the previous chapter, namely, that nonrational creatures also imitate God through their activities (see *ScG* II, c. 45, quoted above; and also *ScG* II, c. 24, final paragraph). Thus, nonrational creatures do in some way represent divine goodness through their operation, but not by exercising the sort of operation proper to God.

[105] *ScG* III, c. 112.

This same text later speaks of humans as ordered to the completion of the universe and ultimately to the glory of God. The way in which we complete the universe and give glory to God is by knowing and loving him, something that nonrational creatures cannot do.[106]

B) How Humans Are to Be Loved in Comparison to the Rest of the Material Universe

The passage above does not, however, address the question of how we are to love ourselves in comparison to the universe. Aquinas explicitly takes this up in an article in the disputed question *De Caritate* concerning "whether the object loveable from charity is the rational nature." First, he poses this objection:

> God is loved with the love of charity. Therefore, what is principally loved by him ought to be more loved with the love of charity. But among all created things, what is principally loved by God is the good of the universe in which all things are comprehended. Therefore, all things are to be loved with the love of charity.[107]

He then responds:

> In the good of the universe, what is principal is the rational nature contained therein, which nature has the capacity for beatitude, [and] to which all other creatures are ordered; and according to this it belongs to God and to us to love with charity in the highest degree the good of the universe.[108]

In other words, if the universe did not contain rational beings, it would not belong to God to love it in the highest degree with the

[106] See *De spirit. creat.*, a. 6, ad 14: "According to Damascene, the heavens are said to proclaim the glory of God, to praise [him], to exult [him], in a material manner, insofar as they are matter for men to praise or proclaim or exult [God]. Similar things are found in Scripture concerning mountains and hills and other inanimate creatures." Latin edition of *Quaestio disputata De spiritualibus creaturis* in *Quaestiones Disputatae*, vol. 2, ed. P. Bazzi et al. (Turin: Marietti, 1965).

[107] *De carit.*, a. 7, obj. 5. Latin edition of *Quaestio disputata De caritate* in *Quaestiones Disputatae* vol. 2, ed. P. Bazzi et al. (Turin: Marietti, 1965).

[108] *De carit.*, a. 7, ad 5.

love of charity; it is specifically because it does that it belongs to God and us to do so.

Another passage that is relevant here compares the manner in which humans and the universe are like God. It opens with the following objection:

> Moreover, to the extent that something is more perfect in goodness, to that extent it is more like God. But the entire universe is more perfect in goodness than man is, because although each individual thing is good, nevertheless all together are called very good (Gen., c. 1). Therefore, the whole universe is to the image of God, and not just man.[109]

Aquinas responds:

> The universe is more perfect in goodness than the intellectual creature extensively and diffusively. But intensively and collectively the likeness of divine perfection is found rather in the intellectual creature who is capable of holding the highest good. Or it ought to be said that the part is not divided against the whole, but rather against another part. Whence, when it is said that only the intellectual nature is to the image of God, this does not exclude that the universe be to the image of God according to some part of itself; but other parts of the universe are excluded.[110]

The second solution dovetails with the solution in *De Caritate:* the universe of material creation without humans would not be a thing most perfect in goodness, but one that includes them is such *insofar as it includes them*. God could create a material universe without rational animals, but it would be deficient as a reflection of his goodness,[111] and it would lack a material creature capable of appreciating creation as representing God's goodness.

The first solution is best understood in light of the distinction Aquinas makes in many places between things that are in the image of God and those that are the traces of God. The likeness of nonrational creatures to God is diffuse and vague. It is not sufficiently specific to qualify them as images of God, whence

[109] *STh* I, q. 93, a. 2, obj. 3.

[110] *STh* I, q. 93, a. 2, ad 3.

[111] See *ScG* II, c. 46 where Aquinas gives multiple arguments leading to the conclusion that beings of an intellectual nature are needed for the perfection of the universe.

Aquinas calls them "vestigia Dei," that is, footprints, traces, or vestiges of God.[112] Certainly their presence in the universe is far more extensive than is the presence of humans. Humans, on the other hand, in virtue of possessing reason and free will, bear the sort of likeness to God that qualifies them as images, albeit imperfect images:[113]

> The notion of image requires, however, that there be a likeness according to species, as the image of a king is in his son; or at least according to some proper accident of the species, and chiefly according to figure, as the image of a man is said to exist in copper. . . . It is plain that likeness to a species is to be looked for on the part of its ultimate difference. Some things are like God, first, and most generally, insofar as they exist; secondly, insofar as they live; thirdly, insofar as they are reasonable and understand—for, as Augustine says . . .: "In this manner, they are so near God, that in creatures there is nothing nearer." Thus, therefore, it is manifest that only intellectual creatures, properly speaking, are to the image of God.[114]

Rather than possessing merely the diffuse or extremely generic likeness to God of existence, or even the closer likeness of life alone, humans have in addition a more specific likeness to God insofar as we possess a life like God's, namely, an intellectual life, granted our intelligence is like God's only by analogy.

These ideas are conveyed in Psalm 8:3-6:

> When I look at thy heavens, the work of thy fingers,
> the moon and the stars which thou hast established;
> what is man that thou art mindful of him,
> and the son of man that thou dost care for him?
> Yet thou hast made him little less than the angels,
> and dost crown him with glory and honor.
> Thou hast given him dominion over the works of thy hands;
> thou hast put all things under his feet.

The vast panoply of diverse beings inspires awe; and yet ultimately it is the human being who is like God in having reason and will,

[112] See *STh* I, q. 93, a. 6: "in all creatures there is some likeness to God: only in rational creatures is likeness to God found in the mode of an image; in other creatures, however, in the mode of a vestige." See also *STh* I, q. 45, a. 7.

[113] See *STh* I, q. 93, a. 1.

[114] *STh* I, q. 93, a. 2. See also *De Verit.*, q. 10, a. 1, ad 5.

and it is to him that God gives dominion over earthly creation. We should love the greater good more. Thus, when we consider the nonrational parts of the universe in contrast with ourselves, the material universe is a greater good in virtue of the multiplicity[115] of diverse beings that reflect God distantly even as they form a hierarchical and interactive whole; yet even the totality of these creatures does not qualify as an image of God. We, on the other hand, are the greater good, insofar as we, unlike the rest of material creation, are so like the ultimate good, God, that each human individual is said to be made in his image. In this manner, the natural goodness of each human being surpasses the goodness of the rest of the material universe, and we are the creature said to be "prized" by God in the material universe.[116] Moreover, human individuals are the only material creatures on earth that can share in the life of God, and in the case of those that do so "the good of the grace of one individual is greater than the good of nature of the entire universe."[117]

V. The Ultimate End of All Created Things: The Glory of God

[115] Aquinas uses the word "intensive" twenty-four times, and often in contrast with "extensive." "Intensive" generally indicates a qualitative difference and "extensive" a quantitative one. So for example, Aquinas says "that intensively speaking, the soul of Christ more perfectly experienced joy than the soul of saints in the homeland; not however extensively speaking. For in the homeland the joy of fruition arrives at the lower powers and also at the glorified body; if this was so in Christ, he would not be a pilgrim [*viator*]" (*Quodl.* 7, a. 2, ad 2; Latin edition in in *Opuscula Philosophica et Theologica*, vol. 2, ed. Michael De Maria [Castello: Tiferni Tiberini, 1886]). And in *STh* III, q. 1, a. 4 Aquinas says: "Something is called 'greater' in two ways. One way, intensively: as the whiteness that is more intense is greater. And through this mode, actual sin is greater than original sin: because it has more of the notion of the voluntary. . . . In another way, something is called greater extensively: as the whiteness which is in the greater surface is called greater. And in this mode, original sin, by which the entire human race is infected, is greater than any actual sin, which is proper to an individual person."

[116] Assuming that a divine person did not assume a rational extraterrestrial nature, humans are the creature prized in the entire universe insofar as God took on our flesh: "it was not the angels that he took to himself; he took to himself descent from Abraham" [Heb. 2:16, 17]).

[117] *STh* I-II, q. 113, a. 9, ad 2. Aquinas maintains that "reverence is not owed except to the rational nature" (*STh* III, q. 25, a. 3). See also III *Sent.*, d. 9, q. 2, a. 3, especially obj. 6 and ad 6 where Aquinas explains why reverence is not to be shown to nonrational beings.

A) Humans Gives Glory to God in a Unique Way

We see then that humans play a central role as parts of God's creation. Indeed, Aquinas goes so far as to say that "the ultimate perfection, however, that is the end of the whole universe, is the perfect beatitude of the saints."[118] On the face of it, this may seem to conflict with the affirmation in our opening text that "the whole universe, with its individual parts, is ordered to God as to an end."[119] However, we must recall both that God can have no ultimate end other than himself, and that God does not order created beings to himself as needing them.[120] In the words of Aquinas:

> The manner in which "God makes all things for the sake of his goodness" is to be understood requires knowing that that something is done for the sake of end can be understood in two ways. Either for the sake of an end to be attained, as a sick person takes medicine for the sake of health, or for the sake of the love of an end to be spread, as a doctor operates for the sake of health that is to be communicated to another. God, however, is in need of no good exterior to himself. . . . And therefore when it is said that God wants and makes all things for the sake of his goodness, it is not to be understood that he makes something for the sake of imparting goodness to himself, but for the sake of spreading it to others. However, divine goodness is imparted to the rational creature, properly speaking, so that the rational creature itself knows it. And thus everything which God makes in the case of rational creatures, he creates to his praise and glory, according to Is. 43:7: "Everyone who calls on my name, I have created him for my glory," namely, that he might know [God's] goodness and knowing it praise it. And thus the Apostle puts down "in the praise of the glory of his grace," i.e., that one may know to what extent God is to be praised and glorified."[121]

The perfect blessedness of the saints consists in their knowledge and love of God in virtue of which they praise and glorify him.

---

[118] *STh* I, q. 73, a. 1.

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

[120] See *STh* I, q. 44, a. 4: "every agent acts for the sake of an end. . . . But it does not accord with the first agent, who is only an agent, to act for the sake of the acquisition of some end; but it intends only to communicate its perfection which is its goodness."

[121] *In Eph.* (no. 13). Latin edition in *Super Epistolas S. Pauli*, ed. P. Raphaelis Cai, O.P., vol. 2 (Rome: Marietti, 1953).

B) The Ultimate End of Humans and of Nonrational Creatures as Realized in the Ultimate State of the Universe

The centrality of the human being in creation can only be fully understood in the light of the economy of salvation which centers upon Christ who is both human and divine.[122] Aquinas orders the parts of the *Summa Theologiae* that treat of creation according to what he understand to be God's plan for creation: creation flows forth from God ultimately to return to him through Christ who is the Way.[123] The only material being that can fully return to God, attaining God in himself, is the rational creature; whence other material creatures serve as auxiliaries to the rational ones.[124] Accordingly, Aquinas maintains that "the consummation of all of corporeal nature in a certain manner depends on the

[122] See *In Rom.* c. 1, lect. 4 (no. 60): "For it is fitting that just as all things were made through the Word of God, as is said in 1 Jn. 3, so too all things were restored through him, as through the art of the omnipotent God: just as even the master builder repairs the home by the same art by which he put it together. Col. 1:20: 'It pleased God to reconcile through him all things both in heaven and on earth.'" Latin edition of *Super Epistolam ad Romanos* in *Super Epistolas S. Pauli*, ed. P. Raphaelis Cai, O.P., vol. 1 (Rome: Marietti, 1953).

[123] See I *Sent.*, d. 14, q. 2, a. 2: "In the going forth from the first principle a certain circulation or turning back is awaited, for all things return as to an end to that from which they proceeded as from a principle. And therefore it is necessary that through the same things from which one goes forth in the beginning, one is expected to return in the end. Therefore, just as it was said . . . that the procession of Persons is the reason of the production of creatures from the first principle, so also is the same procession the reason of the return to be made to the end, for as we are made through the Son and the Holy Spirit, so also are we joined in the ultimate end; as is plain from the works of Augustine . . . where he says that the principle is what we run back to, namely, the Father, and the form is what is followed, namely, the Son, and it is by grace that we are reconciled. And Hilary says that we bring the universe back to the one initial beginning of all things through the Son. Accordingly, therefore, this procession of divine persons in creatures can be considered in two ways. Either insofar as it is the reason of going forth from a principle; and in this manner such a procession is looked for according to natural gifts in which we subsist, as Dionysius says that divine wisdom or goodness proceeds in creatures. . . . It is also looked for insofar as it is the reason of returning to the end, as occurs according to those gifts which join us proximately to our ultimate end (namely, God), which are sanctifying grace and glory. . . . For just as in natural generation, the generated is not joined to the generator in the likeness of species except at the end of generation, so too for those who share in divine goodness there is not an immediate joining to God through the first effects by which we subsist in the being of nature, but through the ultimate effects by which we adhere to the end [e.g., grace]."

[124] See *ScG* III 112, quoted above.

consummation of man."[125] This is what is indicated in Scripture, for example, Romans 8:19-23:

The whole creation is eagerly waiting for God to reveal his sons. It was not for any fault on the part of creation that it was made unable to attain its purpose, it was made so by God; but creation still retains the hope of being freed, like us, from its slavery to decadence, to enjoy the same freedom and glory as the children of God. From the beginning till now the entire creation, as we know, has been groaning in one act of give birth.

Aquinas, commenting on this passage, says:

If this is understood about the sensible creature, thus the creature itself is "liberated from the servitude of corruption," i.e., mutability; because in every change there is some corruption. . . . And this "in the liberty of the glory of the sons of God," because even this liberty of the glory of the sons of God makes it befitting that as they themselves are renewed, so too even their dwelling is renewed: "I created a new heavens and new earth, and they will no longer be as in their former memory," i.e., the former mutability of creatures (Is. 65:17).[126]

At the end of the world, we will no longer need plants and animals either for food or for leading our minds to God, nor will we need the things which allow for the generation of new human individuals, for example, the motion of the sun.[127] It would seem then that when the material universe will no longer be needed, it should be dispensed with. Indeed, Aquinas seems to say exactly that:

[125] *Comp. Theol.* I, c. 148.

[126] *In Rom.* c. 8, lect. 4 (nos. 667-68). See also IV *Sent.,* d. 48, q. 1, a. 1, where Aquinas speaks of the redemption having an effect on all of creation: "And because through the redemption of mankind not only were men restored, but also universally all of creation—according as all creation is made better when man is restored, as is held in Col. 1:20: 'reconciling all things in himself when he made peace through the blood of his cross, everything on earth and everything in heaven'—therefore, not only does Christ through his passion merit dominion and judiciary power over men, but over all of creation."

[127] See *In Heb.* c. 1, lect. 5 (no. 75): "because all corporeal creatures are ordered to spiritual ones, even every motion serving generation and corruption is ordered to the generation of man. Therefore, when the generation of men will cease, which will be when the number of the elect and predestined are filled up, then that motion [namely, of the heavens] will cease." Latin edition of *Super Epistolam ad Hebraeos* in *Super Epistolas S. Pauli*, ed. P. Raphaelis Cai, O.P., vol. 2 (Rome: Marietti, 1953).

[A] vestment which is put on for the sake of utility is set aside when the utility ceases, as a man takes off a warm garment when summer comes and a cool garment when winter comes. Thus, therefore, once the number of the elect is completed, then the state of the world which is now suited to this end [i.e., to the generation of human beings] will no longer be suited or necessary, and therefore will be like a garment that is set aside. "Heaven and earth will pass away" (Lk. 21:33).[128]

Note however, that Aquinas does not say that the world itself will be dispensed with, but "the *state* of the world."[129] Indeed, after he presents the same argument in another work, he follows it with this response:

just as one part of an army is ordered to another and to the leader, so too the corporeal creature is ordered to helping with the perfection of the spiritual creature, and to representing divine goodness; which latter it always will do, granted it ceases to do the former.[130]

Again, that the material universe remain is in keeping with divine goodness:

Nevertheless when the motion of the heavens and the generation and corruption of the elements ceases, the substance of them will remain from the immobility of divine goodness: for it created things that they would be; whence the being of things which have an aptitude for perpetuity will remain in perpetuity.[131]

Aquinas also reasons that even though the saints no longer need the material universe (aside from their own bodies and a location for their bodies), still "since man is part of the corporeal universe, in the ultimate consummation of man it is necessary that the corporeal universe remain; for a part is not seen to be perfect if it is outside its whole. However, the universe of bodies is not able to remain unless its essential parts remain."[132] Again, it is not only for the sake of man's perfection that the corporeal universe as a whole

[128] *In Heb.,* c. 1, lect. 5 (no. 75). See also *Comp. Theol.* I, c. 170; and *De Pot.,* q. 5, a. 4 (quoted above).

[129] Ibid. See also *De Pot.,* q. 5, a. 7, corp. and ad 4.

[130] *De Pot.,* q. 5, a. 4, ad 2.

[131] *ScG* IV, c. 97.

[132] *Comp. Theol.* I, c. 170.

must remain; it must also remain so that, with its individual parts, it continues to serve its purpose of representing God's goodness.

C) The Absence of Plants and Animals in the Ultimate State of the Universe Does Not Mean They Exist Solely as Instruments for Human Well-Being

Benzoni is mistaken, then, when he argues that Aquinas regards nonrational creatures as pure instruments, on the grounds that Aquinas holds that plant and animal species are destined to disappear when the universe attains its final state. He correctly notes both that Aquinas maintains that plants, animals, and mixed bodies are necessary only to the perfection of the universe in its changeable state and that this changeable state is ordered to the human good, that is, the generation of the requisite number of the elect. This does not, however, justify his conclusion that "the end of the perfection of the universe (at least in its changeable state) is in effect subordinated to the end of the human good."[133] Aquinas does not think that the ordering of material creation to human beings ever supplants its ordering to divine goodness: "A proximate end does not exclude an ultimate end. Whence the fact that the corporeal creature is in a certain way made for the sake of the spiritual creature does not remove the fact that it is made for the sake of God's goodness."[134] Aquinas explicitly says that plants and animals do not remain in the final state of the universe, not only because humans no longer need them, but also because "they are not ordered per se and essentially to the perfection of the universe" (as is the case of the principal parts of the world)[135] and because their nature is such that their continued existence could only be "in a certain manner by violence" in the state of the universe where change no longer occurs.[136] Benzoni is thus mistaken when he concludes that the reason plants and animals

[133] Benzoni, "Thomas Aquinas and Environmental Ethics," 471.

[134] *STh* I, q. 65, a. 2, ad 2.

[135] Aquinas maintains that the plants and animals are not essential parts of the world, but rather beings that decorate or beautify the world in its present state of motion. See *STh* I, q. 70, preface; and *De Pot.,* q. 5, a. 9, ad 4 and ad 8.

[136] *De Pot.,* q. 5, a. 9.

will exist no more when the universe achieves its final state is that they are pure instruments.[137]

By contrast, if plants and animals were essential parts of the universe and did have an aptitude to exist in a world where time and motion are no more, they would continue to exist. As noted earlier, Aquinas thinks this is true of the heavenly bodies and the elements. He explicitly affirms that the continued existence of these beings is ordered both to serving human well-being and to manifesting divine goodness. Accordingly, he says of the elements: "The elements, moreover, were made in order to manifest divine goodness. But when things receive their ultimate consummation, then it will be above all necessary that divine goodness be manifested. Therefore, at the end of the world the elements will remain."[138] At the same time he affirms that the elements provide the place where the glorified human body will be situated,[139] and he holds in general that anything that exists in the universe in its final state must be congruent with the incorruptible state of the blessed.[140] The ordering of creatures to divine goodness and to human well-being are not in conflict. So again, the fact that plants and animals are no longer needed by human beings in the ultimate state of the universe is not the only reason they will not be there. God intended that they represent his goodness as parts of the universe in the state of motion, but not that they do so in act[141]

[137] The same view can be found popularly in some Christian circles, where it is thought that there is no need to avoid extinction on the grounds that we are meant for heaven and nonrational species do not exist there.

[138] *De Pot.,* q. 5, a. 7, s.c. 2. See also *De Pot.,* q. 5, a. 7. H. Paul Santmire is thus mistaken when he says: "But why should the world of nature be renewed, since it was not created in a state of grace with regard to the final perfection of the universe? Thomas gives several answers for this question, all of which revolve around the needs of the human creatures" (*The Travail of Nature* [Minneapolis: Fortress Press, 1985], 93).

[139] See *De Pot.,* q. 5, a. 9, ad 9.

[140] See *ScG* IV, c. 97: "Therefore, because the corporeal creature will ultimately be disposed in a way congruent to the human state--human beings, however, will not only be liberated from corruption, but also clothed with glory . . .—it will be necessary that the corporeal creature attain a certain glory of clarity according to its mode. And thus it is said in Rev. 21:1: 'I saw a new heaven and a new earth'." See also IV *Sent.,* d. 47, q. 2, a. 1, qcla. 1.

[141] Again, plants and animals will continue to exist in potency in their causes; see text at note 66 above.

when the universe is brought to the final state he desires it to have. Their absence at the end of time thus cannot be used to justify our treating them as pure instruments.

Conclusion

We have seen how Thomistic views on environmental ethics follow from Aquinas's views on the various ends to which God has ordered creation, along with his views on our ability to contribute to or interfere with these ends. While lower creatures are ordered to our use, they are also ordered to their own acts. Thus, we should not destroy them unless doing so contributes to our survival or to genuine human fulfillment. Each and every creature is patterned after uncreated goodness as exemplar form and by its existence and acts represents divine goodness. At the same time, we are not to care for individual nonrational creatures for their own sakes, as they are intended by God to have a temporary existence and to serve primarily as instruments of higher beings, that is, human beings.[142]

Our usage of the lower creatures is also to be in a manner that is in keeping with God's ordering of the earth and its goods to every member of the human race. Private ownership is generally the best way to ensure that people's needs are met. However, the owners of private property must seek to put their property at the disposal of others (to the extent feasible), and, if they are well off, are obligated to offer assistance to those in need. When it comes to the ordering of the parts of the universe to the whole universe, we must do what we can to maintain the integrity of the universe. We must especially avoid causing the extinction of species (unless it is the only way to prevent harm to humans), for the order of nature depends largely upon the existence of different species and

[142] The similitude of individual created things to God by which they represent God's goodness is above all other ends their ultimate end. However, the principal role that creatures play in the universe may be other: "The completion of the number of the elect, according to the teaching of the faith, is not ranked as the secondary end of the motion of the heavens, but the principal one, granted not the ultimate one, for the ultimate end of anything whatsoever is divine goodness, insofar as creatures in a certain mode extend to it either through likeness or through due service" (*De Pot.,* q. 5, a. 5, ad 6).

the interactions among them. Although Aquinas does not prescribe the latter, due to his underestimation of the ability of humans to affect the harmony of nature, still he acknowledges it in principle insofar as he maintains that God in his wisdom and generosity intends rational creatures to share the task of governing the world. By caring for the integrity of earthly creation, we help insure that the earth serves its ultimate God-given purpose which is to bear witness to the goodness of God: thriving ecosystems and a greater number of species constitutes a more magnificent representation of God's goodness. By seeking to preserve creation's order and beauty we also help ensure that it serve its purposes of sustaining the human family and of leading the minds of human individuals to God.

We play a central role as parts of the total creation in giving glory to God, as we are the only material creature that can self-consciously and freely do so. Thus, when the number of human beings whom God has chosen to share in his life for all eternity is filled up, motion and time will come to an end. God will resurrect the bodies of all people, and will clothe the bodies of the just with glory; he will accordingly also transform the earth to an eminently resplendent state so that the universe will remain a harmonious whole. This future transformation of the earth in no wise justifies us neglecting our obligations to be stewards of our planet while our universe exists in the "state of motion," obligations which again include respecting and using natural individuals in accord with their limited goodness, insuring to the extent that is in keeping with our circumstances that the goods of the earth sustain the entire human family, and safeguarding the harmony of nature and preserving species, so that our minds and hearts are led to God, and so that the entire universe represents God's wisdom and goodness to his glory.[143]1433

[143] I would like to thank both an anonymous reviewer and my colleague Glenn Statile, for their comments.

BOOK REVIEWS

Nouvelle Théologie – New Theology: Inheritor of Modernism, Precursor of Vatican II. By JÜRGEN METTEPENNINGEN. London: T. & T. Clark, 2010. Pp. 218. £19.99 (paper). ISBN: 978-0-567-034010-6.

In the ongoing debate over the hermeneutics of the Second Vatican Council it is neither pertinent to search for an elusive "spirit of the Council" nor sufficient to focus on the promulgated texts and their geneses: it is also necessary to study the various pontificates and theological schools and movements in order to reach an insight into the minds of the council fathers and their *periti*. This study is therefore a welcome contribution to this debate since it intends "to introduce the reader into the most important building blocks, into the specificity and development" (xiv) of the *nouvelle théologie* "as the inheritor of Modernism and one of the precursors of Vatican II" (xiv). The author considers the contribution of several Dominicans to be "innovative" in this respect. He describes this innovation as follows in the introduction: "before, during and after the Second World War, [several Dominicans] called for a theology that was oriented towards the sources of the Christian faith and not (exclusively) towards a system based on scholasticism. In short, theology needed to restore its contact with the living reality of the faith. . . . In order to achieve this goal, theologians had to become aware of the urgent need to refresh theology's bonds with history. . . . To draw from the well of history is to return to the true sources of the faith and thereby transform the faith into the living object of theology" (xiii). Whether and how the author succeeds in giving the reader a deeper insight into this rather vague description remains to be seen.

The book has two main parts, each divided into three chapters, in which the author, drawing on published and archival material in various modern languages, studies the concept and context of the movement (3-40) and the various phases of the *nouvelle théologie* prior to the Second Vatican Council (41-140). The book ends with some brief conclusions (141-46), which are followed by endnotes (147-86, which contain almost solely bibliographical information), a bibliography (187-214) and an index (215-18).

In part 1, chapter 1, the author considers the *nouvelle théologie* to be a "cluster concept" (7) which is difficult to define, the more so since representatives such as Congar, de Lubac and Bouillard were critical of its use and its application to their thought. He nevertheless considers the following four

features to be essential to the movement: the use of the French language, the place of history within theology, the appeal of a positive theology in search of the sources of the faith and in particular the thirteenth-century Thomas, and finally a "critical attitude towards neo-scholasticism" (11), which was viewed as a "conceptual system" that "defined the norms of orthodoxy" to the detriment of the "relationship between theology, faith and life"; it "was not open to reality and history and was thus closed to the fully fledged contribution of positive theology" (ibid.).

The author intends, in chapter 2, to offer the "theological background" and "historical embeddings" of the *nouvelle théologie* between 1819 (the year in which Johann Sebastian Drey established the *Tübinger theologische Quartalschrift*) and 1960 in less than 15 pages (15-29). This leaves little room for nuances. For instance, to John Henry Newman is ascribed the idea that "Christianity is not a theory or a closed system," that "[neither] the Church's doctrine nor the Church itself are static entities, but rather living realities," that the faith is "not simply to be imposed from above (the magisterium), but requiring consultation and an awareness of the faith of the laity" (17). Or, treating ultramontanism, neo-Scholasticism and Vatican I under the same heading, the *Syllabus errorum* of 1864 is stated to be "a rejection of modern thought," which "necessitated the creation of a counterweight: an anti-modern intellectual framework" of which Thomism "became the focus of attention" (18). The one-page description of Modernism ends by describing its relation to the magisterium as "a clash of good intentions: the Modernists set out to bring Catholic thought up to date, while the magisterium considered it its duty to condemn any mindset that posed a threat to the continued existence of the doctrine of the faith" (21). The author does not explain how this description is reconcilable with his own claim that the "Modernists understood revelation as a reality that did not stop with the death of the last apostle" but "continued up to and including the present day" (21). Extremely concise are also the nine "theological developments" the author describes on pages 27-29; the encyclical *Mystici corporis Christi* of 1943 is described in the following single phrase: "The encyclical gives a central place to the invisible nature of the Church, although the *auctoritas* of the magisterium still was underlined." The careful reader will note the use of "although" and "still" as if the author wants us to see an opposition between the two elements of the description.

Chapter 3 distinguishes four phases of the *nouvelle théologie* and assigns the starting-point to both an opinion-piece by Yves Congar in the Catholic newspaper *Sept* of January 18, 1935, in which he complains that theology had become little more than a technical matter, and to an article by Marie-Dominique Chenu in the same year, which would finds its way into chapter 2 of his 1937 *Une école de théologie: Le Saulchoir*. The author identifies this first phase as a "Thomistic *ressourcement*" (33): a return to the historical Thomas. But this identification makes it difficult to justify the inclusion of the Belgian Dominican Louis Charlier and his *Essai sur le problème théologique*. In the second phase (1942-50) the author sees the Jesuits "take the lead" with Bouillard, Daniélou,

and de Lubac. This "theological *ressourcement*" "constitutes a reaction to the collation of conclusion and Denzinger theology. Via the integration of the historical perspective, theology was called upon to cross the boundaries of close, meta-historical Thomism and meta-historical 'magisterium-ism' to a historically oriented, open Thomism: a source theology" (34-35). In a third phase, "up to the eve of the Second Vatican Council," the movement became internationalized, and in its fourth and last phase the council "ultimately appropriated the central features of the ambitions of the *nouvelle théologie*." At this point this claim is corroborated in a single paragraph merely by quoting some like-minded authors and by mentioning that some representatives who were present at the council as *periti* later became cardinals. The author concludes this chapter and part 1 by claiming that the theological *ressourcement* "re-emphasized a connection made by the Church Fathers, one more or less taken for granted by Thomas Aquinas, the connection between Bible and theology, a connection that was reaffirmed during Vatican II by the Council Fathers" (38). The author seems to forget that it is precisely the renewed emphasis on the historical Thomas that has directly contributed to viewing him predominantly as *magister in sacra pagina* and that contemporary attention to Aquinas the theologian has shown that for him Scripture is indeed "the soul of theology" (cf. *Dei Verbum* 24).

Part 2 studies these four phases in greater detail although phase 4 is not assigned a separate chapter and remains more implicit. This part is highly informative and proceeds in its three parts consistently as follows: the various authors are introduced by a short biography after which their principal publications for the movement are summarized in six or seven pages. Chapter 1 (41-82) focuses on the Dominicans Congar, Chenu, Féret, and Charlier and on the Louvain theologian René Draguet, the principal source of Louis Charlier. It also contains brief information on the Franciscan Bonnefoy, the Jesuit Boyer, and the Dominicans Gagnebet and De Petter and on Congar's reaction on the topic of theological methodology. The author's partial translation and summary of Congar's opinion piece of 1935 is from a historical viewpoint the most important part of this chapter.

Chapter 2 (83-114) focuses on the Jesuits Bouillard, Daniélou, and de Lubac. The English reader will find (for instance) the summaries of Daniélou's 1946 and 1947 articles very helpful. But it is here also that the limits of this summarizing method are apparent. Even more so than in the author's summary of Charlier's *Essai sur le problème théologique,* the three pages devoted to de Lubac's *Surnaturel* pose considerable problems for any reader: the beginning student is merely offered very general and extraneous remarks and is introduced to discussions and concepts which the author fails to develop. Not unsurprisingly therefore the author identifies only four extraneous reasons for the polemic caused by *Surnaturel*. One of these reasons, moreover, namely the claim that historical studies of theological concepts "were subject to suspicion because they had the potential to raise issues that might contradict the use of the said concepts by the magisterium" (100) is entirely uncorroborated. One should note that in presenting de Lubac's biography the author states that de Lubac after Vatican II

"came to be known as a 'conservative theologian', his thoughts completely in line with the magisterium." The author continues by saying that "Joseph Ratzinger seemed to have had a similar evolution of the mind," namely, " a transition from a progressive and proactive orientation to a conservative orientation in which the teaching of the magisterium was central" (97). He supports this last claim with reference to the biography of Ratzinger/Benedict XVI by the journalist John Allen! A critical reader would have expected to find such phrases in a pamphlet! Particularly welcome is the historical narrative, based on archival material from the Parisian Jesuits, in this second chapter of the events of 1946-47, from the debates between the Jesuits of Fourvière and the Dominicans of Toulouse, through to the publication of *Humani generis* and the role of the Belgian Jesuit General Jean-Baptiste Janssens (101-14). Again, throughout the detailed narrative of events the reader will find little information on what was actually at stake, apart from the general claim: "the sources of the faith were given pride of place over the neo-scholastic conceptual system" (114). Two further remarks are necessary. First, it is methodologically incorrect to present Labourdette's position solely from the perspective of de Lubac's response. Consequently the nuanced position on what Labourdette saw as the central issue, that is, the relation of Thomism to a return to the sources and the dialogue with contemporary thought, goes unnoticed. Secondly, the author therefore does not take note of the distinction between Labourdette's position and that of Garrigou-Lagrange, exemplified by the former's refusal to publish Garrigou-Lagrange's article "La nouvelle théologie, où va-t-elle?" in the pages of the *Revue Thomiste*. (The reader may wish to consult Aidan Nichols's eloquent exposition of the events and the central issue at stake in his "Thomism and the Nouvelle Théologie" in this journal [*The Thomist* 64 (2000): 1-19]).

In chapter 3 of part 2 (115-38) the above-mentioned internationalization of the *nouvelle théologie* is treated by way of presenting a "biographical-bibliographical sketch" of the early years (ca. 1940-65) of the Belgian Dominican Edward Schillebeeckx and the Dutch Jesuit Piet Schoonenberg. The English reader will profit from the author's summary of the "significant moments" (125) and publications of the early Schillebeeckx in which he defends the historical approach to Aquinas, as promoted by his teacher, Chenu, and pleads for a balanced position between the extremes of a "conceptual theology, in which there is scarcely room for experience" and "a theology that distances itself completely from speculative thinking" (122). The pages devoted to Schoonenberg constitute a novelty. Schoonenberg, mostly known for his publications in English on original sin and Christology, wrote his dissertation in Dutch in 1948 precisely on the relationship between speculative theology and faith as debated in France at that time. Mettepenningen himself wrote his dissertation on the genesis and influence of Schoonenberg's dissertation, which, despite revisions, Schoonenberg was not allowed to publish. Mettepenningen has recently published this 1948 dissertation, and the introduction in Dutch to that publication constitutes now the core of pages 126-38. Schoonenberg's own position is a balanced one, or as he writes: "We want a scholasticism that is able to go deeply into the richness of

the Fathers and the Scriptures with all its keenness" (133). The closing considerations exhibit a recurrent theme of the book. One has the impression that the author is reducing the *nouvelle théologie* to a search for a new theological method, rejected by Church authorities and the "integrism" (107; nowhere is there an explanation or corroboration of this label) of such neo-Scholastics as Garrigou-Lagrange. The recurrent labeling of the former position as "reality thinking" versus the latter's "system thinking" only enforces that impression. At one point, the author labels the Dutch Dominican Andreas Maltha as "a hardline anti-new theologian" (125) and this merely on the basis of a review by Schillebeeckx. In other instances the author uses dramatic language to portray the Church's position (105: "the anti-modernist climate that was still present in Rome, aglow under the ashes"; 142: condemnations and the *Humani generis* encyclical are described as "weapons of choice," etc.). All this contributes to a certain vilification of critics of the *nouvelle théologie*. Nowhere does the author consider the possibility that the Church authorities might also have been concerned—as they were during Modernism—with the influence of this new method on the explanation and intelligibility of the actual content of the faith, something that did occur in later stages of the thought of Schillebeeckx and Schoonenberg.

In sum, this study contains interesting factual material on influential authors and a helpful division in phases of what is known as *nouvelle théologie* but the method of biographical-bibliographical sketches and the perspective from which these sketches are written contribute too little to a balanced theological understanding of the debate.

JÖRGEN VIJGEN

Theological-Philosophical Institute St. Willibrord
Vogelenzang, The Netherlands

Reason and the Rule of Faith: Conversations in the Tradition with John Paul II. Edited by CHRISTOPHER THOMPSON and STEVEN LONG. New York: University Press of America, 2010. Pp. 231. $30.00 (cloth). ISBN: 978-0-7618-3963-7.

Some collections manage better than others in achieving the unity suggested by having many articles included under the same cover. The present volume succeeds better than most. The fifteen essays gathered here are the fruit of three summer seminars conducted by the Center for Catholic Studies at the University of St. Thomas (St. Paul, MN) on the relation of philosophy and theology, and more generally the relation of faith and reason, in light of the thought of St. Thomas Aquinas and Pope John Paul II.

A pair of magisterial reflections by the late Avery Cardinal Dulles, S.J. (†2008), set the tone for considering the landscape that is likely to be encountered by Catholic intellectuals today. After outlining four distinct models for philosophic inquiry in relation to the discipline of theology (philosophy untouched by Christian faith, philosophy in dialogue with the faith, philosophy under the aegis of the faith, and philosophy formally operating within theology as its *ancilla*), Dulles speculates about the possibility of developing a form of discourse that could study reality with the tools of philosophy and theology deliberately and systematically yoked together, even while respecting the methodological autonomy of each.

In the course of considering the role that the witness of a Christian life needs to play in evangelization, Dulles identifies an area that badly needs more philosophical attention than it has yet received: an epistemology of testimony that would identify the qualities (competence, for instance, and truthfulness) that will be helpful in making those offering their testimony to divine revelation ever more credible.

David Deavel handles a related theme in his review of the ways in which such apologists of the English Catholic Revival of the early twentieth century as Ronald Knox, Robert Hugh Benson, Frank Sheed, and Maisie Ward in some ways anticipated John Paul II's *Fides et ratio* in personal style as well as in intellectual substance. In particular, Deavel traces the evolution in the type of apologetics championed by Sheed and Ward. They initially saw their challenge as a matter of meeting objections to Catholic teaching (e.g., the charge that the Church had substituted Mary for God or the suspicion that the Church was antiscientific in its stance toward the theory of evolution). They came, however, to see that the problem that they needed to address was better conceived as a matter of eliciting in people who simply did not care about religion a conviction that Catholic teachings have incredible importance for living their lives.

Like the essays by Steven Long and by Guy Mansini, Dulles's second essay ("From Scholasticism to Personalism") investigates the question of John Paul II's Thomism. While noting the pope's methodological preferences for a style of asking questions typical of an "existentialist" approach to philosophy, Dulles finds the pope's actual methodology and his doctrinal commitments solidly Thomistic and urges that a document like *Fides et ratio* represents a retrieval of Scholasticism in light of modern personalism.

Long's essay ("The Thomistic Meta-Structure of John Paul II's Doctrinal Initiatives") is a sustained argument for the case that it is precisely classical Thomism that animates *Veritatis splendor*'s identification, criticism, and correction of various erroneous trends in contemporary theology. Among other issues that Long sees John Paul II treating from a Thomistic perspective are the theonomous character of natural law as participating in eternal law, the affirmation of metaphysical objectivity (the very knowability of being and nature), and the vindication of the dignity and relative integrity of nature as a normative metaphysical principle that necessarily mediates our knowledge of divine revelation.

Particularly convincing here is Long's demonstration of the relevance of the stance taken by classical Thomism in two of the theological controversies that most profoundly shaped its history: the sixteenth-century dispute over the nature of human freedom in relation to divine causality and providence, and the nature/grace dispute that raged with particular virulence just before the Second Vatican Council. Long shows the conceptual inevitability of an excessive doctrine of human autonomy in morality (acting as if human judgment had some sort of independence from the jurisdiction of divine providence) once one takes the sort of stand championed by Luis Molina in treating human freedom as a liberty of indifference rather than acknowledging that freedom has its first and lasting root in God.

On a related note, the essay by Romanus Cessario, O.P., takes to task a contemporary interpreter of Aquinas, Thomas F. O'Meara, for various misunderstandings about the relation between human freedom and divine grace and argues for a better interpretation of the Thomistic texts. Likewise, John Boyle's essay concentrates on the proper appreciation of a newly recovered text from Aquinas, the Roman Commentary on Lombard's *Sentences.* Besides recounting an interesting story about the manuscript, Boyle's essay has considerable substance in its treatment of Aquinas's metaphysical views on necessity and analogy.

The essay by Guy Mansini, O.S.B., on the question of the natural knowledge of God according to *Fides et ratio* is insightful in its depiction of the peculiarly modern need for the necessity of faith if reason is to achieve its aim of knowing God. One might, however, take issue with some of Mansini's interpretive remarks about just what stance *Fides et ratio* actually takes on the question of the natural capacity of human reason to know God. On this topic the reviewer finds himself more in agreement with the treatment given to the same question in the essay on Edith Stein and *Fides et ratio* by Catherine Jack Deavel, especially in her treatment of the encyclical's insistence on the proper autonomy of philosophy and theology in paragraph 77.

The essays that treat various issues in moral theology are particularly strong. Lawrence J. Welch, for instance, argues that the magisterium's ability to teach infallibly concrete moral norms pertaining to the natural law rests on one's understanding of Christ as fully revealing "the true identity of the rational creature that is man." The reference here, of course, is to a claim that John Paul II made repeatedly in his reflections, on how Jesus Christ "reveals man to man." Like Welch, Christopher J. Thompson considers the implications of John Paul II's thought for moral theology. His essay on the universally binding and exceptionless character of certain negative norms is very clear and cogent.

William C. Mattison's essay on the brilliant section of *Veritatis splendor* that gives an analysis of the notion of the "fundamental option" explains the pope's careful distinction between allowing a holistic personal commitment to energize one's particular choices, on the one hand, and, on the other, rationalizing away any guilt that might attach to a particular choice that is at odds with one's holistic personal commitment. Of special value in this essay is Mattison's treatment of a

topic that seems to have gone largely unnoticed in the secondary literature, the relevance of Aquinas's doctrine of the infused cardinal virtues for a deeper understanding of the relations between persons and their acts by considering the ways in which God's grace can transform a person's life.

The essays by John Goyette and by W. Matthews Grant are masterful in their directness and concinnity. Goyette contrasts the modern construal of human freedom as a kind of moral autonomy for creating one's own values and norms with a more proper sense of human freedom as intrinsically ordered towards God as a final end. Especially helpful here is Goyette's way of elucidating this distinction between authentic and inauthentic senses of freedom in the context of the political common good. His clarifications about how to understand the notion of the common good properly and how to avoid some of the most prevalent modern misconceptions of this term make this essay a good candidate for inclusion in anthologies one might want to construct for classes in political theory as well as in ethics. The essay by Grant explores the metaphysical problem of human freedom and divine omnipotence and explicates a profoundly Thomistic solution to the problem of how best to defend the position that God is the cause of all our actions without being a threat to human freedom.

Feingold undertakes to defend the views of Cajetan against certain claims by de Lubac in the area of the controversial notion of man's obediential potency for grace and glory. While this reviewer is not entirely convinced that the evidence from Aquinas cited in this essay really weighs in favor of the author's thesis on obediential potency and the power of God, there remains much to learn about the controversy from this article. To argue, as Feingold does, that spiritual creatures have obediential potencies that are unique to them does not yet seem to me to warrant quite so strong a claim as he makes about the capacities of spiritual creatures. It might have been better to have stressed the ways in which the evidence chosen for review actually brings out the wisdom and power of God to bring about perfections in spiritual creatures that would be of benefit only to spiritual creatures.

The essay by Christopher Malloy on the need to attend to the spiritual senses of Scripture as well as to its literal level of meaning (including not only the historical sense but also figurative forms of discourse intended by the human author under divine inspiration) is a welcome contribution to the general current trend to return to biblical theology and to escape the confines of thinking that only historical-critical exegesis is acceptable procedure.

All considered, this is an impressive volume of well-written essays that will reward careful reading by those interested in questions of faith and reason in the thought of Aquinas and John Paul II.

JOSEPH W. KOTERSKI, S.J.

Fordham University
Bronx, New York

Intractable Disputes about the Natural Law: Alasdair MacIntyre and Critics. Edited by LAWRENCE S. CUNNINGHAM. Notre Dame, Ind.: University of Notre Dame Press, 2009. Pp. 374. $30.00 (paper). ISBN 978-0-268-02300-3.

This admirable collection of essays finds its origin in an invitation issued in 2004 by Joseph Cardinal Ratzinger to the faculties of the University of Notre Dame, The Catholic University of America, and the Ave Maria University Law School. The then-prefect of the Congregation for the Doctrine of the Faith wrote to request that each of these institutions undertake symposia to address a specific preoccupation of the cardinal and indeed of the whole Church. How can a "common denominator" for the moral principles held by all peoples be found? Where is the common ground between conversation partners who are obliged by social position or public office to advance the common good and who nevertheless share neither a cultural heritage nor a philosophical orientation nor a religious faith or practice? Could this "common denominator" be rooted in a shared human nature? The question is academic and yet it requires an applicable answer as the ceaseless competition between incompatible "thick" descriptions of the common good attests.

The doctrine of natural law was not originally articulated with this bridge-building purpose in mind and yet the precepts of the natural law have, especially in modernity, served this purpose. According to the teaching of the Church they provide the most basic precepts of moral judgment which are at least implicitly known by every human person in every exercise of his or her practical reason. They cut across cultural, philosophical, and confessional divides and provide a common meeting ground for persons perhaps otherwise not at home together. Clearly the cardinal hoped that the various respondents would avail themselves of this resource as they crafted a charter for a common path for a more human future.

Ave Maria University and The Catholic University of America responded by sponsoring symposia on the subject of natural law. The University of Notre Dame decided to publish a book of essays devoted to the topic. Alasdair MacIntyre opens *Intractable Disputes about the Natural Law* with an essay that claims that natural law provides just such a universally shared foundation for shared and substantive moral consensus. At the same time his essay acknowledges intractable moral disagreement not merely at the level of applied ethics but also on the level of practical reason's most basic principles. His essay attempts to explain how one can acknowledge the *de facto* impasse in which we find ourselves, concede the competence and good faith of the disputants, and still resist the skeptical and relativistic implications of this interminable discord.

MacIntyre's initial essay, "Intractable Moral Disagreements," has a summary rehearsal of Thomistic teaching on natural law, explaining it as articulated basic inclinations of human nature. The human person as human is naturally inclined to the good of existence, of sexual reproduction, and of rationality, which includes both truth seeking and life together in community. These basic inclinations find normative voice in imperatives of practical reason. The basic

precepts of the natural law are very general and are assented to by anyone who engages in practical reason. The disagreements are not about the precepts but about their application.

Nevertheless, MacIntyre offers many examples of intractable disagreements which seem in practice to be resistant to every offered resolution. Hence the Thomist must either give up his claim that the precepts are self-evident to anyone who reasons practically (which amounts to an abandonment of the idea of the natural law itself) or else show that such intractable and fundamental disagreement is not inconsistent with the affirmation of the effective and universal promulgation of the natural law.

MacIntyre's strategy is to "outline and endorse Aquinas's account of what it is to be practically rational and move from that to asking what rationality requires of us in situations in which we confront others who are in radical moral disagreement with us. The answer proposed will be that we will only be able to enquire together with such others in a way that accords with the standards of rationality, if both we and they treat as binding upon us a set of rules that turn out to be just those enjoined by the natural law" (19-27).

However, MacIntyre acknowledges that this transcendental argument may not settle matters since this argument depends upon a view of practical reason which is itself in dispute. So MacIntyre's next step is to give voice to a rival account of practical reason and its governing norms. The rival tradition so employed is utilitarianism. MacIntyre gives an account of the history of utilitarian thought by describing its setting and its task. Its setting is an anthropology that traces human behavior to human inclinations and passions. Its task is to make sense of a set of widely accepted though inherited behavioral norms in the light of these passions and inclinations. This task finds expression in a dilemma. Either the moral rules were to be taken as binding independently of the passions and inclinations (Kant) or they were taken to be binding because of their relations to the passions and inclinations (Hume). If the former alternative was chosen, it became difficult to explain how human beings could be motivated to obey moral rules. If the latter type of account was defended, it became difficult to show how the particular inclinations and passions of someone could motivate him or her to have the kind of impersonal and universal regard for the persons, interests, and needs of others that moral rules enjoin (48).

This dilemma arose, MacIntyre argues, because of the Enlightenment's abandonment of a conceptual linkage between happiness and end. If, for any number of historic and philosophical reasons, a teleological account of nature is abandoned then a teleological account of human nature must likewise be abandoned. If there is no governing end that provides an objective account of human flourishing then beatitude or happiness must be reckoned as a purely psychological state, one in which there is no meaningful distinction to be drawn between satisfied preferences and fulfillment.

If there is no meaningful distinction between preference and fulfillment then there is no way morally to differentiate among preferences themselves. The question, "Which preference among preferences should I choose to satisfy?"

admits of no nonarbitrary answer since preferences are of different sorts. It follows from this that if happiness is simply a matter of satisfied preferences then happiness, even the "greatest happiness of the greatest number," is simply too indeterminate and imprecise to set a direction for our actions or to function as a criterion by which one could judge the adequacy of our traditional or improvised moral norms. Thus utilitarianism fails and must fail to solve the very problem it set itself.

MacIntyre wishes to argue: that these problems which are endemic to the utilitarian tradition must resist solution because this tradition finds its deepest root and starting point in the abandonment of a teleological account of nature which alone allows one to distinguish between preference and fulfillment; that the followers of a rival tradition (Thomism), precisely because of their recognition of the central role of teleology are uniquely positioned to recognize and solve the problems that typically plague the utilitarian tradition; that the followers of the utilitarian tradition because of their motivated rejection of teleology in nature (seen as essential for the progress of scientific investigation) are not likely to concede that their tradition has been rationally defeated; and yet that Thomism has emerged as rationally preferable to utilitarianism in its account of moral norms, since it shows itself capable of not only resolving problems that arise within its own tradition but also of diagnosing and resolving problems endemic to rival traditions.

So MacIntyre argues that this example of conflict between moral traditions illustrates how intractable moral disagreement need not be inconsistent with the claim that the precepts of the natural law are in fact universal in scope and universal in promulgation.

MacIntyre's essay occasioned eight responses. Some of the essays (Porter's and McKenny's) offer a direct response to MacIntyre's argument while others follow up on lines of investigation suggested by his essay.

Jean Porter ("Does the Natural Law Provide a Universally Valid Morality?") challenges what she takes to be MacIntyre's confidence that human nature is sufficiently determined to yield concrete, universal, and incontrovertible moral norms. She does not deny that for Aquinas the natural law is universally valid and accessible. Yet, she says, it "does not follow that the natural law as Aquinas understands it can serve as the basis for a set of norms that are at one and the same time concrete enough to guide communal and individual action and at the same time universal in scope" (86). Rather, the precepts of the natural law are articulations of the imperative voice of the constitutive inclinations of human nature sufficiently general to admit of diverse and opposed concrete realization. With regard to the concrete issue of norms governing the free choice of a marriage partner she writes that "It might be that contrary views on this question, taken together with the very different construals of marriage and family life that they reflect, represent two alternative ways of construing the human inclinations towards reproduction and kinship associations, each rationally defensible as a legitimate expression of human nature, but neither rationally compelling as the only, or even the clearly superior, alternative" (86).

Gerald McKenny ("Moral Disagreements and the Limits of Reason: Reflections on MacIntyre and Ratzinger") is also unable fully to share MacIntyre's confidence in the powers of reason to articulate universally valid moral norms. McKenny refers to the writings of Joseph Cardinal Ratzinger who claims that purely abstract practical reason will be inadequate for our needs and that reason in practice needs to be embodied and guided through specific historical and cultural mediations. Persons at odds over substantive moral questions, hobbled by a merely instrumentalist view of reason and therefore tempted to reduce disagreements about moral reason to differences about preferences, may, Ratzinger hopes, find guidance for human affairs in a more ontologically robust notion of reason, rooted in the very logos of God and culturally mediated by the Church. McKenny shares this hope but points out that the "new canon" of values proposed by Enlightenment reason is also accompanied by its own cultural mediations. He writes that Ratzinger "never seriously entertains the possibility that modern democratic arrangements have themselves come to constitute a historical tradition, sustaining forms of moral commitment, cultivation of virtue, and deliberation which, to be sure, will sometimes be at odds with the Church's moral vision, yet which do not conform to Ratzinger's description of Enlightenment reason and do not portend totalitarian tyranny" (223). This and not a nightmare secularist dystopia could be the concrete alternative to the Church's moral vision and its most formidable rival.

Several of the essays trace lines of influence that the Church's cultural mediation of natural law has had or could have on the wider culture. John J. Coughlin, O.F.M. ("The Foundations of Human Rights and Canon Law") urges that "the anthropology of the Church's law, with its elements drawn from natural law and theology interpreted with due respect for historical circumstances, affords an objective foundation for law in general and for human rights laws specifically" (269). M. Cathleen Kaveny ("Prophetic Rhetoric and Moral Disagreement") argues that the Church's optimism about the integrity of nature and the healing and restorative powers of grace grounds a graceful alternative to the harsh and conversation-ending properties of prophetic rhetoric about abortion and that this alternative would in the long run bear more promise for the lives of our unborn. Daniel Philpott ("After Intractable Moral Disagreement") argues that the Catholic tradition offers in forgiveness and reconciliation "the building materials for an ethic of peace building in the aftermath of massive political violence" (169) and one that, he urges, is superior to the "liberal peace" paradigm rooted in the Enlightenment and now holding sway at the United Nations. David A. Clairmont ("Moral Disagreement and Interreligious Conversation") argues that a Christian thinking about moral disagreement "ought to take as her or his predominant influence and probable horizon the Christian practice of penance and reconciliation" (98).

The fact of intractable moral disagreement should, MacIntyre believes, inspire a conviction that something has indeed gone astray in practical reasoning and the humility to consider seriously the possibility that it has gone wrong in me. Kevin

L. Flannery, S.J., offers an essay ("Ultimate Ends and Incommensurable Lives in Aristotle") which cautions us that an error in selecting a final end in life or errors in finding fitting means to that end need not be and would not be obvious to the one in error. Thomas Hibbs ("The Fearful Thoughts of Mortals: Aquinas on Conflict, Self-Knowledge and the Virtues of Practical Reasoning") shows that the concretely damaged and sinful human situation in which we find ourselves makes the assistance of revelation and faith and the gifts of the Holy Spirit essential to the overcoming of the self-deception and self-preference which so readily reduces our moral lives to a shameful shambles.

And so we are cautioned to be humble and alert to our own vulnerabilities as practical reasoners, the more so as we engage in public disputation in defense of the natural law. This volume performs an invaluable service in guiding our reflection on this vital, perennial, and timely topic.

JOHN CORBETT, O.P.

Pontifical Faculty of the Immaculate Conception
Washington, D.C.

Christ and the Catholic Priesthood: Ecclesial Hierarchy and the Pattern of the Trinity. By MATTHEW LEVERING. Chicago: HillenbrandBooks, 2010. Pp. 340. $40.00 (cloth) ISBN: 978-1-59525-029-2.

Is it possible to mount a well-reasoned theological defense of the hierarchical structure of the Catholic Church? Given the vigorous and determined assaults on the concept of hierarchy not only from the culture but also from many theologians, including Catholic theologians, it is a challenge few scholars would attempt to meet. Matthew Levering has taken it up, however, and has produced a very original and stimulating book that goes a long way towards achieving this goal. *Christ and the Catholic Priesthood* is a work of speculative theology in which the author takes the objections of his dialogue partners seriously. He does not argue point-by-point with them and he does not appeal to the authority of the magisterium. Instead, he places the questions in a more adequate biblical and theological frame of reference—for the most part, a frame of reference supplied by St. Thomas Aquinas.

Readers who are familiar with Levering's work will not be surprised that he turns to St. Thomas to defend the hierarchical ordering of the Church, even though Thomas himself never wrote a treatise on ecclesiology. Levering employs to great advantage his comprehensive knowledge of St. Thomas's overall theological system and his biblical commentaries. He draws on Thomas's treatment of the Trinity; of Christ's headship, priesthood, and saving Passion; and of the sacraments, with special attention to the Eucharist and holy orders.

With the help of these resources, the Scriptures, and the contributions of many other theologians, ancient and modern, he explains that the hierarchical priesthood has to do with the sacramental mediation of the power of Christ's paschal mystery. Hierarchy means "holy origin," not "holy domination"; it refers to the holy origin of the gifts the triune God chooses to bestow on his creatures. According to Levering, it is eminently consistent with the whole economy of salvation that God should entrust the distribution of his gifts to human ministers. In fact, this economy follows a Trinitarian pattern: "the Father, Son, and Holy Spirit willed a hierarchical Church, notwithstanding the inevitable sinfulness of the members of the hierarchical priesthood, because of the theocentric pattern of gifting and receptivity that hierarchy fosters in the Church" (10f.). This pattern reminds believers that they are first of all the unworthy recipients of God's loving and merciful gifts; it accustoms them to the practice of humility and charity, that is, to a life befitting members of the kingdom.

To defend the hierarchical priesthood against its modern detractors, Levering sees that objections from many quarters need to be addressed. Following the strategy of St. Thomas, he uses these objections to set out his own perspective, introduce corrections and distinctions, and gradually put on display the alternative he wishes to propose. In four substantive chapters he addresses the following objections. First, the hierarchical priesthood is incompatible with the ideal of the Church as an image of the Trinity, a communion of coequal persons. Second (here the objection is only implied), the New Testament offers no support for the idea that Jesus' death was a priestly action and therefore for a hierarchical priesthood that claims to re-enact this mystery sacramentally. Third, hierarchical office in the Church is a human institution arising from organizational necessity, not a dominical or apostolic institution that carries with it a priestly mandate and confers the spiritual authority to mediate the salvific power of Christ's paschal mystery. Fourth, papal primacy defined as possession of juridical power cannot be reconciled with an ecclesiology of communion rooted in the Eucharist. A fifth chapter faces "the most fundamental challenge," namely, that hierarchical sacramental mediation is simply no longer viable in an age when "hierarchy" itself has been so thoroughly discredited in politics, the economy, and the family; in this context, only a "congregationalist" ecclesiology is credible. A final chapter considers objections based on representative sociological-theological critiques that focus attention on the Church's mission of overturning worldly structures of domination and highlight the need for moral reform within the Church herself.

Any one of these topics could easily occupy an entire book. By addressing all of them in a single book, however, Levering is able to set out his full argument. As is well known, a critic can call a whole system into question by rejecting a single element, but the one who hopes to defend that element can only do so by reproducing the whole system of which it is a part. This is what Levering sets out to do, and he does it with remarkable skill. He chooses as dialogue partners respected Catholic, Orthodox, Anglican, Protestant, and even Jewish theo-

logians, and he engages their positions by uncovering the deeper roots of the issues in question.

For the first topic, Levering takes up Miroslav Volf's objection (voiced in his critique of the ecclesiologies of Joseph Ratzinger and John Zizioulas) that "ecclesial hierarchy cannot be squared with the inner-Trinitarian communion of equals" (38). In response, he appeals not only to St. Thomas's doctrine of the Trinity (which he claims Volf misunderstands, n. 57) but also to his theology of the Church as a communion of believers united by faith and the sacraments of faith. He argues that the pattern of "gifting" and receptivity which constitutes the communion of the three divine persons without threatening their unity is also found in the Church. Although the unity-in-communion established by faith and the sacraments is mediated by the hierarchical priesthood, this mediation does not threaten the equality of believers because the priesthood is given to some only that they may confer the sacraments on others and lead them to the Eucharist where they may "share in Christ's communion with the Father in the unity of the Holy Spirit" (56). The Church's unity is "not simply the aggregation of rights-bearing persons. . . . [I]t is the eucharistic unity of the mystical Body" (51).

This leads to the second topic: Was there a cultic priesthood and liturgy in the early Church? The deeper question here is whether Jesus intended to offer his life as a sacrifice, for if he is not a priest there is no foundation for a New Testament priesthood. In this case, Levering does not take on a particular opponent (though many objections appear in his very hefty footnotes), but simply sets out biblical evidence, taking special account of historical-critical scholarship that bears witness to an understanding of Jesus' death as a priestly action, namely, the work of N. T. Wright and three exegetes who build on his work. He follows this with a thorough review of St. Thomas's treatment of the priesthood of Christ, in the course of which he deftly responds to problems commonly posed about the doctrine of the atonement. This very full chapter is particularly valuable for its introduction of New Testament evidence and its compelling defense of classical soteriological themes. It leads to a consideration of the reason for ongoing priestly mediation. If the mediation of the power of Christ's paschal mystery requires a hierarchical priesthood, did such a priesthood exist in the earliest Christian communities and was it instituted by Christ?

For the third topic Levering examines the theories of James Burtchaell and Francis Sullivan, scholars who attempt to account for the development of ministry in the apostolic Church. He argues for the "dominical institution of ecclesial hierarchy through Christ's sharing of his *exousia*" (131 n. 30), a point he regards as integral to the doctrine of apostolic succession if it is to include not only the mandate to teach and govern but also a sacramental power, a "distinct participation in the power of Christ's priestly action" (134). Levering advances evidence from Paul's First Letter to the Corinthians and the Gospel of St. Matthew in support of such an apostolic mandate, and thus of apostolic succession. He then buttresses his case for the hierarchical structure of the early Church with the testimony of John D. Zizioulas regarding the bishop as "president" of the Eucharistic assembly and of St. Thomas regarding the

sacramental structure of the mediation of divine power (*ScG* IV, c. 74). For Thomas, the Eucharist is the hermeneutical key to understanding the spiritual power given with priestly ordination; for Levering, there is ample New Testament evidence that Jesus intended to bestow this power on the Twelve. The apostles confer the spiritual power the Lord has given to them on others under sensible signs, the sacrament of holy orders. This hierarchical authority invites them to serve, not dominate, those to whom they mediate the saving power of Christ.

The fourth and fifth topics continue in the same vein: Levering sets up a dialogue and then shows how, in view of the ecclesiological principles of St. Thomas, the hierarchical or sacramental mediation of divine gifts that flow from Christ's paschal mystery, especially the Eucharist, "enables believers to enter into the pattern of the triune God's outpouring of love" (273). This is a pattern of gift and receptivity. The mediator's vocation is to prepare believers to receive the divine gifts which he distributes; he makes visible their need to be receptive, to look to Christ who gives the gifts. By appealing to St. Thomas's treatment of the headship of Christ, Levering recalls distinctions that are critically important to a Catholic understanding of the papacy and of the priesthood in general.

These brief summaries can suggest only the outline of Levering's defense of hierarchy. The full chapters are remarkably rich in biblical and systematic argument. About one half of each page is devoted to footnotes that expand and comment on the text, offer insightful and sometimes sharp critique of opposing views, and point the reader to the larger implications of the argument. The breadth of the author's research is indicated by the thirty-four-page bibliography. His control of the Thomistic synthesis is impressive. The reader who has only a passing acquaintance with St. Thomas will be enticed into consulting his texts and is bound to profit from the experience! Levering admits that he gives short shrift to the sociological concerns expressed today about the exercise of authority in the Church, but he has chosen to address the more fundamental theological issues. He maintains that the theology of ecclesial hierarchy "comes into focus only in light of a wider theological accounting, inclusive of the triune God, Christ's Pasch, and sacramental mediation" (293).

This book fills a real need, and does so admirably. Questions about the reform of Church structures, the admission of women to priestly ordination, and the democratization of the Church must all at some point reckon with the nature of the Catholic priesthood and the hierarchical structure of the Church. Levering puts the critical questions of our day in dialogue with the rich resources of the Catholic (and Orthodox) theological tradition, and in particular of the current Thomistic revival. He calls to mind important distinctions by which St. Thomas clarifies Catholic doctrine and he responds to classical and current objections. In sum, Levering provides a solid theocentric and Christological foundation for continuing reflection on the nature and the originality of the Church and of the apostolic ministry. *Christ and the Catholic Priesthood* is more than an exercise in retrieval. Step by step, conscious of contemporary theories and methods, aware

of serious theological objections from both ecumenical partners and Catholic theologians, and ready to explain the principles and perspectives that govern his own position, Matthew Levering reconstitutes a solid theological account of the hierarchical or ministerial priesthood in the Catholic Church. Levering's theological colleagues owe him a profound debt of gratitude for providing such a masterful synthesis.

SARA BUTLER

University of St. Mary of the Lake
Mundelein, Illinois

Reasonable Faith. By JOHN HALDANE. London and New York: Routledge Press, 2010. Pp. 201. $39.99 (paper). ISBN: 978-0-415-43025-8.

This collection of essays by John Haldane, Professor of Philosophy at the University of St. Andrews in Scotland, is something of a companion piece to his earlier collection of essays, *Faithful Reason* (2004). While the earlier volume focuses on Catholic topics viewed through a philosophical lens, this current collection might be thought of as a series of essays on philosophical topics seen through a Catholic, and more specifically Thomist, lens. Even more specifically, Haldane approaches Thomas from a perspective that has been dubbed "analytical Thomism," which, in its broadest sense, is characterized by its commitment both to the thought of Thomas Aquinas and to the insights of Anglo-American philosophy. Indeed, despite the suspicions of some Thomists that "analytic philosophy" is synonymous with "anti-metaphysical logic-chopping," Haldane sees a profound sympathy between these two traditions, grounded in what he calls their shared "empiricalist" (as distinct from "empiricist") approach, which holds that "all natural knowledge is acquired through experience (broadly conceived of) or formed by reflection upon it" (11). Thomas and Aristotle exemplify this empiricalist approach, but so too do Thomas Reid, C. S. Peirce, John Henry Newman, Ludwig Wittgenstein, G. E. M. Anscombe, Peter Geach, P. F. Strawson, Hillary Putnam, and Nicholas Rescher, to mention some of the figures who appear in Haldane's essays. Ultimately the unity of this collection rests upon the way in which it displays, through its own philosophical performance, the mutual benefits gained by Thomism and analytic philosophy from their encounter with each other.

For Haldane, the strength of the analytic tradition is in "the construction and dissection of arguments" (12). Anyone who has come away from an encounter with Heidegger or Derrida or Deleuze, dazzled by the verbal pyrotechnics but wondering whether any actual argument has been made or refuted, is likely to

find analytic clarity refreshing. Moreover, a Thomist will recognize in analytic philosophy the same love of precision and distinction, as well as attentiveness to language, that characterizes Thomas's own writings. At the same time, Haldane states quite forthrightly the two chief deficiencies of analytic philosophy as this is usually practiced. First, analytic philosophers can be quite ahistorical in their approach, seeming to favor the crystalline world of logical analysis over the messiness of the history of philosophy. This weakness, I would note, is one that analytic philosophy shares with some forms of Thomism. Second, many analytic philosophers treat the construction and dissection of arguments as an end in itself, ignoring or actively eschewing any larger purpose to the philosophical project. This latter weakness seems to be of particular concern to Haldane, and it is here that he sees analytic philosophy as having the most to gain from an encounter with Thomas Aquinas, for whom the making of arguments and the drawing of distinctions is never an end but always a means of attaining an ever-greater love of wisdom.

Though Haldane says that he has sought "to weave the chapters into . . . a continuous narrative," the book seems to hang together fairly loosely. The essays are grouped together in two parts. In good Thomist fashion, the *prima pars,* under the heading "Reason, Faith and God," includes essays on God and metaphysics, while *secunda pars*, under the heading "Reason, Faith and the Soul," includes essays in the broad area of philosophical anthropology. Though most of the essays are interesting in their own way, they definitely retain the marks of their original contexts and show a certain diversity in both form and content.

For example, chapter 2, "A Thomist Metaphysics," was originally written as a contribution to a general work on metaphysics and, as is appropriate for such a work, is a fairly basic introduction to what Thomas has to say about such things as substance, accident, form, and matter. Seasoned Thomists hardly need to be introduced to such distinctions, though Haldane's ways of explaining them are often quite fresh and original. Perhaps newer to many Thomists will be Haldane's way of framing the metaphysics of Thomas (and Aristotle) as an exercise in what Strawson calls "descriptive metaphysics," by which he means a metaphysics that is "content to describe the actual structure of our thought about the world," rather than a "revisionary metaphysics" that "is concerned to produce a better structure" (21, quoting Strawson). In other words, Thomas offers his metaphysics as a series of coherent observations about how we actually understand the world rather than as a systematic set of prescriptions designed to make us think about the world in a new way. Viewed in this way, Thomas's thought appears perhaps more metaphysically modest than is sometimes thought, being something akin to common sense regarding, for example, what it means for something to undergo change and how we might distinguish between those changes that issue in a new sort of thing and those that do not. The technical vocabulary of substance, accident, form, matter, essence, cause, etc., can sometimes obscure the appealing simplicity of Thomas's metaphysics, and even seasoned Thomists will benefit from Haldane's introductory account, which is a model of clarity.

A different sort of essay is represented by chapter 4, "Meditations, Wagers and Existential Issues," which discusses the work of the prolific contemporary philosopher Nicholas Rescher and his reflections on Pascal's "Wager." Here we have a much more narrowly focused study, and one that is not obviously related to Thomas Aquinas. Indeed, the pragmatism of Rescher and the putative fideism of Pascal might seem an unpromising seam for a Thomist to mine, but Haldane's exploration of Rescher's interpretation of "the skeptical, contextual, practical and apologetic nature of the Wager argument" (56) fits well with his conviction that philosophy is not simply a matter of constructing and deconstructing arguments, but is rather, in Pierre Hadot's terms, a "way of life." In other words, Haldane, via Rescher, shows us that the Wager cannot simply be analyzed as an exercise in Game Theory, much less a demonstration of the rationality of religious belief, but must be seen as an exercise embedded in a whole series of convictions about the nature of the world and as intended pragmatically to "stiffen the backbone of the slack and worldly Christian" (56). Though Haldane himself does not make this point, the "pragmatic realism" espoused by Rescher sheds an indirect light on Thomas's thought and can perhaps help us to understand better what the late Leonard Boyle meant when he claimed that the *Summa Theologiae* was written for the sake of the *secunda pars*. That is to say, Thomas's overriding concern was not to produce a systematic body of rational warrants—indeed, it is difficult to conceive of such an intellectual project prior to modernity—but rather to offer an intellectually coherent way of thinking about God as the goal of human life, so as to enable human beings to live better in light of this truth.

Yet another sort of essay appears as chapter 10, "Human Ensoulment and the Value of Life," in which Haldane and his coauthor, Patrick Lee, take up a polemical stance against Robert Pasnau's views on human ensoulment and abortion in his book *Thomas Aquinas and Human Nature*. Here we are, as it were, dropped into the middle of a debate, without immediate access to Pasnau's original text, or to his response to Haldane and Lee, or to their counter-response to him. Even so, the essay can stand on its own as an exploration of what is, or should be, a crucial question for any Thomist: to what degree can Thomas's metaphysical reflections be separated from his natural philosophy (or what we would call his "science")? All too often Thomists facilely invoke a distinction between metaphysics and physics as a way of saving Thomas's arguments on a variety of issues, so that, for instance, one can accept his argument from motion for God's existence while rejecting the picture of the cosmos as a series of mobile and immobile "spheres" in which that argument is embedded. The difficulty, of course, is that Thomas's thought appears as an impressively seamless integration of biology, physics, cosmology, metaphysics, and theology and he himself gives little indication of how these things might be separated. This is not to say that such separations cannot be made, but it involves considerably more work and creativity than is sometimes acknowledged, and is not a problem that is subject to a global solution, but must be engaged on a case-by-case basis.

Thomas's views on the question of human ensoulment is a particularly interesting case. As is (*pace* Pasnau) widely known, Thomas held that the rational soul is not infused into the embryo until the fortieth (in the case of males) or ninetieth (in the case of females) day of gestation. Pasnau, Haldane, and Lee agree that Thomas's view is based on his metaphysically compelling account of the relationship between soul and body, and the need for there to be sufficiently differentiated organs before a body can receive a rational soul. As Haldane and Lee characterize it, the operative metaphysical principle for Thomas is: "*in a material substance the matter must be proportioned to the form, or in a living material substance, to the soul*" (137, emphasis in original). Pasnau further argues that Thomas is right to think that the embryo in its early stages does not have sufficient differentiation to receive a human soul and that this view, later dubbed "delayed hominization," can serve as a resource for rethinking the issue of abortion, so as to allow for the legitimacy of abortion in the first half of pregnancy. Haldane and Lee respond that while Thomas's account of the relationship between body and soul is compelling metaphysically, his embryology is something less than compelling scientifically, and that new scientific insight has led the Church to move away from Thomas's view on ensoulment and toward the view that ensoulment occurs at conception. Where they differ from Pasnau, and Thomas, is in their rejection of the view that a body is proportioned to a rational soul only if it has the actual organs of cognition. What Thomas could not know, given the state of scientific knowledge in his day, is that an embryo possesses, in its DNA, the "epigenetic primordia" of such organs, so that it has already from the moment of conception begun the process of self-organization that identifies it as a body proportioned to a rational soul as its form.

Whatever one thinks of the actual arguments of Haldane and Lee against Pasnau (and I find them compelling, even taking into account Pasnau's later response), what is particularly interesting is how they seek to reread Thomas's position in light of new knowledge, not by invoking some schematic separation between metaphysics and physics, but by means of a painstaking analysis of why Thomas says what he says on a particular issue and how new insights in the field of biology might be related to larger questions regarding the nature of human beings, material substances, and being in general. While Haldane clearly thinks that Aquinas's metaphysics provide a compelling account of our thought about the world, his very understanding of metaphysics as a descriptive enterprise demands that it not be set apart in a hermetically sealed system but rather constantly be tested against our actual knowledge of the world.

I have given only a sampling of the sort of reflection engendered by Haldane's "analytical Thomism," but I hope it suffices to indicate the fruitfulness of the encounter between Thomas Aquinas and analytical philosophy. *Reasonable Faith* does not present a systematic account of "analytical Thomism," any more than the *Summa Theologiae* presents a systematic account of "Thomism." Like the *Summa,* Haldane's collection takes up a variety of questions and makes rigorous

arguments concerning them, and thereby gives an indication of a "style" of thinking that underlies those arguments.

FREDERICK CHRISTIAN BAUERSCHMIDT

Loyola University Maryland
Baltimore, Maryland

Basil of Caesarea, Gregory of Nyssa, and the Transformation of Divine Simplicity. By ANDREW RADDE-GALLWITZ. Oxford: Oxford University Press, 2009. Pp. 272. $100.00 (cloth) ISBN: 978-0-19-957411-7.

Divine simplicity has long been a contested issue. Although there are powerful reasons for concluding that God is in some way preeminently simple, there are also serious difficulties in doing so, among them that of understanding how a perfectly simple God could possess what at least seem to be a multitude of properties.

The book under review examines some of the earliest attempts to deal with this issue. Although its primary focus is on Basil the Great and Gregory of Nyssa, there are also substantive discussions of Ptolemaeus Gnosticus (a second-century critic of Marcion), Clement of Alexandria, Origen, Athanasius, and Eunomius. It exhibits a high level of scholarship and is often helpful on points of detail. Nonetheless, the book's fundamental line of interpretation seems to me to be mistaken. I will first summarize the main outlines of this interpretation and then offer a criticism of a central point.

The author observes, rightly enough, that the philosophical context for the earliest Christian discussions of divine simplicity was supplied by Middle Platonism. The Middle Platonists distinguished sharply between the highest, unknowable God and a lower, demiurgic God who in some obscure way derives from the first. The highest God is wholly simple, unknowable, and not directly engaged in the world; the second God is simple only in relation to creatures, but can be known via *nous* (the faculty of pure intellectual apprehension) and is, in at least some versions, identical to Plato's realm of the Forms. Christians found this fundamental scheme appealing as a way to understand the relationship between God the Father and the Logos, and versions of it are to be found in Ptolemaeus, Clement, and Origen.

A second sort of answer to the problem of divine simplicity began to emerge in the theology of Athanasius. Athanasius was an early advocate of what Radde-Gallwitz calls the identity thesis, the claim that divine simplicity is best understood as implying the identity of the divine essence and attributes. Admittedly Athanasius does not state this thesis categorically, but he does assert

that God has no accidents or "essential complements" and hence that terms such as 'God' and 'Father' must name the divine essence itself. This notion was picked up by Eunomius, who saw (as Athanasius had not) that it could be used to support Arianism. For Eunomius, ingeneracy is, as it were, the master divine attribute to which all others are equivalent; and since the Son is not ingenerate, he cannot be God.

The essential contribution of Basil and Gregory, according to Radde-Gallwitz, consisted in finding a way to understand divine simplicity that requires neither the identity thesis nor the radical apophaticism of the Middle Platonists. Both of these views have at their root what Radde-Gallwitz calls the thesis of the epistemological priority of definition, the idea (found most obviously in Aristotle's *Posterior Analytics*) that knowing an entity requires knowing its definition. Basil and Gregory, by contrast, recognize that there can be knowledge of the divine substance or essence (*ousia*) that is not in any way tantamount to a definition. What can be known are the divine "*propria,*" distinguishing characteristics such as light, wisdom, power, life, truth, goodness, and incorruptibility that are coextensive with and intrinsic to the divine essence but do not, either individually or collectively, constitute its definition. This use of the term '*proprium*' (Greek *idiōma* or *idiotēs*) may be a bit confusing because in Aristotelian logic a *proprium* is a property that follows directly from the definition of a substance, as, for example, having interior angles that add up to 180 degrees follows from the definition of a triangle. Basil and Gregory do not claim to know the definition of the divine substance, and so make no claim regarding whether the *propria* follow from it. Their position is simply that the *propria* are (a) knowable, (b) necessary, and (c) mutually distinct. They apparently believe that since the *propria* are not "parts" such an assertion is fully compatible with continuing to insist upon the simplicity of the divine essence. Thus they find a way to maintain divine simplicity while rejecting both the identity thesis and the radical apophaticism of the Middle Platonists. This is the "transformation of divine simplicity" spoken of in the book's title.

It is worth asking whether the Cappadocians' view, so understood, would constitute much of an achievement. The basic problem, after all, is how the divine essence can be simple and yet have multiple, really distinct properties. On the author's reading, the Cappadocians do not so much answer this question as refuse to address it: they merely assert that the essence is simple *and* has multiple distinct properties, without offering any explanation of how this is possible. Radde-Gallwitz says virtually nothing about this issue, although he notes that for other reasons he, too, doubts that the Cappadocians' view is finally tenable (233-35).

My own view is that the Cappadocians have considerable interest as philosophical theologians, in part because I read them differently than does the author. Although there is not space here to review all of our differences, I will indicate one major concern.

The book's central claim is that the Cappadocians draw a sharp distinction between our concepts of the divine *propria,* which are innate, and those of other

divine attributes, which are formed through a process of conceptualization (*epinoia*) beginning from the concepts of the *propria*. This epistemological distinction supposedly corresponds to one in ontology, in that whereas the *propria* are truly present in the divine nature, concepts formed by *epinoia* are "entirely mental affairs" that "should not be projected onto the object of one's thinking" (153). The concepts formed by *epinoia* preeminently include that of ingeneracy, and indeed the Cappadocians' entire discussion of *epinoia* is aimed at deflating Eunomius's claim that ingeneracy constitutes the divine essence.

The first thing to notice about such a view is how strange it would be. What grounds could there be for holding that, whereas our concept of incorruptibility (as applied to God) is innate and veridical, that of ingeneracy is little better than a fiction? More generally, is it plausible that we have two such sharply delineated sets of concepts about God, those that are innate and those that we merely spin out through some apparently pointless mental process? Admittedly, Radde-Gallwitz does not quite say that *epinoia* is pointless, but he does say that concepts formed by *epinoia* "do not depend for their existence or their validity on any features of extra-mental reality" (143), leaving it unclear on what they *could* depend for whatever validity they might have.

In fact the Cappadocians draw no such sharp distinction, and the author does not even attempt to cite a text where they do. The closest he comes is Gregory's definition of *epinoia* as "the way we find out things we do not know, using what is connected and consequent upon our first idea of a subject to discover what lies beyond" (177). It is crucial here that *epinoia* is a way we *find out* things we do not know. It is a legitimate means of discovery—a basic point (frequently reiterated by Gregory) that is hard to square with the book's dismissive account of the concepts so formed. Second, Gregory does not say, either here or elsewhere, that in the case of God "our first idea of the subject" is an innate idea of one of the *propria*. What he has in mind is made clear a few pages earlier, where he explains that "when we question and examine ourselves as to what God is, we express our conclusions variously, as that He is that which presides over the system and working of the things that are, that His existence is without cause while to all else He is the cause of being . . . that He is that in which evil finds no place and from which no good is absent," and so forth. In other words, we start with a vague and indeterminate notion such as that of Creator or Highest Good, and gradually clarify and refine it, seeking both to understand fully its implications and to harmonize it with other ideas derived initially from different starting points. At no point in this process do we pass over from (allegedly fully veridical) concepts of the *propria* to (allegedly merely "mental") concepts formed through *epinoia*. On the contrary, the concepts with which we work are *always* those of the *propria* and *epinoia* is *always* active throughout, seeking to clarify and harmonize those concepts.

On this central issue, then, I find the book's interpretation mistaken. Nonetheless Radde-Gallwitz has produced a fine piece of scholarship that will do much to direct attention to this important and neglected topic.

DAVID BRADSHAW

University of Kentucky
Lexington, Kentucky

New Proofs for the Existence of God: Contributions of Contemporary Physics and Philosophy. By ROBERT J. SPITZER, S.J. Grand Rapids, Mich., and Cambridge: Wm. B. Eerdmans Publishing Co., 2010. Pp. 319. $28.00 (paper). ISBN 978-0-8028-6383-6.

There is nothing timid about the title of Robert Spitzer's book. Neither is there anything timid about its purpose, which is to show that contemporary developments in physics, mathematics, and philosophy bolster the traditional theistic arguments for the existence of God—so much so that theism today enjoys "the strongest rational foundation for faith that has come to light in human history." The book willingly borrows notions and arguments from traditional theistic philosophy but strengthens them by appealing to con-temporary physics and mathematics in an intellectually sophisticated manner. It thus has the great merit of providing theists with a "state of the art" case for philosophical arguments for the existence of God.

Spitzer distinguishes five basic arguments for God's existence, but he does not intend a one-to-one correspondence to the famous fivefold list of Thomas Aquinas. Spitzer begins instead with a discussion of Big Bang cosmology, which, in his view, clearly suggests against Newton that time has an "edge" or is finite. Spitzer is aware that the "classical" model of Big Bang cosmology, which seemed to imply something like a Hawking-Penrose singularity, has been decisively altered by the more recent inflationary models of the origin of the universe. Relying on the work of Borde, Guth, and Vilenkin, however, he argues that even the most contemporary accounts still strongly suggest a temporal origin for our universe—even if our particular universe is only part of a multiverse. He appends a "postscript" by Bruce L. Gordon to bolster these claims.

While this first argument appeals to a beginning of time in order to establish the necessary existence of a creator of time, Spitzer's second argument appeals instead to *how* the universe is. That is, he attempts to show that contemporary Big Bang cosmology gives us indications of design at work in the cosmos. In his view, the old design argument, which had ceased to be credible in light of the Newtonian postulates of an infinity of space and time, is suddenly back with us in a form bigger and better than ever. Since it has become clear to modern physicists that the cosmos is marked by finitude, it is difficult to account for its order and patterns by appeals to pure randomness. If one cannot appeal to infinity, the probability equations seem to suggest that the universe is ordered, patterned, or designed. This is the argument that has come to be known in our

time as the appeal to "anthropic coincidences." That is, it is claimed that in order for life of any sort to emerge in the universe, the universe had to be carefully fine-tuned, presumably by an agent possessing super-intelligence.

These first two arguments remind one of the first sections of Stephen Barr's *Modern Physics and Ancient Faith,* and indeed it is profitable to read the two books in conjunction with each other. In his final three arguments, however, Spitzer turns away from contemporary physics to contemporary philosophy—sort of. For example, his third argument is an updated version of the Thomistic "uncaused Cause" proof; yet even here he does not avoid bringing into the discussion a very interesting comparison between the medieval notion of simplicity and contemporary field theory as it is understood in modern physics. He points out that just as an electromagnetic field does not respect the parameters of either electricity or magnetism, but through its simpler nature is able somehow to encompass both, so divine simplicity is able to provide the conditions for the existence of the limitations of finite creatures without itself sharing in those limitations.

Spitzer's fourth argument is largely a restatement of the argument of his fellow Jesuit Bernard Lonergan, who explained his claim about God as an "unrestricted act of understanding" in the famous nineteenth chapter of *Insight*. Spitzer says that his own argument is unique only in the sense that it "reshuffles" the premises of Lonergan's argument so that they are more directly rooted in the ontological rather than the epistemological.

Finally, in the fifth argument, Spitzer consciously rejects the Aristotelian-Thomistic notion of the philosophical possibility of the existence of an infinity of past time and accepts instead what might be termed a version of the *kalam* argument. In Spitzer's view, developments in contemporary mathematics, particularly by David Hilbert, have made it impossible to accept the idea of the possible existence of an infinite series within finite cosmological structures. Thomists will be sure to look for objections to Spitzer's claims, but Spitzer's reliance upon Hilbert makes his argument formidable. Perceptive readers will notice that Spitzer's first and final arguments are parallel in that both attempt to establish a beginning of time and then argue that whatever has a beginning must have a creator. The initial argument establishes the beginning of temporality on the basis of an *a posteriori* argument, while the latter establishes that beginning through an *a priori* argument.

The book concludes rather unexpectedly with two chapters that defend Spitzer's version of the neo-Platonic transcendentals, arguing not only that God must possess these perfections, but that the deepest human longings correspond to those very perfections. This claim is not presented as a "proof," and so it is perhaps surprising to find it included in a book with a title such as this one has. Nevertheless, Spitzer provides us here with an intriguing and most-welcome updating of the traditional idea of the transcendentals. His five proofs for God's existence, one supposes, could leave the reader persuaded of the existence of the theistic God; these final two chapters could in addition leave the reader

persuaded that such a God should be a matter of intimate concern for human beings.

Does *New Proofs for the Existence of God* achieve its purpose? A complete assessment of the book's bold claims is not possible here, but a few lines for evaluating the volume can be initiated. Perhaps the best way to begin is with the title. Spitzer has surely provided us with sophisticated *arguments* for the existence of God, but has he provided us with proofs? This depends, of course, on what one means by "proofs." Spitzer's third, fourth, and fifth arguments, if they are successful, would provide us with deductive syllogisms that are valid and sound, and almost everyone would accept arguments with such characteristics as proofs. Taking the arguments in reverse order, it would seem that the argument that I have termed a *kalam*-type argument works as a proof—if indeed an infinity of time would really be analogous to an infinity of discreet units comprising a series, such as Hilbert used in his discussions of infinite sets. Contemporary physics implies that time actually is such a thing, but the theories of contemporary physics are not themselves the sort of deductive syllogisms that many people associate with the word "proof." Spitzer's fourth proof relies on Lonergan's argument from *Insight*. Although that argument is considered valid and sound by many, some critics have thought that Lonergan moved improperly in this argument from epistemological assertions to ontological ones. Lonergan's approach has certainly had its defenders, but Spitzer would render such criticism beside the point by beginning with ontological assertions. One wonders, however, whether that is something that one can do to Lonergan's argument without compromising its integrity. If so, why did Lonergan not do it himself? Spitzer argues that his alteration of Lonergan's argument is legitimate because Lonergan's claims are all rooted in his notion of causality, which includes the ontological.

The third proof, the "uncaused Cause" proof, rests on what is sometimes called the "principle of sufficient reason," which the medievals referred to with the formulation of *ex nihilo nihil fit*. The principle seems completely unobjectionable within the universe that we know. The question is whether it can be applied to the cosmos as a whole. Although it is hard if not impossible to imagine how it could *not* be so applied, the recent book of Stephen Hawking, *The Grand Design,* claims that the cosmos arises spontaneously out of nothingness and that we do not need to appeal to an uncaused cause in order to make its existence intelligible. Interestingly, in a recent interview Spitzer went immediately to the principle of "from nothing nothing comes" in order to show that Hawking was in a very difficult philosophical position by making the claim he does.

It is less obvious that Spitzer's first and second arguments should be called "proofs." They are based on a scientific theory that itself consists of plausible explanations of empirically verifiable data. Many would understand Big Bang cosmology and everything that goes with it not as something proven but only as a grand explanation that is ultimately inductive and hence only probable. One has to be careful about defining "proof" too narrowly, however, or one may soon

find oneself committed to the notion that no *a posteriori* arguments are "proofs," no matter how much empirical evidence is behind them. In any case, what is particularly compelling about Spitzer's book—as well as the book by Barr mentioned above—is that it shows that a fair sifting of the evidence offered by the new physics tells, at a bare minimum, more in favor of God's existence than against it. This suggests at least that those who think that today's natural science has disproven the existence of the God of theism need to think much more carefully about the implications of the intellectual developments that have replaced Newton with Einstein, Hubble, and others. *New Proofs* is yet another book to argue that the case for God's existence provided by the study of nature is stronger today than it has been in a very long time. Indeed, if Spitzer is right, it is stronger today than it has ever been in human history.

DOUGLAS KRIES

Gonzaga University
Spokane, Washington

Augustine and the Cure of Souls: Revising a Classical Ideal. By PAUL KOLBET. Notre Dame, Ind.: University of Notre Dame Press, 2009. Pp. 342. $40.00 (paper). ISBN: 978-0-268-03321-7.

In his well-written and deeply researched monograph *Augustine and the Cure of Souls,* Paul Kolbet "situates Augustine within the ancient philosophical tradition of using words to order emotions" (back cover) and to direct attention to higher things. He aims for a balanced presentation which would consider both Augustine's reception of the classical psychagogic tradition and his transformation of this tradition into a distinctively Christian rhetoric (13).

Possidius, Augustine's first biographer, was convinced that those who heard the bishop preaching in the church gained more than those who merely read his writings (*Vita* 31). Many centuries later, James J. O'Donnell (*Augustine: A New Biography* [2005]) has added that, in his sermons, Augustine "inevitably reveals things he keeps out of his other books" (335). Kolbet agrees, and makes a case for studying the Christianization of the conventional curative rhetoric with the help of Augustine's sermons. He justifies his special interest in homilies by contending that "the most abundant and direct evidence of the appropriation of the practices and strategies of classical rhetoric by late antique bishops is provided by their own sermons" (3). This could well be the case; hence the proper subtitle: *Revising a Classical Ideal*.

Introducing his inquiry, Kolbet rightly observes that "late antique sermons are relatively little studied" (4). Kolbet mentions, among the reasons for this relative neglect, the difficulties in establishing the sermons' authenticity as well as their

chronology, the often obscure exegetical procedures employed by preachers, and the popular character and fragmentary preservation of sermons in shorthand (4-5). Furthermore and in addition to the demand of more and better studies on the above-mentioned topics, "what is needed is a clarification of the theory informing the original composition of the sermons themselves" (6). So, Kolbet turns to the ways in which Christian bishops actually employed the cultural "presupposition pools," including the rhetorical tradition of psychagogy or philosophical therapy, in their sermons to communicate the Christian message. "In time, the *cura animarum* became synonymous with Christian ministry itself" (10).

Part 1 introduces the "classical ideal" (17) of the cure of souls with the help of the practice of philosophy. In late antiquity, much was accomplished through speeches. Orators employed their best skills in order to make people reflect about themselves, their happiness, and their souls' apprehension of truth. Kolbet's examination of ancient psychagogy in Plato, and its later refinements by Dio Chrysostom, Plutarch, and Seneca, can be considered a study in its own right. It is almost too thorough for merely supplying a background for Augustine. However, it does the trick of educating the reader about the origin and the classical shape of psychagogy brilliantly.

Part 2 begins the linking of Augustine to the ancient cultural ideal of psychagogy as well as the discussion of the eventual Christianization of this cultural ideal. Cicero sets the tone for Augustine by observing "how efficacious are the medicines applied by philosophy to the diseases of the soul" (*Tusc. Disp.* 2.5.2, cited on page 71). Another rhetorical "therapist" who influenced Augustine was Ambrose. The bishop of Milan was deeply embedded in the ancient rhetorical tradition as well as in Christian Scripture, and he taught his younger colleague how to connect these two things.

A minor footnote here: Kolbet chooses not to comment on Ambrose's alleged authorship of the *Explanatio symboli ad initiandos.* Since one of the three extant manuscripts of this treatise includes a superscription *beati Ambrosii episcopi M. explanatio,* many have considered it an authentic work of Ambrose. However, in 1946, Montgomery Hitchcock argued that because the *Explanatio* categorically rejected all additions to the creed, it should be taken as a reaction to the situation in Aquileia which Rufinus reports in his *Expositio symboli Apostolorum* (A.D. 404). But Ambrose had died a few years earlier, and thus he could not have been the author of the *Explanatio*.

Kolbet claims that in Augustine's first extant writings, the Cassiciacum dialogues, he "had a psychagogic task in mind" (93). Indeed, the subject matter of these dialogues is the soul's attempt to reach God through training itself and cultivating virtues. Moral purification of the eye of the mind and education in the liberal arts are believed to prepare the mind to climb above sense-impregnated thinking. The goal of the *exercitatio animae* is to attain a lasting presence of God (*Sol.* 1.6-7.14; *b. vita* 2.14). Kolbet also directs the reader's attention to the fact that "Augustine's representation of himself in the dialogues is not straightforward historical reporting. . . . Augustine manipulates his own self-representation for psychagogic purposes" (97). It should be said that the *Confessions* a is not a

straightforward historical reporting or objective, rhetoric-free self-representation either! It publicizes a story of the cure of Augustine's own soul as a *protreptikos*. Kolbet would not disagree with this, but nevertheless the primary function of the *Confessions* for his monograph seems to be that of providing the historical base-narrative for the chronological assessment of the psychagogic sermons and treatises of Augustine. It is notoriously difficult to limit treatises with mixed genres for a particular research purpose. They just tend to burst the rigid categories. Yet a greater dose of hermeneutics of suspicion may have had a beneficial effect on Kolbet's reading of the *Confessions*.

This, in turn, raises the following question: "Exactly which writings of Augustine should be studied when he is to be 'observed at [the preaching] work' (12)"? Should a study of a cure of the soul be limited to the extant sermons or should it include some of his treatises as well? After all, a certain sermonic character is typical of much of early Christian literature. As is evident to any reader, some treatises of Augustine that Kolbet studies in connection with the topic of psychagogy are mentioned in passing, but others have been deemed important enough for a closer look. The more deeply scrutinized treatises are (in the order of assessment and next to various individual sermons): *Confessiones, De ordine, Contra Academicos, De beata vita, De anima quantitate, De magistro, De vera religione, De utilitate credendi, De doctrina christiana, De catechizandis rudibus, De fide et symbolo,* and *In Iohannis evangelium tractatus*.

An intriguing moment in Kolbet's study is in chapter 4, where he begins to investigate how God's gracious initiative and illuminating activity fit within the classical psychagogic tradition (109ff.). Ultimately, Augustine's integration attempts led to "an articulated psychagogic theory that is unmistakably Christian" (110). God's saving acts have to be acknowledged as the primary causes of any cure of the soul. This, in turn, leads into an investigation of such phenomena as the incarnation, the Scripture, and the church, "a remedial community" (132). In fact, the incarnation of Jesus Christ and his humble example become the very center of Augustine's attention. The incarnation itself is understood as a divine act of "therapy" for fallen humankind. "'Wisdom itself' took on the qualities of the ideal psychagogue deciding 'to adapt itself even to such infirmity as ours'" (142, citing Augustine, *De doc. Chr.* 1.11.11).

According to Kolbet, Augustine reaches a fully Christian theory psychagogy in his *De doctrina Christiana*. Once again, his "mature view of psychagogic instruction" (279 n. 1) is tightly tied to the soteriological means of the incarnation and Scripture which the classical psychagogic tradition lacked. In this treatise, Augustine contends that the *signa data,* the sensible signs of Scripture point to and turn one's attention toward the intelligible realities. *De catechizandis rudibus,* in turn, reinforces the idea that an inner activity of the divine "Therapeut" is what really brings about the cure of souls. The function of Scripture is to help the seeker along the way as an external aid. In order to understand in the profoundest sense of this word, every rational soul needs to consult the Wisdom of God (or, the Inner Teacher Christ) who enlightens the mind.

Part 3 begins the study of Augustine's sermons which was promised in the introduction. It is a long way to Augustine's sermons, for only the last forty pages of the two hundred pages of text (and one hundred pages of endnotes) deal almost exclusively with these. Nevertheless, in his sermons, Augustine draws "on familiar material from the psychagogic tradition to depict the soul's plight in terms of a physical malady and medical cure" (171), to which then Christ, the master Healer, prescribes the proper "medicine." Indeed, Augustine's sermons are uniquely preoccupied with the curative powers of the Word of God. As an experienced preacher/orator, he urges everyone to take a serious look at himself in the light of Scripture. Although the bishop of Hippo merely performed his episcopal duty of being the exegete for his congregants, he was, at the same time, just a fellow listener to the Word of God. "Rather than outlining propositions, in his sermons Augustine typically invited his hearers to join him in a shared inquiry into the meaning of Christian Scripture" (184). Adeodatus once told his father, "For my part, I have learned from the prompting of your words that words do nothing but prompt man to learn" (Augustine, *Mag*. 13.46.15). This is precisely what Bishop Augustine believed that his own words as a preacher accomplished.

It is often the case that when one studies Scripture and its exegesis in the patristic period, the image which comes to mind is a rather anachronistic one: an exegete is sitting behind a table in his private study and poring over a codex of the (whole) Scripture in front of him. Even when we realize that such a situation was the exception rather than the rule, this image still guides our research interests on a subconscious level. Consequently, one of the greatest contributions of Kolbet's monograph is that he makes it quite clear that this was not how early Christians were engaged with Scripture at all. Scripture was not read silently and privately, but was heard in liturgy both as voiced by a reader and explained by a bishop. In other words, one's access to and engagement with Scripture was an oral and prayerful communal event.

Furthermore, "Regular participation in liturgical practices involving the Christian mysteries," and one may add that hearing Scripture "was intended to be a curative experience" (190). Rather than being normative in the prescriptive sense, that is, by providing God-given instructions and theological assertions, the normativity of Scripture was understood in more dialogical, dynamic, and participatory ways: as a personal response from the all-knowing God, as a mirror of the soul which requires honest self-recognition, as medicine which requires swallowing and digesting.

Kolbet cites Augustine a lot, almost to the point of occasionally blurring the line between a monograph and an anthology. This is both helpful and unhelpful. It is helpful because one proceeds with the *ipsissima verba* of Augustine; but it is unhelpful because at times the sheer volume of quotations obscures the particular points being made.

Augustine and the Cure of Souls is a great read for anyone. Relative novices find here a well-integrated picture of Augustine and great examples of his adaptation of the classical inheritance, of his turning the "pagan water" into the

"Christian wine." More seasoned scholars, in turn, can test some of their commonly accepted stereotypes as well as find new and important ways of seeing the well-known texts of Augustine.

TARMO TOOM

The Catholic University of America
Washington, DC

The Living and True God: The Mystery of the Trinity. By LUIS F. LADARIA, S.J. Translated and revised by MARIA ISABEL REYNA and LIAM KELLY. Edited by RAFAEL LUCIANI. Miami: Convivium Press, 2010. Pp. 493. $57.95 (paper) ISBN: 978-1-934996-06-5.

Despite mistranslations, this manual, published for Gregorian University students twelve years ago, manifests wide erudition, speculative acumen, an orthodox sense of tradition, clarity of synthetic presentation, and balanced sanity. Although Ladaria disclaims lasting value for his contribution to Trinitarian theology, his manual surpasses most books on the Trinity. He offers a good biblical overview, first spelling out the main lines of New Testament revelation in the economy of salvation, from the Father's sending of his Son through the main stages of Jesus' life to the cross and resurrection. He especially reevaluates the role of the Spirit in that process, highlighting the meaning of baptism for Jesus' humanity. The intra-Trinitarian order is preserved in the economy by Balthasar's "Trinitarian inversion": the Spirit's role in Jesus' incarnation and baptism does not signify the Son's subordination to the Spirit but manifests the Spirit's joining of Father and Son in time as in eternity. The resurrection marks the initiation of the Spirit's outpouring from Jesus' glorified humanity upon all flesh. (Ladaria emphasizes the Spirit's divinity and economic function, while leaving to Christology other emphases.) Revelation's fullness permits a glance back upon the Old Testament, touching briefly the revelation of Yahweh's name and identifying anticipatory mediators in the angel of the Lord, Wisdom, Spirit, and Word. Ladaria recognizes the Son's role in revelation's preparing for the incarnation; the only God known in history is triune. The Fathers teach that. The presentation of patristic dogmatic development is excellent: first words to describe the mystery must be discovered, then their meanings. As theologians progress from the Logos in the Father's mind to personal juxtaposition and recognize him apart from his (subordinate) role in creation under the Father's monarchy, Church councils elaborate Trinitarian faith. Once the Cappadocians understand the Trinity in terms of mutual relations, the recognition of the Spirit's full divinity easily follows. Relying on Orbe, Simonetti, his work on Hilary, and other scholars, Ladaria well traces the dogma's development, underlining its

continuity with Scripture. Thus important studies are mediated to an English-speaking audience. (Ayres' *Nicea* was published after Ladaria's manual.)

With Augustine the Western tradition stresses the essential unity of the persons in the immanent Trinity to overcome Arianism, but this change distances theology from the economy. Brilliant as is Augustine's employment of relations to preserve the Trinity within the unity, he hesitates to call them persons, a term too absolute. Is the divinity then ontologically previous to the relations, which are not substantial? Aquinas meets the challenge. Though rooting the persons in processions which give rise to relations, Thomas insists on the primacy of the persons: the persons, existing in mutual relations, are the nature. While agreeing with recent commentators on this point, Ladaria skates over the decisive transition from relations to persons, from essential to notional acts. How does question 29 of the *Prima Pars* begin with "individual substance of a rational nature" to end with "subsistent relation"? Ladaria simply notes, "Relations are established because there are persons, and hence persons would be first" (215). Why did Thomas's presentation start with processions? The emphasis on persons over nature fits with the opening chapter's affirmation that believers experience the Trinity; more than instructing from without, God reveals himself. This opens new perspectives. Ladaria's presentation of Thomas begins to identify Trinitarian life with self-giving love; in this he goes beyond Thomas, laying the groundwork for his own speculation.

Ladaria dialogues with Rahner, Lonergan, Kasper, Mühlen, Ratzinger, Balthasar, Barth, Moltmann, Pannenberg, Jüngel, and Bulgakov, perceptively noting their limitations, but ecumenically borrowing from all. He also suggests a solution to the *filioque* controversy and integrates patristic insights into his own synthesis: God is Trinitarian love, "three different centers of self-possession and activity in perfect communion," three "I's" or free subjects giving themselves totally to each other, each possessing the divine essence in his own way (335, 347, 362, 410). The salvific economy is grounded in the mystery of love; in faith's experience of Jesus' self-giving love the immanent Trinity is revealed. In unity Father, Son, and Spirit freely decide to share their life with creatures and divinize them. Though there is only one principle of action *ad extra,* the persons are known in the economy. For the divine action is "diversified," each person having a different "mode of action" with his characteristic features; the Son, besides obediently performing the Father's works, "performs his own works." This transcends appropriation (51-52, 55-56, 308-9, 371, 401, 419, 442). Yet Ladaria denies three distinct consciousnesses or self-consciousnesses; there is only one divine consciousness, possessed differently by each person, in personal intercommunication. "The divine 'I' is not only infinite, but it is also the total communication of its infinitude." There is "perfect unity of substance and love; there is no yours and mine." Personal consciousness is understood as "not the 'I' that is common to the three persons, but in a distinct way the own 'I' of each of them" (321, 325-26). Ladaria balances a single nature as principle of action with distinction of persons recognizable in the economy.

Because the economy contains God's *self*-revelation, Ladaria ascribes primacy to God's love, free in itself, gratuitously bestowed in the economy. With Balthasar he locates natural knowledge of God, necessary to preserve human freedom's cooperation with grace in accepting revelation, within a supernatural order transcending a theoretical "natural order." The single economy leading to the beatific vision does not destroy the analogy of being. Because being is dynamic and "the gift of being expands beyond itself (*fuera de sí*)" (449, corrected), the analogy of being lets itself be subsumed into the analogy of faith, and Ladaria accepts Jüngel's insights about God's absolute proximity while preserving the *major dissimiltudo* of Catholic theology.

Ladaria's interpretation of Christianity's central mystery accords with John Paul II's reformulation of Catholic doctrine in terms of freedom. But challenges remain. The consideration of analogy can be deepened. The difficulty with the analogy of proportionality consists not merely in one term's infinity but also in the absolute identity of God with the perfection predicated of him, thus reducing the four terms to three and reinstating the fundamental difficulty of disproportion between the infinite God and finite thought. Appeal to a "creating cause" (467), otherwise undefined, fails to justify the analogy between infinite and finite causes. Moreover, into what does being "expand beyond itself"? Thomas prudently oscillates between proportion and proportionality. Furthermore, if "the three 'subjects' have only one self-awareness, only one freedom, only one love and knowledge" (329), how can they be "three centers of consciousness and action, three 'agents'"? (335, 362) Can there be an "I" without self-consciousness? How do the three "I's" relate to the single divine "I" with its (his?) self-consciousness? How can the same self-consciousness be possessed in different ways by three subjects? Correspondingly, in the economy what is a "mode" of action? If each person acts differently and is perceived differently for proper self-revelation, what happens to the axiom that all operations *ad extra* are common? That axiom is rooted in the unity of nature, a principle of action (51, 309, 384-85). How can the incarnate Son be the "principle through whom God acts *ad extra*" (360)? Is the person acting or is God (Father?) acting? Ladaria appeals to the *perichoresis* implied in the notion of related persons—persons involve an *ad se* as well as an *ad aliud* (310-12)—as well as to substantial unity and personal love or union (326, 408). Although in Thomas the persons are identical with the divine essence (305), Ladaria goes beyond Thomas in defining God's essence as tripersonal love (409-12). That might affect natural knowledge of God, which, while only a possibility (440-42), grounds the natural-supernatural distinction. The central dilemma of Trinitarian theology is clear, and Ladaria has correctly moved it to the realm of freedom and love in which the greatest unity implies the greatest diversity (413-14).

While this new revised translation manifests a tremendous improvement over the 2009 translation, unfortunately many errors remain: e.g., "beginning(s)" for "principle(s)" (51), "language communication" for "communication of idioms" (90), "gift that makes Jesus" for "gift that Jesus makes" (188), "the Father-Logos" for "the paternal Logos" (190), "continuous relation" for "subsistent relation"

(302), "summary" for "recapitulation" (457). Greek words are often improperly transliterated. "Inclusive language" (actually excluding women from mankind) produces imprecision: human persons, humans, human beings, people, human nature, humanity, humankind, etc., almost invariably replace "man" and "men"; "man" is not the same as "human person." Likewise Trinitarian treatises turn on the relation between person and nature. The translators change "God, Father of Men" into "God, Father of All" (83), despite Ladaria's nuanced position: divine fatherhood applies primarily to Jesus Christ and thereafter to disciples by adoption in Christ, although in view of Matthew 5:45-48 God can be said to "behave with an attitude of love (and hence, in a certain sense, of Fatherhood) with respect to all people [*hombres*]" (83-85, 128-29, 415-16).

More than a manual, Ladaria's study is almost too rich for beginners; teachers must select and explain the central sections, letting students deepen their knowledge by later returns to the text. Ladaria has made a major contribution to Trinitarian theology and, to my knowledge, offers the best presentation of the Trinitarian mystery in modern theology. He summarizes the Church's teaching and attempts a new synthesis that must be taken seriously by theologians. (Anyone desiring a list of errata can request it at mcdermott.john@shms.edu.)

JOHN M. MCDERMOTT, S.J.

Sacred Heart Major Seminary
Detroit, Michigan

Death and Mortality in Contemporary Philosophy. By BERNARD N. SCHUMACHER. Cambridge and New York: Cambridge University Press, 2010. Pp. 258. $27.99 (paper). ISBN 978-0-521-17119-9.

Death is certainly not just a theoretical problem, but an existential one. Even animals flee death, but our human life begins with a reflective relation to death: one of the first indicators of hominization is burial rituals. Concern for the afterlife can be found wherever human beings are, and philosophy has made it one of its fundamental topics as well. Questions of the immortality of the soul (e.g., Plato) or the very reality of death (e.g., Epicurus) have been philosophical themes from the beginning. Nevertheless, the last century has witnessed a whole new range of questions and discussions on this topic—and this in spite of the fact that it has become less conspicuous in the public sphere. For example, the turn of modern thought to epistemology as a "first science" can also be found in the question, how we can even *know* death at all, that is, how can it become a phenomenon for us? Indeed, we are the animal that knows that it has to die, but how exactly do we know that? The contemporary discussion on the bioethical criteria for death (e.g., brain death or heart death) and related questions (is every

human being a person?) are likewise new developments. The question whether death is good, evil, or indifferent has been taken on in refined ways by analytical philosophers.

Hence it was about time for a comprehensive survey of all these new conversations, which are sometimes unaware of each other. This is what B. Schumacher (University of Fribourg, in Switzerland) has thankfully undertaken in his book *Death and Mortality in Contemporary Philosophy*. With great erudition, covering a vast array of bioethical, philosophical, and literary material, he presents several conversations, under three broad headlines: (1) bioethical definitions of death, (2) the epistemological puzzles of how we know death, and (3) the reality of death: is it nothing; is it good, evil, or indifferent?

The first part of the book opens up the significance of the question from the bioethical perspective. A recent change in the medical definition of death is at least indirectly related to the philosophical question of death: in 1968 Harvard's medical school proposed to replace the traditional criterion of death as the irreversible cessation of spontaneous heartbeat and respiration with the criterion of brain death. The motivation was pragmatic: declaring someone dead before the cessation of the heartbeat saves the money of continued treatment, and it allows harvesting organs while they are still viable (17f.). (Paradoxically, the new definition yields its results only because potential donors are "kept alive" for the harvest of the organs.) Such functional definitions also seem to promise possible societal agreements by way of pragmatic (even if arbitrary) considerations and majority votes, while it seems harder to agree on the definition of death in itself (although no argument is given as to why it should be impossible to find such a definition) (45-47). But Schumacher rightly emphasizes (15) that the conceptual question of what death is *in and by itself* should precede the functional question of policies and the consideration of practical consequences, and even the question whether death is an evil or not. The question of what death is, is not an ethical question. The ethical concern will tend to replace the question of what death is with the question of when death occurs. But the latter question can obviously only be answered if one knows the answer to the former.

Considering neocortical death as the death of the person as opposed to the biological human organism points to a more fundamental philosophical problem. This distinction between the *person* and the *human being* has its ancestor in the thought of John Locke, who equates personhood with certain conscious mental properties, in the absence of which we would only have a biological human organism. This means that the species *homo sapiens* comes in two different forms: persons and nonpersons. Infants, the mentally retarded, senile individuals, and people with brain damage or in a state similar to Terri Schiavo would be human, but not persons. Not all men are equal. A brain-dead human being is, then, not a person and can therefore be considered a corpse—a breathing corpse, but still a corpse that can be buried (although it is suggested that it be injected with potassium chloride for aesthetical reasons) (30f.). On the other hand, its value can be of importance to third persons and communities and it can be treated with dignity relative to these third parties if they so wish, but not in and

by itself (34). As to the "corpses" themselves, their lives are of no value, for without consciousness they are not able to value their own lives; nor can they be wronged, for as persons they are simply not there (42). This seems to avoid what Steven Pinker has called "the stupidity of dignity" and allows the calculation of the value of human life on more pragmatic grounds and interests. Yet, as Schumacher rightly points out against these approaches, the privation of a fundamental human good is considered an evil regardless of whether the subject is aware of it; it is *objectively* evil because it entails a lack with regard to human nature (44).

In the second and third parts of the book, Schumacher appears to adopt something like a "methodical Epicureanism," that is, forgoing appeal to metaphysical presuppositions such as the immortality of the soul or other notions of the afterlife. This is helpful, because it allows Schumacher to engage some contemporary discussions methodically on their own grounds and presuppositions (171)—although one does at times wonder whether arguments such as those for the immortality of the soul are not also genuine philosophical arguments that should be part of this conversation (perhaps the author is also intimidated by the fact that this might be too "ontic"?). Epicurus himself is introduced more systematically only at a surprisingly late stage in the book, given his fundamental role throughout the book.

Epicurus had claimed that "death is nothing to us," since when we are, death is not, whereas after death we are not there to experience it; and since good and evil consist in our subjective experiences of reality, death can be neither, since nobody is there to experience anything. Apart from the question of the good or evil of death, this raises the more fundamental problem of how death can be known at all (151-55).

Since both Epicurus and medical definitions seem to make death unknowable, could there be a more a priori approach to death? If death seems to be certain, even though its hour is not (*mors certa, hora incerta*), this certainty might imply more than a merely a posteriori, empirical knowledge. It might even be the foundation of all other certitudes, as Heidegger claims (52). If that is so, then death cannot be merely an accident or come by surprise (as Sartre or Levinas claim), but it is an essential and constitutive internal aspect of life itself, and is as such accessible and certain here and now. The life philosophy of M. Scheler in particular suggests that the experience of the gradual internal exhaustion of life as such is the object of an a priori intuition, even if it is not accessible to empirical, discursive, and scientific methods. Turning to science is not turning to a more objective approach, but a flight from this more fundamental intuition. According to Scheler even a hermit, who had never experienced someone else's death or did not experience fatigue, aging, or sickness, would have this knowledge of his mortality, because it is an eidetic truth, constitutive of our consciousness; only the uncertain date of death is contingent and accidental. Death is implied in the fact that the structure of the experience of time changes: relative to the anticipated total content of consciousness, past experiences are growing and the future is increasingly compressed.

Heidegger likewise sees this in a priori terms of an ontology of temporality, albeit in more pragmatic terms of future possibilities. Their "impossibilification" (*Verunmöglichung*) by death, however, is also a positive possibility: death is the *possibility* of the impossibility of Being. This, and not the Cogito, is its most fundamental certainty.

Against this, Schumacher agrees with Levinas and others that the experience of temporality does not imply its finitude; death cannot be without time, but time can be without death (58-60; 80). Endless life as envisioned in Ernst Bloch's infinitely open "principle of hope" is a genuine possibility (81f.). Death as such remains a counter-term to life and therefore *external* to it (83).

But how then is it known? Is it simply *constitutive* for who we are? Schumacher quotes Levinas and Gadamer for this position, but disagrees that the experience of the fear of death could be a sufficient indicator, since it could be understood as a mere instinctive animal-reflex of self-preservation (89). Perhaps more interestingly, Marcel Conche claims that the consciousness of our materiality, as a principle of dissolution, constitutes our knowledge of death: I cannot think of myself, unless I think of (my) mortality. This is a Cogito that includes the body in its materiality as an indicator of my mortality (but prior even to any sensory notion of my body). Since I am included in my thought as its subject, and this constitutively includes death, death is the ultimate horizon of thought (85f.).

Schumacher disagrees with this as well, although it is not clear what his arguments are (89f.). His suggestion is rather to gain knowledge of death from the death of *another*. And for this, Sartre's apparently neglected philosophy of death seems to be helpful (91-111): unlike Heidegger, Sartre does not see death as a meaning-giving possibility of life (or like the final chord, intrinsic to the melody), but as an extrinsic annihilation of life that as such cannot be known. Our finitude comes about not by our death, but by our decisions that give our life a determinate shape. This does not imply mortality; rather, death gets in the way of this actualization of freedom. Death is not for the "for itself," because there is nobody *for whom* it is, except for "the others"; and for the surviving others, the dead person is an "in-itself," whose meaning of life they are now completely free to determine. The dead person is at the mercy of the hostile take-over of his projects by the projects of others. Such rivalries do already happen in relationships among living people, but they are asymmetrically finalized by death. Rather than being my personal death and meaning, my death is quite replaceable and subject to the meaning that others give to it. The afterlife literally is the hell that is other people.

While Schumacher appreciates the involvement of other people, he points to more positive responses to the death of another, for example, in the experience of human loss and mourning, based in love of the other (as in P.-L. Landsberg [112-14]). Yet the experience of someone who is dead remains inaccessible to us, short of someone's returning from this state in odd ways, which are not open to the philosopher. Death is not a phenomenon for the dead person, or for the survivor. Yet it is not nothing, but a fundamental problem. One might ask: how

does nothingness appear? How do we perceive an absence? Or an impossibility? And wherein is it verified and does it have its truth-maker? We can, as Kierkegaard suggests, imagine our own death and burial—and we do, when we draw up a will or obtain a life insurance. But this is *not* really the thought "I am not," because in imagining I imagine myself to imagine this. The thought "I am not" is self-contradictory (127-29). Biological theories of "natural death"—as the wearing out of the metabolism by the environment and internal factors—explain at best our mortality, but not the state of death itself (132-39). The experience of the death of another might lead to knowledge of mortality, but does not make death as such into an experience (139f.).

Methodical Epicureanism is also the basis of the third part of the book, on whether death is a good or an evil. For Epicurus it was neither, because good and evil are relative to our experience (pleasure and pain), and without an experiencing subject there is neither. Based on this kind of hedonistic and materialistic presupposition, Lucretius added the argument (repeated by Montaigne, Schopenhauer, and Feuerbach, among others) that there is as little reason to fear death as to fear our nonexistence before birth—counter-intuitively implying that time is symmetrical rather an anisotropic. While this position is perhaps somewhat surprisingly shared by the Stoic Seneca, it is Plutarch who emphasizes that the good of existence is desirable, even if this life is filled with evils; being deprived of existence is the ultimate privation, because existence is the basis of all other goods, and "not to be . . . is unnatural and inimical to everything that is" (161-64). While Plutarch rightly says that the fear of Hades should not be neglected (making death a potential *evil*), others (Christians and Platonists) might see death as *good* in so far as it leads to a positive afterlife; again others might find death positive because life itself is rather a curse. For modern utilitarians the positive or negative quality of death just depends on the overall calculation of pain and pleasure or quality of life, whether it is in one's own (or others') interests to stay alive, that is, whether life is worth living (e.g., P. Singer) (41f.), although nobody has ever suggested a concrete plausible case of such a calculation (192-94).

On an Epicurean basis these calculations include what happens after death, because we would not experience it. However, some (Nagel, Nozick, and others) have argued that there can be objective evil even without our awareness. Even *within* life it matters whether someone cheats on us or our reputation is ruined or whether one's masterpiece of art is destroyed or one's offspring experiences misfortune—regardless of whether we will ever know about it (e.g., while being in a coma)—because it is a privation of a genuine good. These things are part of the relations that constitute one's life. Likewise, such an evil can be done to a person after death (e.g., not fulfilling a will or a promise at the deathbed) (172-77).

But life itself is also an objective good, and a fundamental one. Death does not threaten our "conditional" desires, dependent on our existence, but our "categorical" desires (B. Williams), which concern our existence itself and with it the very possibilities of desires and plans. Nor can it be a consolation that it is

"natural" to die in the usual time span, because there is no intrinsic, "natural" limit to the amount of life that it would be good to have (Nagel) or to new plans to be made (Nozick) (203). Life itself is desirable as the condition for having experiences, and having experiences is good, even if they are experiences of something bad (Nagel) (204f.). According to Nagel, our nonexistence before conception is different from death, because being conceived at a different time or from a different sperm and ovum would change our very identity, while a change in the date of death does not. Different starting points in time cannot lead to the same person, while the same starting point is open to different futures, and only an already existing person can be "deprived" of this future (209-11).

The reader of Schumacher's book will come away with an awareness of questions that might not have occurred to him before. The comprehensiveness of the overview is a good introduction, and might serve well as a textbook for a graduate seminar on the topic.

What is somehow lacking in this survey is an attempt to tie all these pieces together in a more systematic treatment. For example, the reader keeps wondering how the author will return to the initial bioethical question, to clarify it with the help of the other materials. But nothing of that sort happens; the conclusion barely points in that direction. Perhaps it is too early for such a synthesis, yet the book seems to suggest that something like that will occur. We are led to wait for the author's own position, but for the most part we have to gather it from various hints here and there. For example, the author says that the death of the other is necessary for us to discover the reality of death (e.g., 117), yet nowhere do we find him really arguing for this position. The attempts at a more systematic treatment remain somewhat disjointed, and one gets the sense that the presentation of the material could have gained intelligibility from a more structured approach. The "critical integration" (4) does not quite succeed. As it is, some of the chapters seem repetitive or like a *florilegium,* while some important arguments are only hinted at in the footnotes, when they probably should have been in the text. I am thinking, for example, of the footnotes on page 137: an explanation and discussion of biological insights ("amortal cells," etc.) would have been pertinent (also, one wonders whether the reader is supposed to know who Claude Bernard is). The same could be said about footnotes on Habermas (34) or on Parfit and Nagel (208f.).

In spite of the book's comprehensiveness, there might still be missing pieces. I am thinking especially of Hegel and his interpreter A. Kojève; for both, death and its negativity play a crucial systematic role, and Kojève's interpretation has been hugely influential in the past century century. Yet, both are barely mentioned. The bioethical discussion might have profited from the work of Robert Spaemann, who is only mentioned in the bibliography.

Limiting oneself to a methodical Epicureanism and sensualism might from the outset concede too much. It is unsurprising that sensation cannot perceive the absence of something. Nothingness can be thought, but not sensed. If sensual perception is all we have, then death cannot be perceived, and the only good there is will be pleasure, not the good of self-transcending virtue or of

contemplative awareness of the totality of one's life. Animals do not know death as such, because they do not think. That Epicurus has to try and *argue* us back into this thoughtless animal state is a performative self-contradiction.

From a Thomistic perspective, it might have been helpful to distinguish first and second acts; both are actualizations of a nature and the absence of either can be known and experienced as a privation, rather than simply nothingness. We do have experiences even of the very act of existing, of our participation in being. Often they are negative: in states of depression the very act of existence becomes burdensome; likewise, life itself can be experienced as a battle against entropy and a fall into nothingness. For Aquinas (following John Damascene and Nemesios of Emesa), the experience of the failure of secondary acts (and whatever can go wrong, will go wrong eventually) is rooted more fundamentally in the fact that we come from nothing and tend back towards nothing. Our very finitude will point us to the fact that we come from nothing, that is, that we do not have our being by our own nature and that our nature limits our act of existence rather than being identical to it.

There is always more to be said and clarified, but Schumacher gives us a meritorious and erudite collection of insights, which are often stimulating to read. Schumacher is fluent in German, English, and French literature and quotes the texts in the original and in translation (the book itself appeared in French and German prior to this revised English edition). Not many authors have such skill for a crosscultural networking. This is a first step that will allow others to engage in a conversation that has not yet happened. Perhaps this will prepare the systematic synthesis that can only be hinted at now. The book will be beneficial for philosophers engaged in this topic, as well as for bioethicists who are looking for a deeper philosophical perspective on their problems; it should be of interest to theologians as well, even though its deliberately agnostic, methodical Epicureanism might not connect easily with a theology of death. Last, but not least, it will provide teachers and students with a useful textbook.

ANSELM RAMELOW, O.P.

Dominican School of Philosophy and Theology
Berkeley, California