

Robert A. Delfino

The Compatibility of Evolution and Thomistic Metaphysics: A Reply to Dennis F. Polis

Recently, in response to an article by Fr. Michael Chaberek, O.P., Dennis F. Polis argued for the compatibility of biological evolution and Aristotelian-Thomistic metaphysics.¹ Although I agree with Polis that there are problems with Intelligent Design Theory, and, like him, I am sympathetic to at least some kind of Theistic evolution, I think Polis' particular defense is unfaithful to the Thomistic tradition of metaphysics. Therefore, in this essay, I will examine some of Polis' methodological and metaphysical arguments and explain why they are mistaken. In addition to being corrective, this essay will help point the way to a better defense of the compatibility of biological evolution and Thomistic metaphysics.

Prolegomena

Great care must be taken when arguing for the compatibility of Thomistic metaphysics and scientific theories that came centuries after

Robert A. Delfino — St. John's University, Staten Island, NY, USA
e-mail: delfinor@stjohns.edu • ORCID: no data

¹ Dennis F. Polis, "The Compatibility of Evolution and Classical Metaphysics," *Studia Gilsoniana* 9, no. 4 (October–December 2020): 549–585. Polis is responding to Michal Chaberek, "Classical Metaphysics and Theistic Evolution: Why Are They Incompatible?," *Studia Gilsoniana* 8, no. 1 (January–March 2019): 47–81.

St. Thomas. We should try to avoid misrepresenting both the science and Thomistic metaphysics. With respect to the Thomistic tradition, we should also distinguish between two important but different questions. On the one hand, there is the historical question of what St. Thomas Aquinas himself believed and based on that what we think he would have said were he presented with the scientific evidence of biological evolution. On the other hand, it is well known that Thomists over the centuries have been refining Aquinas' thought and taking it in new directions, as part of a living and evolving philosophical tradition. Thomism, as a living tradition, is more malleable and varied than the views of Aquinas himself, and, as such, it provides more latitude for a defense of the compatibility of evolution and metaphysics.

However, even here we need to be careful, for I would argue that not every school of philosophy or theology that calls itself a "Thomism" is truly a kind of Thomism. For example, it has been argued that Transcendental Thomism is an impossible marriage of Immanuel Kant and Aquinas—of which there can be no true compatibility.² Indeed, if one changes or rejects essential elements of Thomistic metaphysics then it no longer should be called Thomistic metaphysics. This raises the difficult question of which elements are essential and which are not. Brian Shanley, O.P., once raised this question in the context of Analytic Thomism, and his comments are relevant for us as well:

There is cause for optimism then about the stimulus to Thomism that could come from Analytical Thomism. . . . [H]owever, the major cause for concern is metaphysical. At the heart of Aquinas's philosophy is his understanding of being as ultimately rooted in *esse* as *actus essendi*. This does not fit with analytical metaphysical dogmas. Here then is where the ultimate test of allegiance lies. It is possible, of course, to be an analytic philosopher

² For example, see Christopher M. Cullen, S.J., "Transcendental Thomism: Realism Rejected," in *The Failure of Modernism: The Cartesian Legacy and Contemporary Pluralism* (Washington, D.C.: Catholic University of America Press, 1999), 72–86.

who offers interesting readings of Aquinas without any commitment to his doctrine of being. But I would not call such a one a Thomist, nor, I presume, would he call himself one. What I am arguing is that to be a Thomist of any stripe requires some primary commitment to Thomas's metaphysics; without that commitment, one may be an interpreter or even a specialist, but one is not a Thomist. It is a matter of debate, of course, what other doctrines of St. Thomas one must adhere to in order to be a Thomist and surely the items are broader than the metaphysics of *esse*. But however one draws the Thomistic circle, the core must be *esse* in St. Thomas's sense, not Frege's.³

I agree with Shanley that Aquinas' teaching on the act of existence (*esse*) is one of the central features of Thomistic metaphysics; and, as we shall see, one of the things that leads Polis astray is a lack of appreciation for this existential dimension of Aquinas' metaphysics.

Methodological Problems

The first serious problem with Polis' defense has to do with his conception of the methodologies of the sciences, and the relationship of the sciences to one another. In the following excerpt, he gives two arguments as to why scientific work in evolutionary biology cannot be overturned by philosophy:

Aquinas teaches that each science must follow its own canons. If those canons are defective, philosophy may show why they are inadequate, but is not the role of, nor is it within the power of, philosophy to directly criticize scientific findings conforming to the relevant canons. . . . In his *Expositio super librum Boethii De Trinitate*, Aquinas considers the division of the speculative sciences. . . . Aquinas' innovation was to focus on the intellectual acts required by these sciences, each of which moves further from what is more intelligible to us (matter and motion) to what is more intelligible in itself. "Physics" requires us to consider being *qua* mutable, and hence material, while metaphysics demands

³ Brian J. Shanley, O.P., "Analytical Thomism," *The Thomist* 63 (1999): 136–137.

that we focus on being *qua* being, separate from matter. . . . Since abstraction fixes on certain notes of intelligibility to the exclusion of others, it prescind[s] from data outside of a science's sphere of study. Natural science does not treat essence and existence *per se*. Similarly, metaphysics does not study the dynamics of natural processes, because it abstracts from matter and motion. The objects of "physics" "depend on matter both for their being, and for their being understood," while those of metaphysics/theology "do not depend on matter for their being." In *In Metaphysica*, Aquinas states that "it belongs to the same science to investigate the proper causes of any genus and the genus itself, as for example natural philosophy investigates the principles of natural bodies," while metaphysics is concerned solely with being in general (*ens commune*). Investigating the proper causes of species and genera is precisely what the theory of evolution attempts to do. Thus, metaphysics lacks any evidentiary basis for judging evolution, which addresses a certain kind of change.⁴

As the above excerpt makes clear, Polis' first argument is that each science must follow its own canons, and, unless those canons are inadequate, it is improper for metaphysics to critique evolutionary biology. While it is true that each science has its own sphere of competency, and thus some degree of autonomy, there is a hierarchical structure to the sciences in Aquinas that is important and which Polis seems to ignore. Putting revealed theology (*sacra doctrina*) aside, the science of metaphysics is the highest of the sciences and, as such, it has a special relationship to all of the sciences below it, as we shall see.

In saying that "Aquinas teaches that each science must follow its own canons," Polis cites Aquinas' *Commentary on the De Trinitate of Boethius*, q. VI, a. 1, c.⁵ There Aquinas says that a particular science "will fall into error unless it proceeds from its own proper principles."⁶

⁴ Polis, "The Compatibility of Evolution and Classical Metaphysics," 564–566.

⁵ *Ibid.*, 564, note 49.

⁶ Thomas Aquinas, *Expositio super Librum Boethii de Trinitate*, trans. Armand A. Maurer, in *The Division and Methods of the Sciences* (Toronto: Pontifical Institute of Medieval Studies, 1986), 64.

However, in the same article, a few pages later, Aquinas also says “divine science [metaphysics] gives principles to all the other sciences.”⁷ Therefore, to the extent that evolutionary biology is making use of metaphysical principles (e.g., causality, the metaphysical law of non-contradiction and its corollaries, such as the effect cannot be greater than the cause, etc.), metaphysicians can comment on the misuse of such principles in evolutionary biology.

Polis indirectly affirms this when he says that nothing in his article “should be taken to support the view that the human intellect evolved in a purely physical manner, for I hold that the intentional order is irreducible to the material order.”⁸ Indeed, this is a metaphysical argument because it concerns the being, essence, and ontological status of the rational soul, and how (because of its immateriality, which is necessary for intentional, abstractive consciousness) it cannot be produced by changes in matter.⁹ However, many, if not most, contemporary biologists would disagree with this metaphysical critique of evolution and would, instead, hold that humans are purely material beings that evolved from changes in material life forms over time. Nevertheless, whether he realizes it or not, Polis, by his own metaphysical counter-argument, is legitimizing the general kind of metaphysical critique that Fr. Chaberek and others have made.

The second argument that Polis gives to limit metaphysical critique of evolution, in the excerpt above, has to do with the proper object of a science. In this regard, he notes that the proper object of natural science is to investigate change and physical processes such as biological evolution, whereas the proper object of metaphysics excludes

⁷ *Ibid.*, 73.

⁸ Polis, “The Compatibility of Evolution and Classical Metaphysics,” 551.

⁹ Dennis F. Polis, *God, Science and Mind: The Irrationality of Naturalism* (Fontana, Calif.: Xianphil Press, 2012), 255. Aquinas makes similar metaphysical arguments in *Summa Theologiae*, I, q. 75, a. 2, reply and q. 90, a. 2, reply.

change, and instead focuses on being *qua* being, as separate from matter and motion. Unfortunately, the way Polis discusses these topics is misleading. That is, from Polis' discussion one gets the following impressions: 1) that metaphysics only studies what is separate from matter and motion and 2) that metaphysics does not study change at all. But the second point is clearly false, and the first point can be easily misunderstood in a way that is false.

With respect to the second point, Aquinas explicitly says that metaphysics studies change (motion). For example, in his *Commentary on Boethius' De Trinitate*, he says the following. "The metaphysician deals with individual beings too, not with regard to their special natures, . . . but insofar as they share the common character of being (*rationem entis*). And in this way *matter and motion also fall under his [the metaphysician's] consideration.*"¹⁰ Additionally, in *De Veritate*, Aquinas clarifies that a being (*ens*) is called a being *precisely* because of its act of existence: "the name of being (*ens*) is taken from the act of existence (*actus essendi*), not from that whose act it is."¹¹ Aquinas' point, therefore, is that metaphysics does study matter and motion but only insofar as they have existence.¹²

As to the first point, about metaphysics studying what is separate from matter and motion, this can be misunderstood to mean that metaphysics does not study material beings. But that is also not true. In his *Commentary on Aristotle's Metaphysics*, Aquinas corrects Aristotle on this very point. In section 1165 of the commentary, Aquinas says: "However, we must remember that even though things which are separate

¹⁰ Aquinas, *Expositio super Librum Boethii de Trinitate*, 56; my emphasis.

¹¹ Thomas Aquinas, *De Veritate*, q. I, a. 1, ad contra 3, in *Truth*, vol. 1: *Questions I–IX*, trans. Robert W. Mulligan (Indianapolis, Ind.: Hackett, 1994), 8.

¹² Aquinas's teaching on existence (*esse*) as the actuality of essence, and as a perfection that has priority over substance is one of Aquinas' novel contributions in the history of metaphysics. For more on this, see Joseph Owens, "Aquinas on Knowing Existence," *The Review of Metaphysics* 29, no. 4 (June 1976): 670–690.

from matter and motion in being and in their intelligible structure belong to the study of first philosophy, still the philosopher *not only investigates these but also sensible things inasmuch as they are beings.*"¹³

Indeed, this is consistent with what Aquinas says in the *Summa Theologiae*: "[T]he first object of our [human] intellect, in this state of life, is not every being and everything true, but 'being' (*ens*) and 'true' (*verum*) as considered in material things, . . . from which it acquires knowledge of all other things."¹⁴ For Aquinas, the metaphysician begins by studying material beings *qua* being and only after demonstrating the existence of God, who is non-material, does he or she realize that being *qua* being extends beyond the material order to immaterial beings.¹⁵ As John F. X. Knasas has argued, this is not a new or different formal object for the science of metaphysics, but instead an understanding that being *qua* being had a greater extension than initially realized.¹⁶

At this point, it should be clear that a metaphysical critique of biological evolution is possible because other sciences borrow principles

¹³ Thomas Aquinas, *In duodecim libros Metaphysicorum expositio*, in *Commentary on Aristotle's Metaphysics*, trans. John P. Rowan (Notre Dame, Ind.: Dumb Ox, 1995), 402; my emphasis.

¹⁴ Aquinas, *Summa Theologiae*, I, q. 87, a. 3, ad 1.

¹⁵ Aristotelian-Thomists often argue that physics must demonstrate the existence of God before the science of metaphysics is possible. But this is mistaken. In the Prologue to his *Commentary on Aristotle's Metaphysics*, Aquinas states that metaphysics, not physics, treats of immaterial, separable substances such as "God and the intelligences [Angels]" (Aquinas, *In duodecim libros Metaphysicorum expositio*, xxx). Also, in his *Commentary on Aristotle's Physics*, we learn that Physics cannot even demonstrate the existence of the immaterial human rational soul: "[H]ow forms are totally separated from matter, and what they are, or even how this form, *i.e.*, the rational soul, exists insofar as it is separable and capable of existence without a body, and what it is according to its separable essence, are questions which pertain to first philosophy [metaphysics]" (Thomas Aquinas, *In octo libros Physicorum expositio*, in *Commentary on Aristotle's Physics*, trans. Richard J. Blackwell, Richard J. Spath, and W. Edmund Thirkel (Notre Dame, Ind.: Dumb Ox, 1999), 92). For more on this topic, see John F. X. Knasas, *The Preface to Thomistic Metaphysics* (New York: Lang, 1990), 121–126.

¹⁶ John F. X. Knasas, *Being and Some Twentieth-Century Thomists* (New York: Fordham University Press, 2003), 69.

from metaphysics, and because metaphysics does study material beings and change from the perspective of being. If biologists propose a kind of biological change that is impossible, metaphysically speaking, then metaphysicians can criticize evolutionary biologists. Therefore, to the extent that Fr. Chaberek's critique is focusing on aspects of the theory of evolution as they relate to metaphysics, he can legitimately make such a critique. However, I am not going to weigh in on the particulars of Fr. Chaberek's critique, as it lies with him to make his own reply to Polis.

Polis also gives a third argument aimed at limiting the kind of critique that metaphysicians can levy against evolutionary biology. This argument has to do with the difference between the notion of species in evolutionary biology and the notion of species in Thomistic metaphysics. Polis charges that Fr. Chaberek is illegitimately using a metaphysical notion of species to attack a biological notion of species: "[Charles] Darwin's theory of evolution, which Chaberek claims to oppose, deals with biological species. If Chaberek's species are not biological, he is not discussing Darwin's theory."¹⁷

Upon closer inspection, there are two aspects to this objection. One aspect is methodological, and it is related to objections that we have already discussed above. Given that every science has its own sphere of competency, biologists should be the ones who determine the biological notion of species based on the evidence gathered in biological science. This is true, of course, and I have defended a neutral metaphysical framework for science and other disciplines aimed at protecting their autonomy, preventing them from overstepping their bounds, and facilitating interdisciplinary work among them.¹⁸ However, as mentioned

¹⁷ Polis, "The Compatibility of Evolution and Classical Metaphysics," 551, note 8.

¹⁸ Robert A. Delfino, "Scientific Naturalism and the Need for a Neutral Metaphysical Framework," in *Science and Faith within Reason: Reality, Creation, Life and Design*, ed. Jaime Navarro (Surrey, England: Ashgate, 2011), 43–59.

above, this does not preclude metaphysicians from critiquing a biological notion of species if it misuses metaphysical principles, or if it is based on a kind of change that is metaphysically impossible, or if it conflicts with truths proven in metaphysics. Indeed, on this last point, Polis himself says “As Thomists, we take God’s existence as a proven fact, and rightly hold that no sound interpretation of sound science can conflict with theism.”¹⁹

A second aspect of the objection is metaphysical in the sense that it raises questions about the relationship of biological species to the notion of species in philosophy and to related metaphysical topics, such as essence and Divine ideas in God. If it could be argued that the notion of species in biological science has no relationship to essences in metaphysics and no relationship to Divine ideas in God, then Polis would have a strong argument. But, as we shall see, this is not the case.

Metaphysical Problems

As Polis notes, biologists and philosophers have struggled with the “species problem”—the problem of formulating a proper definition of biological species—for many years.²⁰ It is a big problem, with many aspects, and I will not attempt to solve it here. Instead, I will focus on Polis’ understanding of biological species and how he tries to harmonize it with the metaphysics of Aquinas.

Polis begins by noting the frequent lack of sharp species demarcations among populations.²¹ For example, he mentions how squirrels on the East and West coasts of the United States of America look very similar, morphologically, and yet they are incapable of interbreeding.²²

¹⁹ Polis, “The Compatibility of Evolution and Classical Metaphysics,” 564.

²⁰ *Ibid.*, 567.

²¹ *Ibid.*, 568.

²² *Ibid.*, 569.

Then he offers a working definition of species, saying “For our purposes, it is sufficient to think of species as classifying populations of similar organisms in light of observable characteristics.”²³

Based on this definition of species, we can conclude that it is related to the notions of nature and essence in Thomistic philosophy for several reasons. First, classifying a population as a kind of species based on similarities and observable characteristics is related to the act of abstraction without precision according to Aquinas.²⁴ For example, when discussing the abstraction of human nature in *On Being and Essence*, Aquinas says the following.

Human nature has being in the intellect abstracted from all individuating factors, and thus it has a uniform character with regard to all individual men outside the soul, being equally the likeness

²³ *Ibid.*

²⁴ In abstracting “human” *without precision*, we do not focus on the accidents or individual properties that Socrates, for example, has as an individual. Instead, we focus on *rational animal*, which is shared by all individual humans, such as Socrates and Plato. However, while we ignore (or abstract from) those accidental and individual properties we do not cut them out or exclude them. That is, we understand that such accidental and individual properties can be added to the human essence when it exists in the real world. In fact, it is impossible for the human essence to exist in the real world without any accidents and without individual properties. This is because matter is part of the human essence and matter in the real world is always particular, never abstract. Therefore this kind of abstraction expresses the *essence as a whole* for as Aquinas says it “contains implicitly and indistinctly everything that is in the individual” (Thomas Aquinas, *De Ente et Essentia*, in *On Being and Essence*, trans. Armand Maurer [Toronto: Pontifical Institute of Mediaeval Studies, 1968], 46). And that is why we can predicate the essence abstracted without precision of an individual. In contrast, abstracting “human” *with precision* from Socrates and Plato, does not merely ignore the individual properties of Socrates and Plato, but instead cuts them out irrevocably from the conceptual content. As a result, we have a purely abstract notion of “human,” which Aquinas usually designates by using the word *humanitas* (“humanity”). The positive focused on content of “humanity” is also rational animal, but designated or individual matter has been cut out completely and irrevocably, leaving only undesignated matter in the conceptual content. The result is something that can only exist in a mind, and therefore we cannot predicate it of an individual such as Socrates. This is because if were to predicate “humanity” of Socrates we would be claiming that Socrates is not an individual being, but an abstract being, which is absurd and false.

of all and leading to a knowledge of all insofar as they are men. Because it has this relation to all individual men, the intellect discovers the notion of species and attributes it to the nature.²⁵

It is important that we not interpret this passage to mean that after one act of abstraction a person acquires a perfect knowledge of the nature or essence. Instead, a person first acquires a general grasp of the nature, which gets refined over time through additional experience and argument.²⁶ Indeed, as Aquinas says, “the proper object of the human intellect is the quiddity [or nature] of a material thing, which comes under the action of the senses and the imagination.”²⁷ Because of our reliance on the senses and imagination, we cannot know the nature or essence directly. Instead, we must rely on proper accidents, which are observable characteristics, in order to know the essence to some degree. Concerning proper accidents, Aquinas says that such accidents “indicate or afford knowledge of the essence, as the proper effects afford knowledge of a cause.”²⁸

Second, as the above excerpt makes clear, the notion of species is dependent on the abstracted nature for Aquinas. This is because species is merely an accident we attach to the abstracted nature in our mind when it is understood in relation to individuals in the world as their likeness. In this example, the abstracted nature is *human* and its content is *rational animal*. When a person relates the content *rational animal* to individuals in the world, such as John and Mary, the intellect forms the notion of species. As Aquinas says, “the notion of species is one of the

²⁵ Aquinas, *De Ente et Essentia*, 48.

²⁶ For more on this topic, see Benjamin M. Block, “Thomas Aquinas on How We Know Essences: The Formation and Perfection of Concepts in the Human Intellect” (PhD diss., Catholic University of America, 2019).

²⁷ Aquinas, *Summa Theologiae*, I, q. 85, a. 5, ad 3, trans. Shapcote, 357.

²⁸ Thomas Aquinas, *De Veritate*, q. X, a. 1, ad 6, in *Truth*, vol. 2: *Questions X–XX*, trans. James V. McGlynn, S.J. (Indianapolis, Ind.: Hackett, 1994), 8.

accidents that follow upon the nature because of the being it has in the intellect.”²⁹

Third, although to speak of “nature” and “essence” is to use different terminology, an abstracted nature or essence has the same core content, which, in the case of abstracting *human*, is *rational animal*. The basis for the different terminology concerns how we relate that core content. For instance, Aquinas notes that word “nature” is used to talk about “the essence of a thing as directed to its specific operation.”³⁰ In this way, the philosophy of nature, or physics, studies changing material things in the extra-mental world through abstracted natures.³¹ However, we can also consider human nature in relation to its potentiality to exist. Here we would use the word “essence” because through the essence and in it, that which is has being.³² In this way, essence is related to the science of metaphysics, which studies things insofar as they exist.

Next, Polis lays out his way of harmonizing the biological notion of species with Aquinas’ notion of species. Although he wants to avoid nominalism and defend the moderate realism of Aquinas, Polis begins by arguing that “[a] species . . . is not an *ens reale* [an extra-mental being], but an *ens rationis* [a being of reason].”³³ He defends this position

²⁹ Aquinas, *De Ente et Essentia*, 58.

³⁰ *Ibid.*, 32.

³¹ “Natures of this sort, thus abstracted, can be considered in two ways. First, in themselves; and then they are thought of without motion and determinate matter. This happens to them only by reason of the being they have in the intellect. Second, they can be viewed in relation to the things of which they are the natures; and these things exist with matter and motion. Thus they are principles by which we know these things, for everything is known through its form. Consequently, in natural science we know mutable and material things existing outside the soul through natures of this kind; that is to say, natures that are immobile and considered without particular matter.” Aquinas, *Expositio super Librum Boethii de Trinitate*, 29.

³² Aquinas, *De Ente et Essentia*, 32.

³³ Polis, “The Compatibility of Evolution and Classical Metaphysics,” 570.

by employing the passage directly prior to the previously cited passage in *On Being and Essence*:

[I]t cannot be said that the notion of genus or species applies to human nature insofar as it exists in individuals; for in the individuals human nature does not have the sort of unity according to which it is some single thing pertaining to all, which the notion of universals requires.

It remains, therefore, that the notion of species applies to human nature insofar as it exists in the intellect.³⁴

Because Polis believes that species only exist in a human intellect as concepts, he argues that, properly speaking, species cannot change “because they lack a material principle to serve as a principle of continuity.”³⁵ Nevertheless, he holds that species can evolve because the evolution of species “does not mean that an *ens rationis* changes, but that a biological population instantiating to one species concept is succeeded by a population no longer instantiating that concept. . . . [T]he new population is the *fundamentum in re* for a new concept—the evolved species.”³⁶

Having noted earlier in his article that for Darwin “new species emerge as the cumulative result of small variations,” Polis proposes to use accidents in Thomistic metaphysics to account for how a population instantiates a new species concept.³⁷ He says that a “sufficient difference in accidents will engender a different species concept.”³⁸ And because “there are no actual concepts in material beings,” Polis argues that humans, as intelligent agents, can choose which properties of the

³⁴ Thomas Aquinas, *De Ente et Essentia*, trans. Gyula Klima, in *Medieval Philosophy: Essential Readings with Commentary*, ed. Gyula Klima, Fritz Allhoff and Anand Jayprakash (Malden, Mass.: Blackwell Publishing, 2007), 237. Aside from this passage, all other quotations from *De Ente et Essentia* are taken from Maurer’s translation.

³⁵ Polis, “The Compatibility of Evolution and Classical Metaphysics,” 570.

³⁶ *Ibid.*, 570–571.

³⁷ *Ibid.*, 553.

³⁸ *Ibid.*, 571.

population they want to focus on when producing a concept of a species:

Nothing . . . prohibits alternative classification schemes apportioning individuals among species in different ways. In an alternative scheme, some notes essential in the original scheme are accidental and vice versa. For example, one might use a morphological perspective to say that all gray squirrels are one species, or the fruitful inter breeding criterion to say that west coast squirrels and east coast squirrels are different species. Again, as long as each taxonomic scheme is adequately founded in reality, this is a moderate realist, not a nominalist, position.³⁹

However, in holding that humans can produce different concepts of a species such that in one scheme a property that is essential to a given population is viewed as accidental to the same population in a different scheme, Polis' position seems to succumb to a kind of relativism. Let us examine this next.

The Problem of Relativism

Hair color is an accident possessed by human beings. But both Aristotle and Aquinas would agree it is a mistake to divide my students, for example, into different species based on brunette, blond, and red hair color. Indeed, their refusal to do so is based on their commitment to the real distinction between substance and accident in existing things.⁴⁰ Furthermore, I would argue that Thomistic metaphysics loses

³⁹ *Ibid.*, 572.

⁴⁰ In his *Commentary on Aristotle's Physics*, Aquinas agrees with Aristotle that we should not deny the existence of substantial forms. Commenting on ancient materialists, Aquinas says the following in section 150 of his commentary: "This position [materialism] is in part true and in part false. With reference to the point that matter is the substance and the nature of natural things, it is true. For matter enters into the constitution of the substance of each natural thing. *But insofar as they said that all forms are accidents, this position is false*" (Aquinas, *In octo libros Physicorum expositio*, 81; my emphasis). Obviously, if the only kinds of forms in matter are accidental forms, then the substance-accident distinction collapses.

its Thomistic character if this important distinction is denied. Therefore, in order to be faithful to Thomistic metaphysics, Polis must find a way to defend this distinction.

Unfortunately, I do not see how this is possible. By allowing humans to choose which properties count as essential or accidental when producing a concept of a given species, he seems to be implicitly rejecting the reality of the substance-accident distinction in existing things. In order to maintain the distinction, Polis would have to affirm the reality of substance and substantial forms. But, instead, he criticizes Fr. Chaberek for holding that individuals of same species have the same substantial form, invoking the previously cited passage from *De Ente et Essentia*:

There is one more point, *i.e.*, Fr. Chaberek's claim that individuals of the same species have "the same substantial form." What is the meaning of this? How can we know when one substantial form is the same as another, given ubiquitous accidental variations? Finally, how does this accord with Aquinas' position, quoted above, that "in the individuals human nature does not have the sort of unity according to which it is some single thing pertaining to all"?⁴¹

It seems that Polis is interpreting that last sentence from *On Being and Essence* to mean that individual human beings do not have the same substantial form or the same nature.⁴² Unfortunately, I think Polis is confusing having the same *individual* substantial form, with having the same *kind* of substantial form. Indeed, Aquinas is clear that everything in Socrates is individual and therefore Socrates and Plato do not share

⁴¹ Polis, "The Compatibility of Evolution and Classical Metaphysics," 572.

⁴² For Aquinas, when talking about composite substances, nature is not identical to substantial form alone. This is because the essence of a composite substance includes both substantial form and matter. See Aquinas, *De Ente et Essentia*, 35. But, clearly, since matter is potentiality, substantial form is the primary and dominant part of the nature of a composite substance.

the same *individual* substantial form or nature.⁴³ But Aquinas is also clear that Socrates and Plato, and every other human being, have the same kind of nature and so we can truly predicate *human* of Socrates and Plato. Aquinas is able to make sense of all of this because of his existential revolution in metaphysics, which helped him to solve the problem of universals.

The first part of his existential revolution in metaphysics, concerns his insight that being (existence) applies to natures and essences only accidentally. The same is true of unity, which Aquinas holds is convertible with being.⁴⁴ Indeed, in *On Being and Essence*, Aquinas argues that human nature in itself, which he calls the nature “considered absolutely,” has no being or unity proper to it. Instead, it is neutral with respect to all kinds of being:

[A] nature or essence can be considered in two ways. First, absolutely, according to its proper meaning. In this sense nothing is true of it except what belongs to it as such; whatever else may be attributed to it, the attribution is false. . . . In a second way a nature or essence can be considered according to the being it has in this or that individual. In this way something is attributed to it accidentally, because of the subject in which it exists, as we say that man is white because Socrates is white, though this does not belong to man insofar as he is man. This nature has a twofold being: one in individual things and the other in the soul, and accidents follow upon the nature because of both beings. In individuals, moreover, the nature has a multiple being corresponding to the diversity of individuals; but none of these beings belongs to the nature from the first point of view, that is to say, when it is considered absolutely. It is false to say that the essence of man . . . [considered absolutely] has being in this individual: [for] if it belonged to man as man to be in this individual it would never exist outside the individual. On the other hand, if it belonged to man as man not to exist in this individual, human nature would never exist in it. It is true to say, however, that it does not belong

⁴³ Aquinas, *De Ente et Essentia*, 47.

⁴⁴ Aquinas, *Summa Theologiae*, I, q. 11, a. 1; *De Veritate*, q. XXI, a. 1.

to man as man to exist in this or that individual, or in the soul. So it is clear that the nature of man, considered absolutely, abstracts from every being (*esse*), but in such a way that it prescind from [*i.e.*, excludes] no one of them; and it is the nature considered in this way that we attribute (*praedicatur*) to all individuals.⁴⁵

This passage is important for several reasons. First, it shows the importance of the substance-accident distinction. Human nature considered in itself, or absolutely, abstracts from accidents such as color. Second, as the last line indicates, it is human nature considered absolutely that we predicate of each and every human individual. That is, strictly speaking, we do not predicate “species” of individual human beings. Indeed, a few paragraphs later in *On Being and Essence*, Aquinas says the following.

Because it is human nature absolutely considered that is predicated of Socrates, this nature does not have the character of a species when considered absolutely; this is one of the accidents that accompany it because of the being it has in the intellect. That is why the term “species” is not predicated of Socrates, as though we were to say “Socrates is a species.” This would necessarily happen, however, if the notion of species belonged to man in his individual being in Socrates, or according to his absolute consideration, namely insofar as he is man; for we predicate of Socrates everything that belongs to man as man.⁴⁶

Third, by arguing that existence applies to natures only accidentally, Aquinas was able to unmask as illegitimate the question of whether universals exist in reality or thought alone.⁴⁷ As Jorge J. E. Gracia notes, Aquinas’ masterstroke was to reject the metaphysical assumption that existence applies to universals, which was implicit in Porphyry’s framing of the problem in his influential introduction to Aristotle’s *Catego-*

⁴⁵ Aquinas, *On Being and Essence*, 46–47.

⁴⁶ *Ibid.*, 49.

⁴⁷ For a good discussion of the problem of universals in medieval philosophy, along with a translation of the most important texts, see Paul Vincent Spade, ed. and trans., *Five Texts on the Mediaeval Problem of Universals: Porphyry, Boethius, Abelard, Duns Scotus, Ockham* (Indianapolis, Ind.: Hackett, 1994).

ries.⁴⁸ Indeed, by holding that natures, such as *human*, are existentially neutral—in other words, that existence is accidental to them—Aquinas is able to predicate *human* identically of each and every individual human that exists. As Joseph Owens has argued, only a nature that is “completely devoid of being can be predicated of many individuals in thoroughgoing identity with each.”⁴⁹

The other part of Aquinas’ existential revolution in metaphysics concerns his demonstration that existence and essence are really distinct in creatures.⁵⁰ This also helps to explain how the human essence or nature can be the same in Socrates and Plato and also the same in the human intellect when a person understands human nature. The point is that, in these cases, the nature is the same—the same in kind, not in individuality—however the act of existence (*esse*) is different. Human nature has a physical act of existence in Socrates and a mental act of existence when a person thinks about human nature.

If Polis is indeed rejecting the view that individuals of the same species have the same substantial form, then I cannot see how Polis can maintain the substance-accident distinction in an objective sense. Substantial form and nature, which are different but related, both concern

⁴⁸ Jorge J. E. Gracia, “Cutting the Gordian Knot of Ontology: Thomas’s Solution to the Problem of Universals,” in *Thomas Aquinas and His Legacy*, ed. David M. Gallagher (Washington, D.C.: Catholic University of America Press, 1994), 35–36.

⁴⁹ Joseph Owens, *An Elementary Christian Metaphysics* (Houston, Tex.: Center for Thomistic Studies, 1985), 134.

⁵⁰ Aquinas discusses his route to the real distinction as follows: “Now it has been shown above (q. 3, a. 4) when treating of the divine simplicity that God is the essentially self-subsisting Being; and also it was shown (q. 11, aa. 3, 4) that subsisting being must be one . . . Therefore all beings apart from God are not their own being [that is, existence and essence are non-identical, or really distinct, in creatures], but are beings by participation” (Aquinas, *Summa Theologiae*, I, q. 44, a. 1, reply, trans. Shapcote, 452). For a good discussion of the relationship between the real distinction and the doctrine of participation, see Joseph Owens, “Quiddity and Real Distinction,” *Mediaeval Studies* 27, no. 1 (1965): 16–17.

the properties a being possesses necessarily.⁵¹ For example, the substantial form of living beings accounts for them being alive. In contrast, accidental properties, such as color, are not possessed necessarily. One does not have to have red hair to be human. Without substantial forms or natures in individuals, then, whether a property is viewed as accidental or not is solely left up to the human forming his or her concept of a given species. And this seems to be what Polis argues. He says that different human concepts of a given species can be “equally objective” and that we should try to include as many different perspectives as possible:

Psychological studies have shown that we can only maintain 5–9 “chunks” of information in our working memories. This means that our phantasms cannot represent perceived objects, or even our sensations, exhaustively. So, in abstraction, we fix on some notes of intelligibility to the exclusion of others. In other words, we have universal concepts, such as species and genera, to scale the complexity of nature down to our limited representational capacity. . . . To the extent that individuals choose to fix upon different aspects of being, they will have different, equally objective, conceptual spaces. Wilkins’ twenty-six proposed species definitions is an example. While alternative conceptual spaces may be equally objective, none are exhaustive, because each leaves innumerable notes of intelligibility unactualized. This suggests that we broaden our thinking by including as many perspectives as possible.⁵²

Unfortunately, this is a kind of relativism that is incompatible with Aquinas’ epistemology and metaphysics. On the epistemological side, Aquinas agrees that humans struggle to understand the specific differences that divide genera into species. For example, in the *Summa Theologiae* he says, “Substantial differences being unknown to us, or at least unnamed by us, it is sometimes necessary to use accidental differ-

⁵¹ See note 42 above.

⁵² Polis, “The Compatibility of Evolution and Classical Metaphysics,” 575.

ences in the place of substantial; as, for example, we may say that fire is a simple, hot, and dry body: for proper accidents are the effects of substantial forms, and make them known.”⁵³

But just because humans, for epistemological reasons, struggle to understand a given species does not mean that the individual members of a given species do not share the same kind of substantial form, or the same nature, as Polis argues. Indeed, Aquinas affirms the existence of substantial forms above. Additionally, Aquinas is clear that only *proper* accidents make substantial forms known. As such, humans cannot use just any kind of accident when trying to understand a given species. However, Polis never seems to distinguish *proper* and *improper* accidents when he says “a sufficient difference in accidents will engender a different species concept.”

On the metaphysical side, Polis’ view is alienated from objective truth insofar as humans are now the measure of species and their demarcations. That is, humans can carve up species in dozens of ways based on any kinds of accidents observable in the world—and such views are held to be “equally objective.” If Polis argued that God is the ultimate ground of natures and species, he could try to avoid this relativism, but he explicitly rejects this position. This leads to the problem of nominalism, which we will examine next.

The Problem of Nominalism

As we have seen, Polis has an epistemological notion of species as *beings of reason* that only exist in the human mind. Based on this, he argues that species “cannot be ‘permanent elements of the universe’.”⁵⁴ In making this point, he says that as human populations migrated and

⁵³ Aquinas, *Summa Theologiae*, I, q. 29, a. 1, ad 3, trans. Shapcote, 309.

⁵⁴ Polis, “The Compatibility of Evolution and Classical Metaphysics,” 573.

encountered “new flora and fauna . . . new species concepts formed.”⁵⁵ But, then he adds that “Not long after the last woolly mammoth died, humans forgot their species until its fossil remains were discovered. So species concepts come to be and pass away. Any permanence they have is potential rather than actual.”⁵⁶

As mentioned earlier, Polis wants to avoid nominalism, and he wants to base species on the properties of populations in reality. However, by reducing species to human concepts, and by denying that natures and species are ultimately grounded in God, his position results in a kind of nominalism. He tries to avoid this conclusion by arguing that “Nominalism maintains that universals are mere names, reflecting no underlying reality.”⁵⁷ But this argument is unsuccessful for two reasons.

First, by denying that individual members of a given species have the same kind of substantial form, and by allowing humans to focus on different properties that lead to different conceptions of a given species that are “equally objective,” Polis has gutted most of the “underlying reality.”

Second, apart from a few thinkers, such as Roscelin, nominalists in the Middle Ages did not hold that universals were mere names or words. It was far more common for nominalists to hold that universals were concepts in the mind and that they were referred to by words. For example, William of Ockham says that the subject of a scientific proposition “is a mental content (*intentio*) or a word.”⁵⁸ In order to clarify his position, he discusses the following objection: “Since philosophy . . . is a real science, it must be about real things [*i.e.*, things existing outside

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*

⁵⁷ *Ibid.*, 569.

⁵⁸ William of Ockham, *Prologus in Expositionem super vii libros Physicorum*, in *Ockham: Philosophical Writings*, ed. and trans. Philotheus Boehner, O.F.M., revised by Stephen F. Brown (Indianapolis, Ind.: Hackett, 1990), 12.

of the mind]. Consequently, it is not about mental contents.”⁵⁹ To this objection he replies: “A real science is not about things, but about mental contents standing for things.”⁶⁰

Indeed, Polis’ view of a species as an *ens rationis* is similar to Ockham’s view of mental contents.⁶¹ And by denying that individuals of the same species have the same kind of substantial form, the only thing that is common to individual members of a species, for Polis, is the concept of that species in the human intellect. This is very similar to Ockham who says “Properly speaking, the science of nature is about mental contents which are common to such things, and which stand precisely for such things in many propositions.”⁶²

Unlike Polis, Aquinas can avoid nominalism and defend moderate realism for two reasons—first, because of his existential insights, discussed earlier, and, second, because God, as exemplar cause, is the ultimate ground of the natures of things.⁶³ With respect to the first reason, the abstracted nature, upon which the notion of species is dependent, can be considered as existentially neutral, which allows it to be predicated of all the individual members of the species. This is further strengthened by Aquinas’ demonstration of the real distinction between

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*

⁶¹ Polis’ view of a species as an *ens rationis* is also similar to John Locke’s nominal essences: “I would not here be thought to forget, much less to deny, that Nature in the Production of Things, makes several of them alike: there is nothing more obvious, especially in the Races of Animals, and all Things propagated by Seed. But yet, I think, we may say, the *sorting* of them under Names, is the *Workmanship of the Understanding*, taking occasion from the *similitude* it observes amongst them, to make abstract general *Ideas*, and set them up in the mind, with Names annexed to them, as Patterns, or Forms, (for in that sence the word Form has a very proper signification,) to which, as particular Things existing are found to agree, so they come to be of that Species, have that Denomination, or are put into that *Classis*.” John Locke, *An Essay Concerning Human Understanding*, ed. Peter H. Nidditch (Oxford: Clarendon Press, 1975), 415.

⁶² Ockham, *Prologus in Expositionem super vii libros Physicorum*, 11.

⁶³ Aquinas, *Summa Theologiae*, I, q. 15, a. 3, reply; I, q. 44, a. 3, reply.

being and essence in creatures, which helps explain how the same kind of essence or nature can exist in multiple instances and how it can acquire different kinds of existence (mental and physical). Taken together, these insights allow individual members of a given species to be the proximate ground from which we abstract our notion of the nature in question and add to it the accident of species. Thus, for Aquinas, it is the *nature* that is common, not merely the *concept of the nature*, as for Polis.

With respect to the second reason, God provides an eternal and unchanging ground for all natures and species. The woolly mammoth might pass away, and human concepts of the woolly mammoth might pass away, but God eternally knows the nature of the woolly mammoth. As Aquinas says in *De Veritate*, “Even if there were no human intellects, things could be said to be true because of their relation to the divine intellect.”⁶⁴ Therefore, because God is the ultimate ground of the natures of things, which bypasses the need for any concepts in a human mind, Aquinas’ position is a kind of realism, not nominalism.

However, Polis thinks that God cannot be the ultimate ground of species for two reasons. First, because he thinks that univocal predication is not possible of divine ideas and human conceptions of species, and second, because God is absolutely simple and thus no multiplicity of ideas can exist in God:

A possible ground for permanence might be neoplatonic exemplar ideas, *e.g.*, Augustine’s eternal types encountered earlier. This seems to be what Fr. Chaberek has in mind, for he says, “even if all chickens in the world were destroyed, there still exists the idea of a chicken in the divine intellect . . .” Of course, this is not a moderate realist position, but some version of neoplatonic extreme realism. While St. Thomas affirms divine types, his position does not support a univocal “idea of a chicken in the divine intellect.” Univocal predication is critical here. Primarily,

⁶⁴ Aquinas, *De Veritate*, q. I, a. 2, reply, trans. Mulligan, 11.

“species” refers to an *ens rationis* in the human mind. If that is not univocally what is in God’s mind, we can not unqualifiedly say that there “exists the idea of a chicken in the divine intellect.” Since we can only speak of God analogically, His exemplar “ideas” are only analogous to human ideas . . . While it may seem from this that there are distinct ideas for each species in God’s mind, that is impossible, for there are no distinctions in God. Rather, “God is the similitude of all things according to His essence; therefore an idea in God is identical with His essence.” Of course, God’s essence is His existence and absolutely simple. Whether God were to create ensembles of identical creatures, or make each organism *sui generis*, He would fully intend each creation and so have exemplar ideas in Aquinas’ sense. Thus, the Angelic Doctor’s position on types or exemplar ideas provides neither support for universal ideas in God, nor an objection to the evolution of species.⁶⁵

However, Polis is simply wrong, in several ways, about Aquinas’ metaphysics in the above excerpt. First, there is no reason to talk about “extreme realism” here. Extreme realism is usually associated with Plato and Subsistent Ideas, and this is a view that Aquinas rejects.⁶⁶ Second, Polis misconceives of the Divine ideas in the mind of God. With respect to God’s simplicity, talking about Divine ideas in God that correspond to the natures of creatures should not be taken literally as a multiplicity, but analogously. Perhaps no one has expressed this more eloquently than Fr. John F. Wippel, who wrote the following.

A divine idea is not something which is really distinct from the divine essence. It is simply a way in which God views himself, that is, his essence, as capable of being imitated by a creature.

⁶⁵ Polis, “The Compatibility of Evolution and Classical Metaphysics,” 573–574.

⁶⁶ “It was the difficulty of this problem that drove Plato to posit Ideas. Believing that all sensible things were always in flux, as Cratylus and Heraclitus taught, he thought there can be no science concerning them, as the Philosopher says in the *Metaphysics*. So he claimed that there were substances separated from the sense world, which might serve as the objects of science and of definitions. *He [Plato] made this mistake* because he failed to distinguish what is essential from what is accidental.” Aquinas, *Expositio super Librum Boethii de Trinitate*, 27; my emphasis.

And when conjoined with a decision on the part of the divine will, a divine idea becomes productive, resulting in the creation of an actually existing creature at some point in time. But if a divine idea is really identical with the divine essence, so is a divine “intention” (decision) to produce a given creature. Neither introduces real multiplicity or composition into God.⁶⁷

With respect to the issue of univocal predication, Polis believes a species “primarily” refers “to an *ens rationis* in the human mind,” and therefore he thinks that concepts univocal to human concepts must exist in God’s mind for God to be the ultimate ground of species. And, as we have seen above, Polis tries to invoke Aquinas’ teaching on analogy to argue against this possibility, saying: “‘species’ refers to an *ens rationis* in the human mind. If that is not univocally what is in God’s mind, we can not unqualifiedly say that there ‘exists the idea of a chicken in the divine intellect’.”

However, Polis’ use of analogy is inappropriate here. It is true that nothing can be predicated of creatures and God univocally.⁶⁸ But, nevertheless, God is the metaphysical ground of all species because God is the ultimate cause of them and because these species are just different ways of (imperfectly) imitating God. In addition, God does not have to know species in the same way humans do for God to be the ultimate ground of biological species. As Aquinas explains, God can know the different species of things in a way that does not destroy God’s simplicity:

[I]t must needs be that in the divine mind there are the proper ideas of all things . . . Now it can easily be seen how this is not repugnant to the simplicity of God, if we consider that the idea of a work is in the mind of the operator as that which is understood, and not as the image whereby he understands, which is a form that makes the intellect in act. For the form of the house in the

⁶⁷ John F. Wippel, *Metaphysical Themes in Thomas Aquinas II* (Washington, D.C.: The Catholic University of America Press, 2007), 64.

⁶⁸ Aquinas, *Summa Theologiae*, I, q. 13, a. 5, reply.

mind of the builder, is something understood by him, to the likeness of which he forms the house in matter. Now, it is not repugnant to the simplicity of the divine mind that it understand many things; though it would be repugnant to its simplicity were His understanding to be formed by a plurality of images. Hence many ideas exist in the divine mind, as things understood by it; as can be proved thus. Inasmuch as He knows His own essence perfectly, He knows it according to every mode in which it can be known. Now it can be known not only as it is in itself, but as it can be participated in by creatures according to some degree of likeness. But every creature has its own proper species, according to which it participates in some degree in likeness to the divine essence. So far, therefore, as God knows His essence as capable of such imitation by any creature, He knows it as the particular type and idea of that creature; and in like manner as regards other creatures. So it is clear that God understands many particular types of things and these are many ideas.⁶⁹

So, contrary to Polis, God is the eternal metaphysical ground or foundation of the natures of creatures, and therefore also of biological species. Humans, as finite beings, and relying on the senses and abstraction, can come to know the species of things to some degree, but God's perfect and eternal understanding of the species of things is the measure of truth with respect to human understanding of the species of things. For this reason, it is a mistake, as Polis does, to identify the ultimate ground of the species of creatures with the imperfect conception of these species that exist in the human intellect.

In addition, and more seriously, by denying that God has universal ideas of the natures and species of creatures, Polis' view is incompatible with God's perfection. As Aquinas explains, "God could not be said to know Himself perfectly unless He knew all the ways in which His own perfection can be shared by others. Neither could He know the very nature of being perfectly, unless He knew all modes of being. Hence it is manifest that God knows all things with proper knowledge,

⁶⁹ *Ibid.*, I, q. 15, a. 2, reply, trans. Shapcote, 175.

in their distinction from each other.”⁷⁰ As such, Polis’ inability to account for God’s perfection, by itself, is enough to disqualify his view as being compatible with Thomistic metaphysics.

But why does Polis have such a problem with Divine ideas? It seems he holds that Divine ideas in God are incompatible with the evolution of biological species over time. One clue to this was when he said above that “the Angelic Doctor’s position on types or exemplar ideas provides neither support for universal ideas in God, nor an objection to the evolution of species.” Another clue comes from a passage in his book, *God, Science, and Mind: The Irrationality of Naturalism*:

Contrary to Aquinas, universal ideas, including exemplars, have no place in the Divine Mind. God knows creation by knowing His act of maintaining it in being, not mediately via ideas incompatible with Divine Simplicity. Consequently, God has no generic “design plans” like those of human designers. God knows and creates singulars, not universals . . . By eliminating exemplar ideas or fixed “species designs,” we eliminate the philosophical rationale for fixed species. Since God knows and creates each being in its unique singularity, there is no theological difficulty in members of a species varying at any epoch or evolving over time.⁷¹

However, Polis is mistaken to think that Divine ideas and the biological evolution of species are incompatible. God’s understanding is eternal.⁷² That is, God knows all the species that have existed in the world and all that will ever exist. God knows, perfectly, for a given species which properties are accidental and which are essential—even if we, as humans, do not. And God knows perfectly the historical evolutionary relationships among species. None of this is incompatible with God using secondary causes to bring about new species. And none of this is incompatible with scientific discoveries in evolutionary biology.

⁷⁰ *Ibid.*, I, 14, 6, reply, trans. Shapcote, 155.

⁷¹ Polis, *God, Science and Mind*, viii.

⁷² Aquinas, *Summa Theologiae*, I, q. 10.

In addition, nothing discovered by evolutionary biologists precludes evolution having a goal, such as the production of human beings. Indeed, Polis affirms that the human rational soul cannot evolve through changes in matter, and yet God saw fit to unite such a soul to living physical bodies. This is compatible with God having a goal for evolution—a view that biologists cannot rule out *a priori*, as noted by the International Theological Commission, who based their argument on Aquinas’s metaphysics:

[T]rue contingency in the created order is not incompatible with a purposeful divine providence. Divine causality and created causality radically differ in kind and not only in degree. Thus, even the outcome of a truly contingent natural process can nonetheless fall within God’s providential plan for creation. According to St. Thomas Aquinas: “The effect of divine providence is not only that things should happen somehow, but that they should happen either by necessity or by contingency. Therefore, whatsoever divine providence ordains to happen infallibly and of necessity happens infallibly and of necessity; and that happens from contingency, which the divine providence conceives to happen from contingency” (*Summa Theologiae*, I, 22, 4 ad 1). In the Catholic perspective, neo-Darwinians who adduce random genetic variation and natural selection as evidence that the process of evolution is absolutely unguided are straying beyond what can be demonstrated by science. Divine causality can be active in a process that is both contingent and guided. Any evolutionary mechanism that is contingent can only be contingent because God made it so. An unguided evolutionary process—one that falls outside the bounds of divine providence—simply cannot exist because “the causality of God, Who is the first agent, extends to all being, not only as to constituent principles of species, but also as to the individualizing principles. . . . It necessarily follows that all things, inasmuch as they participate in existence [*esse*], must likewise be subject to divine providence” (*Summa Theologiae* I, 22, 2).⁷³

⁷³ International Theological Commission, “Communion and Stewardship: Human Persons Created in the Image of God,” 2004, chapter 3, 1, 69; available online—see the section *References* for details.

Conclusion

In the end, Polis' defense of the compatibility of biological evolution and Aquinas' metaphysics, while well-intended, is unfaithful to the Thomistic tradition of metaphysics. He misunderstands Aquinas' division of the sciences and the special role that metaphysics has in the hierarchical structure of the sciences. His concept of a species as an *ens rationis* constructed by human choice, and his rejection of substantial forms, is incompatible with the substance-accident distinction and leads to a kind of relativism. Polis fails to grasp the dependence of the notion of species on the abstracted nature and its relation to Aquinas' existential insights about the nature considered absolutely and the real distinction between being and essence in creatures. By denying that God is the ultimate ground of biological species, and by making the human intellect the ultimate ground of them, Polis puts forth a kind of nominalism that is incompatible with the moderate realism of Aquinas. More seriously, Polis' rejection of Aquinas' teaching on Divine ideas, implies that God lacks universal ideas of the natures and species of creatures, which entails that God's knowledge, and therefore God Himself, is imperfect. This, by itself, is enough to disqualify his defense as Thomistic.

Certainly, the relationship between biological evolution and Thomistic metaphysics is a difficult and complex one. It is the kind of topic that requires interdisciplinary dialogue between scientists and metaphysicians. Although I have barely scratched the surface, I hope this essay has been helpful in pointing the way to a better defense of the compatibility of biological evolution and Thomistic metaphysics. I certainly agree with Polis that such a defense is needed. But while we agree on the destination, we disagree on how to get there.

Acknowledgements

I would like to thank Marie George and Christopher Apodaca for reading a draft of this article and offering helpful comments. *Et Deo gratias.*



The Compatibility of Evolution and Thomistic Metaphysics: A Reply to Dennis F. Polis

SUMMARY

In this article the author discusses Dennis F. Polis' defense of the compatibility of biological evolution and Thomistic metaphysics. Some of Polis' methodological and metaphysical arguments are examined and it is explained why they are unfaithful to the Thomistic tradition of metaphysics. There is a discussion of why metaphysics can, within certain parameters, critique the science of evolutionary biology, as well as a discussion of the role of metaphysics in the hierarchy of the sciences. The relationship between biological species to the notion of species in philosophy, including related metaphysical topics, such as essences and Divine ideas in God, is discussed. It is determined that Polis' view suffers from a kind of relativism and nominalism that is incompatible with the moderate realism of Aquinas. Some of Aquinas' key existential insights in metaphysics are discussed in this context as well. In addition to being corrective, this essay helps point the way to a better defense of the compatibility of biological evolution and Thomistic metaphysics.

KEYWORDS

God, Thomism, Thomas Aquinas, Thomistic metaphysics, natural philosophy, biological evolution, theistic evolution, science, scientific methodology, relationship of the sciences, abstraction, species, nature, essence, Divine idea, exemplar cause, *ens rationis*, substance, accident, substantial form, nature considered absolutely, real distinction between being and essence, relativism, realism, nominalism.

REFERENCES

Aquinas, Thomas. *De Ente et Essentia* [On Being and Essence]. Translated by Gyula Klima. In *Medieval Philosophy: Essential Readings with Commentary*, edited by Gyula Klima, Fritz Allhoff and Anand Jayprakash, 227–249. Malden, Mass.: Blackwell Publishing, 2007.

- Aquinas, Thomas. *De Ente et Essentia*. In *On Being and Essence*. Translated by Armand Maurer, 2nd rev. ed. Toronto: Pontifical Institute of Mediaeval Studies, 1968.
- Aquinas, Thomas. *Expositio super librum Boethii De Trinitate, Q. 5 & 6*. In *The Division and Methods of the Sciences*. Translated by Armand Maurer, 4th rev. ed. Toronto: Pontifical Institute of Medieval Studies, 1986.
- Aquinas, Thomas. *In duodecim libros Metaphysicorum expositio*. In *Commentary on Aristotle's Metaphysics*. Translated by John P. Rowan. Notre Dame, Ind.: Dumb Ox, 1995.
- Aquinas, Thomas. *In octo libros Physicorum expositio*. In *Commentary on Aristotle's Physics*. Translated by Richard J. Blackwell, Richard J. Spath, and W. Edmund Thirlkel. Notre Dame, Ind.: Dumb Ox, 1999.
- Aquinas, Thomas. *Quaestiones disputate De veritate*. In *Truth*, vol. 1. Translated by Robert W. Mulligan. Indianapolis, Ind.: Hackett, 1994.
- Aquinas, Thomas. *Quaestiones disputate De veritate*. In *Truth*, vol. 2. Translated by James V. McGlynn, S.J. Indianapolis, Ind.: Hackett, 1994.
- Aquinas, Thomas. *Summa Theologiae*. In *Summa Theologiae: Prima Pars, 1–49*. Translated by Laurence Shapcote, edited by John Mortensen and Enrique Alarcón. Lander, Wyo.: Aquinas Institute for the Study of Sacred Doctrine, 2012.
- Aquinas, Thomas. *Summa Theologiae*. In *Summa Theologiae: Prima Pars, 50–119*. Translated by Laurence Shapcote, edited by John Mortensen and Enrique Alarcón. Lander, Wyo.: Aquinas Institute for the Study of Sacred Doctrine, 2012.
- Block, Benjamin M. “Thomas Aquinas on How We Know Essences: The Formation and Perfection of Concepts in the Human Intellect.” PhD diss., Catholic University of America, 2019.
- Chaberek, Michal. “Classical Metaphysics and Theistic Evolution: Why Are They Incompatible?” *Studia Gilsoniana* 8, no. 1 (January–March 2019): 47–81. DOI: 10.26385/SG.080102.
- Cullen, Christopher M. “Transcendental Thomism: Realism Rejected.” In *The Failure of Modernism: The Cartesian Legacy and Contemporary Pluralism*, edited by Brendan Sweetman, 72–86. Washington, D.C.: Catholic University of America Press, 1999.
- Delfino, Robert A. “Scientific Naturalism and the Need for a Neutral Metaphysical Framework.” In *Science and Faith within Reason: Reality, Creation, Life and Design*, edited by Jaume Navarro, 43–59. Surrey, England: Ashgate, 2011.
- Gracia, Jorge, J. E. “Cutting the Gordian Knot of Ontology: Thomas’s Solution to the Problem of Universals.” In *Thomas Aquinas and His Legacy*, edited by David M. Gallagher, 16–36. Studies in Philosophy and the History of Philosophy Series, Volume 28. Washington, D.C.: Catholic University of America Press, 1994.
- International Theological Commission. “Communion and Stewardship: Human Persons Created in the Image of God,” 2004. Available online at: http://www.vatican.va/roman_curia/congregations/cfaith/cti_documents/rc_con_cfaith_doc_20040723_communion-stewardship_en.html. Accessed Jan. 10, 2021.

- Knasas, John F. X. *Being and Some Twentieth Century Thomists*. New York: Fordham University Press, 2003.
- Knasas, John F. X. *The Preface to Thomistic Metaphysics*. New York: Lang, 1990.
- Locke, John. *An Essay Concerning Human Understanding*, edited by Peter H. Nidditch. Oxford: Clarendon Press, 1975.
- Owens, Joseph. *An Elementary Christian Metaphysics*. Houston, Tex.: Center for Thomistic Studies, 1985.
- Owens, Joseph. "Aquinas on Knowing Existence." *The Review of Metaphysics* 29, no. 4 (June, 1976): 670–690.
- Owens, Joseph. "Quiddity and Real Distinction." *Medieval Studies* 27, no. 1 (1965): 1–22.
- Polis, Dennis F. *God, Science and Mind: The Irrationality of Naturalism*. Fontana, Calif.: Xianphil Press, 2012.
- Polis, Dennis F. "The Compatibility of Evolution and Classical Metaphysics." *Studia Gilsoniana* 9, no. 4 (October–December 2020): 549–585. DOI: 10.26385/SG.090424.
- Shanley, Brian J. "Analytical Thomism." *The Thomist* 63 (1999): 125–137.
- Spade, Paul Vincent, ed. and trans. *Five Texts on the Mediaeval Problem of Universals: Porphyry, Boethius, Abelard, Duns Scotus, Ockham*. Indianapolis, Ind.: Hackett, 1994.
- William of Ockham. *Prologus in Expositionem super vii libros Physicorum*. In *Ockham: Philosophical Writings*, edited and translated by Philotheus Boehner, O.F.M., revised by Stephen F. Brown. Indianapolis, Ind.: Hackett, 1990.
- Wippel, John F. *Metaphysical Themes in Thomas Aquinas II*. Washington, D.C.: The Catholic University of America Press, 2007.