

4. Religion and Science

In the days of Thomas Aquinas, the problem of the relationship between science and religion emerged acutely because of the influx of the full Aristotelian corpus of writings into the West. The central intellectual problem of the day was to determine whether this powerful, systematic, and pagan worldview (comprising what we would now call both philosophy and science) was compatible with the central theological claims of the Roman Catholic Church. *Prima facie*, it did not seem that Aristotelian philosophy was compatible because on at least two key points it held views at odds with the Church: (1) the world had no beginning and (2) individual human beings do not each have intellectual and immortal souls.¹ Thus the most developed science of the time seemed to contradict two central doctrines related to creation and rooted in the book of Genesis: (1) the creation *ex nihilo* of a world with a definite temporal beginning and (2) the special creation of man in the image of God as a rational and spiritual creature. It was one of Aquinas's major intellectual achievements to show that there was no real conflict between Aristotelian science and Christian doctrine. He was motivated by the basic conviction that there could be no genuine contradiction between the proven truths of science and the revealed truths of the faith because both truths ultimately were rooted in God. He showed that Aristotle's arguments for a world without a beginning did not have the force of a fully proven thesis or a demonstration according to the canons of Aristotelian science itself and so were not in direct conflict with revealed truth. Even if they were probative, however, it would still be possible to salvage creation *ex nihilo* because that doctrine is really a claim about the metaphysical relationship between God and the world rather than a scientific claim about the age of the universe.² When it came to the problem of the human

¹ It is important here to distinguish between Aristotle and Aristotelianism. While Aristotle himself clearly held the view that the world was eternal, his *De anima* teaching on the human soul is notoriously ambiguous on some central issues like the relationship of *nous* to individual human beings. An excellent overview of the debate about Aristotelianism in Aquinas's day is Fernand Van Steenburghen, *Thomas Aquinas and Radical Aristotelianism* (Washington, D.C.: The Catholic University of America Press, 1980).

² See John F. Wippel, "Thomas Aquinas on the Possibility of Eternal Creation," in his *Metaphysical Themes in Thomas Aquinas* (Washington, D. C.: The Catholic University of America Press, 1984), 191-214 and Wissink, ed., *The Eternity of the World in the Thought of Thomas Aquinas and his Contemporaries* (Leiden: E.J. Brill, 1990).

soul, Aquinas argued that a proper understanding of Aristotle's *De anima* did not contradict Christian anthropological doctrines when it was supplemented by a metaphysical account of the direct creation and infusion by God of a spiritual soul into the developing human organism.

While science has come a long way since the time of Aquinas, Thomists would generally argue that the logic of the problem and the major points of issue are still basically the same. First, there is the assumption that there can be no genuine deep inconsistency between the truths established by science and the truths believed in faith because both originate from God. This conviction will be explored in the first part of what follows. Second, scientific findings about the origins and age of the cosmos do not contradict Christian metaphysical convictions about God as Creator. It will be argued in the second part that it is still possible to do natural theology within the context of contemporary cosmology. Third, scientific accounts of the development of human life from sub-human forms do not contradict the Christian account of the special creation and infusion of the human soul by God. Just as Aquinas originally argued that the best naturalistic account of human nature could be made compatible with Christian doctrine when complemented with metaphysical considerations of the need to postulate a transcendent cause of spirit, so too can contemporary evolutionary accounts be reconciled with Christian claims in a similar way; this will be explored in the third part of the chapter.

I. THE HARMONY OF FAITH AND REASON, THEOLOGY AND SCIENCE³

Thomas Aquinas's fullest treatment of the relationship between Aristotelian philosophy and Christian thinking is his *Summa contra gentiles*. At the opening of that work he considers the fundamental nature of the relationship between faith and reason that guides his entire endeavor to appropriate Aristotelianism for the Christian mind, and that still governs Thomistic treatments of the relationship between theology and science.⁴ Aquinas begins by distinguishing between truths about God and the world (1) that can only be held by the mind through belief in divine revelation (e.g. the Trinity); (2) that can either be known or believed, but not both at the same time since these epistemic states are incompatible with respect to the same proposition (e.g. that God exists); and (3) that are known through reason alone (e.g. ordinary truths about the world having no direct bearing on salvation and so not revealed by God). He then goes on to argue that the truths that are believed on the basis of divine revelation can never be in contradiction with the truths that can be established by reason. His first major argument for compatibility is as follows:

But while these aforesaid [revealed] truths of the Christian faith exceed the capacity of human reason, nonetheless they cannot possibly be contrary to the truths that are naturally implanted in us. For what is naturally implanted in us is held to be most true, such that in these cases it is not even possible for us to think of them as false. But neither is it possible for us to think that what we

³ See the larger account of the relationship between faith and reason in Chapter Two.

⁴ See Kenneth J. Konyndyk, "Aquinas on Faith and Science," *Faith and Philosophy* 12 (1995): 3-21.

believe by faith could be false, since it is evidently confirmed by God. Accordingly, since only the false is contrary to the true, as is manifest from a consideration of their definitions, it is impossible that those principles that are naturally known by reason could be contrary to the truths of faith.⁵

The basic thrust of the argument is that since both revealed doctrines and natural knowledge are true, they must be compatible because all truths are compatible with each other. What is most notable about this argument is that it presupposes that both scientific knowledge and revealed doctrines make *truth* claims about what is the case in reality, and that all truths claims belong to a single, unified, and internally consistent domain. This rules out the possibility for a contemporary Thomist to try to reconcile the two domains through some version of non-cognitivism (religious and/or science does not make any genuine truth claims) or some kind of compartmentalism (where different frameworks produce different “truths”).

Aquinas’s second major argument for the compatibility of faith and reason is:

Whatever is induced in the soul of a learner by a teacher is contained in the knowledge of the teacher, unless the teacher teaches dishonestly, which is impossible for God. The principles that are naturally grasped by our minds are implanted in us by God because God is the author of our nature. Hence such principles are included in divine wisdom. Accordingly, whatever is contrary to principles of this kind is contrary to divine wisdom and cannot be from God. Thus whatever is believed in faith to be revealed by God cannot be contrary to what is known naturally.⁶

What is central to this argument is the claim that all truth ultimately derives from divine wisdom and therefore must be consistent. God’s wisdom is the source of revelation as its author and the source of natural knowledge as the creator of our intellects and the sensible natures that the intellect is designed to know. Aquinas presupposes that our cognitive capacities are specifically designed by God to be reliable powers for the attainment of truths about nature.⁷ God as author of both our intellects and the world that is their natural field of operation cannot contradict himself by revealing something that conflicts with what we have proven true on the basis of reason.

Aquinas therefore concludes:

From this it can be gathered that whenever arguments are set down against the teaching of the faith, these cannot be validly derived from the first principles of knowledge naturally implanted in us and known through themselves (*per se*). Hence such arguments cannot have demonstrative force, but rather are only

⁵ SCG I, 7.

⁶ Ibid.

⁷ In contemporary epistemological terms, this makes Aquinas a reliabilist. See Eleonore Stump, “Aquinas on the Foundations of Knowledge,” in *Aristotle and His Medieval Interpreters*, ed. Richard Bosley and Martin Tweedale, *Canadian Journal of Philosophy*, Supplementary Volume 17 (1991): 125-158.

probable reasons or sophistical. And so it remains possible for them to be answered.⁸

Behind these lines, and presupposed by Aquinas's entire treatment of the relationship between faith and reason, is the Aristotelian model of what counts as proven scientific knowledge as articulated in Aristotle's *Organon* and especially the *Posterior Analytics*.⁹ Hence a brief account of Aristotelian science is necessary to understand Aquinas's position.

According to the Aristotelian model of a genuine and perfected body of knowledge or science (*episteme* for Aristotle and *scientia* for Aquinas), the premises or first principles of any science are grasped by the mind as a result of induction.¹⁰ On the basis of sense experience, the mind is capable of penetrating to the essential natures of sensible material beings and expressing that knowledge in the form of a definition. Thomists distinguish, however, between different kinds of intellectual awareness of sensible essences and so admit different kinds of definitions. The strongest type of knowledge is a genuine grasp of the formal cause that is expressible in an essential definition. Yet it is often the case that scientific knowledge does not penetrate that deeply, and so the definition must describe the nature on the basis of its properties or accidents. There has been quite a bit of intramural debate among Thomists regarding the relationship between descriptive and essential definitions in natural science.¹¹ Leaving these controversies to the side, Thomism generally presupposes an ontology of natural kinds and some kind of reliabilism and realism about our native ability to grasp natural kinds intellectually on the basis of sense experience. It is this kind of knowledge that forms the basis for all science because it supplies the premises upon which all subsequent knowledge claims are logically based.

In order to form the basis for scientific knowledge, such premises must embody several criteria: "The premises of demonstrated knowledge must be true, primary, immediate, better known than and prior to the conclusion, which is further related to them as effect to cause."¹² These priority conditions specify the kind of universal knowledge presupposed in the premises of a demonstrative argument. Presuming

⁸ SCG I, 7.

⁹ A full treatment of the Aristotelian model of science as understood by Aquinas can be found in William A. Wallace, *The Modeling of Nature* (Washington, D.C.: The Catholic University of America Press, 1994). The first five chapters of the book discuss the epistemological presuppositions, while the eighth explains the meaning of *scientia* as compared to contemporary models of scientific knowledge. For treatments of Aquinas's notion of scientific knowledge within the categories of contemporary analytic philosophy, see Stump's "Aquinas on the Foundations of Knowledge"; John Jenkins, *Knowledge and Faith in Thomas Aquinas*, 11-50; 101-128; and Scott MacDonald, "Theory of Knowledge" in *The Cambridge Companion to Thomas Aquinas*, ed. Norman Kretzmann and Eleonore Stump (Cambridge: Cambridge University Press, 1993), 160-195.

¹⁰ Aquinas presupposes with Aristotle that there are also first principles common to all forms of knowledge, like the principle of non-contradiction.

¹¹ See Benedict M. Ashley, O.P., "Does Natural Science Attain Nature or Only the Phenomena?" in *The Philosophy of Physics*, ed. Vincent Edward Smith, St. John's University Studies Philosophical Series, Vol. 2 (New York: St. John's University Press, 1961), 63-82. For a contrasting Thomistic view, see Jacques Maritain, *The Degrees of Knowledge*, trans. Gerald B. Phelan (New York: Charles Scribner's Sons, 1959), 173-184; 202-218.

¹² Aristotle, *Posterior Analytics* 71b20-22 as cited in Wallace, 292.

that the premises are in the logical form "All *S* are *P*," what these conditions mean is that there is a universal and convertible connection between the subject and the predicate. All *S*'s must necessarily be *P* by their very natures or through themselves (and not on the basis of something else). This relationship is not inferential or mediated, but rather immediate; knowing *S* leads necessarily to grasping its connection with *P*. What is grasped in this way is prior in knowing and in being to what is known inferentially from it. And it is doxastically causal of what is known in the conclusion; that is, in a demonstrative syllogism, the premises express the causes for the belief that the conclusion is true. The doxastic causal structure mirrors the ontological causal structure; our scientific knowledge is based on our grasp of the causal structure of the real, especially through the grasping of formal causes. Thus the logical structure of a full-fledged demonstration is paradigmatically in the form of the classical Aristotelian syllogism:

All M are P.

All S are M.

Therefore all S are P.

Here the conclusion expresses an essential and universal connection of subject and predicate on the basis of some cause or middle term which causally and epistemically binds them together.¹³

With this background in mind, what Aquinas is asserting about the relationship between faith and reason, theology and science, is that it is impossible that there be a conflict between a thoroughly proven or demonstrative scientific claim and a revealed truth. If one were to assert that there were such a conflict, Aquinas would argue that there must be some kind of error in the scientific reasoning. It need not be the case that the reasoning is groundless or sophistical, but rather that it lacks demonstrative status and so is only probable. When it came to the question of the eternity of the world, for example, Aquinas endeavored to show that those on both side of the question erred in claiming demonstrative status for their respective positions; science could not prove either that the world had a beginning or that it did not. Aquinas's position does not eliminate all conflict between faith and science, since it allows for the possibility of conflict between probabilistic scientific claims and faith claims, but it does rule out the possibility of a genuine conflict between faith and fully proven scientific claims.

This basic understanding of the relationship between faith and science still governs the Thomistic position. Thomists presuppose that there cannot be a conflict between faith claims and proven scientific claims. Hence Thomists are not adherents of what Ian Barbour would call the "conflict" model of the relationship

¹³ What I have here described is the strongest kind of Aristotelian demonstration where one knows the proper cause of a property's inherence in the subject; this is known as a demonstration of the reasoned fact or *propter quid*. It is also possible to reason from an effect to the existence of its cause in a demonstration of the fact or *quia* demonstration; this is the kind of argument discussed in the treatment of arguments for the existence of God. For more on the various types of demonstration, see Wallace, 292-300.



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