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# AQUINAS ON FAITH AND SCIENCE

Kenneth J. Konyndyk

Aquinas's reflection on the relationship between faith and science took place amidst serious controversy about the acceptability of the very form of science Aquinas had adopted. Aquinas uses the Aristotelian conception of science and his own view of the place of theology and faith, to produce arguments for the compatibility of reason and science. I examine the arguments he presents in the *Summa Contra Gentiles*, and I criticize details of his arguments, but I endorse what I see as his general strategy.

The assimilation of the philosophy and science of Aristotle by Northern Europeans during the thirteenth century was a contentious business, nowhere more so than at the University of Paris where St. Thomas Aquinas spent a substantial part of his academic career. The major metaphysical writings of Aristotle, which had been lost to the medievals for several centuries, were just becoming available in Latin to Europe in the late twelfth and early thirteenth centuries. But because the commentaries accompanying his works were from Islamic philosophers, Aristotle came tainted by association with Islam. The medievals were accustomed to using commentaries on philosophical texts when they lectured on those texts. But because Aristotle came to them after centuries of being the preserve of Islamic philosophers, the only available commentaries were by Islamic philosophers, and not surprisingly this association led to a certain suspicion of Aristotle.

Even worse, on three major points Aristotle affirmed positions no orthodox Christian could hold. He allegedly taught that the world is eternal, that it has always existed; he seemed to think that the soul is mortal, not surviving the death of the body; and he held that God pays no attention to what goes on in this world. In 1215, 1220, and again in 1231 it was forbidden to lecture on books of Aristotle at Paris, and throughout the century there were condemnations of propositions, many of which were taken from Aristotle, culminating in the infamous Condemnation of 1277.

Despite these drawbacks, Aristotle seemed to many of the European medievals who studied him to be the wisest, most learned, most scientific thinker they had ever encountered. Of course, this immediately raised for them the question of how Christian faith relates to rational thought, especially science, since the most "scientific" thinker they knew appeared to reach scientific and philosophical conclusions that contradict the Christian faith.



Aquinas comes to these questions as a convinced Aristotelian and as a convinced Christian. He aims to show that faith and reason are neither separate, logically unconnected spheres, nor logically at odds with each other, but that they must be perfectly compatible. He thus holds not only that Aristotle's philosophy (i.e., for him the most reasonable available philosophy) must not contradict any articles of the Christian faith, but also that theology can be done scientifically, in Aristotle's sense of science. Aquinas argues for compatibility at the beginning of his *Summa Contra Gentiles*, and tries to exhibit the scientific character of theology, including its being the completion or perfection of the other sciences, in the opening question of the *Summa Theologiae*. In the course of his *Summas* Aquinas also tries to show how Aristotle's philosophy does not necessarily lead to the three theologically unacceptable positions and how his philosophy provides an intellectual framework well suited both to articulating the Christian faith and to displaying its rationality.

In this paper, I will present some of Aquinas's main arguments from the *Summa Contra Gentiles*, Book I, Chapter 7 for the compatibility of faith and reason, particularly as applied to science, and I will show how his conception of theology as a science (using the *Summa Theologiae*) and his way of understanding Aristotle so as to avoid charges of heresy exemplify the solution he favors in those arguments.

I will begin, however, by describing in Parts I and II what Aquinas thinks faith is and what reason, and especially the highest product of reason—science (*scientia*), is in his sense. After I consider his arguments for compatibility, I will conclude with some criticisms of those arguments, even though I accept and endorse what I see as the basic impulse behind his position.

### I. Aquinas's Concept of Faith

When he considers religious faith, Aquinas looks at both the act (or state) of faith and the object of faith. We can and do refer to a certain *act* as faith (having faith), but we also commonly describe *what* we believe as "the faith," or the articles of faith. Aquinas gives a detailed analysis of each of these senses of 'faith' in his extensive treatment of faith in the first sixteen questions of the second part of the Second Part of the *Summa Theologiae*.<sup>1</sup>

An act of faith is an intellectual act, believing (*credere*) in the sense of firmly assenting to something that we have thought over (*cum assensione cogitare*).<sup>2</sup> Christian faith in particular is the act of willingly assenting to or believing something moved by divine grace out of a desire for eternal life. On the scale of the acts of the intellect, faith, like belief, falls below knowledge (*scientia*—the highest act of the intellect) and stands above opinion—assent which is less firm. Faith's assent is unshakable or certain, making it superior to opinion, where assent is mixed with some fear that the opposite may be true. Faith's unshakability derives from divine grace, distinguishing

it from knowledge, where unshakable assent is produced by the strength of our “vision” of what is known (or, as we might say, the evidence). Although faith’s degree of confidence is by no means inferior to that of knowledge (*S.T.*, I, Q1, 5), faith ranks lower because the assent is not produced by the intellect’s clear vision of the truth, but requires some kind of assistance.<sup>3</sup> Faith can also be distinguished from other beliefs whose “unshakability” derives from more ordinary sources, such as the testimony of a trusted friend or parent, or some evidence that we find strongly credible.

When Aquinas talks about the Christian faith or the articles of the Christian faith, he thinks of faith in terms of judgments or propositions expressing the content of Christian belief. Nevertheless, it is also customary and proper to regard God as object of faith in three senses: 1) faith is taking God’s word for something, so it is believing God (as the source of the information); 2) faith is a set of beliefs about God; and 3) faith has God as its proper objective and goal, so that faith desires God rather than someone or something else.<sup>4</sup> Although God is the object of faith in these senses, we ordinarily apprehend God by means of truths about Him, and this is a consequence of the way our intellect works. There is another way of apprehending objects, namely, grasping or understanding their form or essence, but this way of understanding God, which constitutes the beatific vision, is available to us only through the grace of God. Even in heaven our natural powers of knowing are not adequate to knowing the essence of God. So our way of apprehending God in this life is through various judgments, propositions, about God. Faith, in the sense of “the faith,” consists of many propositions that God has revealed. Some of these truths that God has specially revealed are knowable without special revelation, by some people anyway, and Thomas refers to these truths as the *praeambula fidei*.<sup>5</sup> The faith, strictly speaking, consists of those revealed articles (propositions) and their consequences to which we have no scientific access and which must be accepted without proof.<sup>6</sup> Therefore, I take it that Aquinas does not regard the belief that God exists or that there were lepers in Palestine and fish in the Sea of Galilee as articles of The Faith. That God exists is presumably part of the science of Metaphysics, and the other examples may or may not be included in science. Obviously, not everything implied by articles of faith is also an article of faith.

The act of faith, as he describes it, consists of the act of believing what God has revealed,<sup>7</sup> moved by the Holy Spirit and our desire for eternal life. The act of faith also involves trust and love: we trust God when we accept his revelation, and our love of God informs our acceptance and motivates it. But, Thomas concludes, the genus of the act of faith is belief, not love or trust.

Faith is both an act and a set of beliefs, and the same will be true for reason. Thus when discussing the relationship between faith and reason, we have to

consider both a relationship between sets of beliefs, and the compatibility of attitudes or activities. In addition to asking about the compatibility of beliefs, we should ask whether engaging in the act of faith is compatible with the rational regulation of one's beliefs.

## II. Reason

Reason, as Thomas thinks of it, may be a faculty—the intellect—or the result of that faculty's operation. *Ratio*, perhaps the main word translated as “reason,” also refers to the proportioning of the mind to the thing, an idea Thomas takes seriously. The intellect's cognition of the essences of things is a proportioning of this sort, as is judging and reasoning about things. One of the primary senses of the word as Thomas uses it is to denote reasoning and the knowledge acquired by inference.<sup>8</sup> Reasoning is the movement of the intellect toward understanding (*S.T.*, I, Q79, Art. 8). Reliance on reasoning as a means of understanding is proper (peculiar) to human beings, distinguishing them not only from animals, who lack this ability, but also from other types of intellectual beings—angels and God—who know immediately and without inference, and so do not need this ability. Reason may also refer to other sorts of knowledge, including probable knowledge; it can be anything intuited by the intellect with certainty (including knowledge of “first truths”), and it can refer to science—certitudes demonstrable on the basis of “first truths.” The knowledge that constitutes science, according to St. Thomas, is of this latter sort.

One kind of certainty<sup>9</sup> attributed to knowledge (*scientia*) is a function of its clarity or its evidence, and this certainty is, as it were, passively acquired. In cases of intuitive and demonstrative knowledge, the will is not a factor in effecting assent; the evidence produces the intellect's assent (note that it is the intellect that does the assenting, not the will), so that presented with the evidence (or the understanding of the “terms” in the case of truths *per se nota*<sup>10</sup>) the intellect gives its assent automatically and nonvoluntarily, in the sense of not involving the will rather than being contrary to the will. The will seems to be an inferior faculty (*S.T.*, I, Q82, Art. 3).

When Aquinas asks about faith and reason, there are a number of questions he may be dealing with. He may be asking whether believing the articles of the Christian faith is compatible with the activity of drawing conclusions rationally (that is, whether a person committed to being reasonable could permit herself to believe anything by an act of faith). Or he may be concerned with whether the articles of faith are or could be incompatible with scientifically established conclusions. Or he may be concerned with whether there is any kind of overlap between the articles of faith and scientifically demonstrable conclusions, or between articles of faith and rationally self-evident truths. I think that we see Aquinas addressing all of these questions in the opening chapters of the *Summa Contra Gentiles*.

There we find chapters devoted to arguing that it is appropriate for God to reveal (and hence for humans to believe) theological truths that are scientifically knowable (I, 4), that it is appropriate for God to ask humans to assent to things that are beyond their capacity to demonstrate scientifically (and even understand, e.g., the Trinity and Incarnation) (I, 5), and that it is not foolish to assent to articles of faith, even if they are beyond the reach of rational investigation (I, 6).

If we look just at *what* is known or believed, however, we see that there is an area of overlap: in addition to things that are known by all and things that must be accepted on faith by all, there is a set of beliefs which may be accepted on faith but which also are capable of being known. These beliefs constitute the *praeambula fidei*, mentioned earlier. The articles of faith, strictly speaking, are those beliefs available only to faith in this life. They stand above human scientific knowledge (as Divine knowledge), and the preambles belong in between, as articles that are revealed along with the articles of faith, but which are knowable by reason as well, at least by some people.<sup>11</sup>

The area of overlap is significant for the issue at hand. It shows that some of the teachings that are revealed along with the articles of faith are not only compatible with what human reason knows scientifically (in his sense) but they are part of that knowledge. While this does not imply that all the teachings of the Christian faith are compatible with everything that reason discovers, it is a source of encouragement nonetheless. When Aquinas treats faith and reason in the *SCG*, he exploits the overlap. He begins by observing that there are two different ways of obtaining truths about God: from revelation and from “the natural reason.” God has good reasons for permitting some people to believe the ones that are knowable and he has good reasons for asking all of us to believe the unknowable ones. And even though we lack evidence for the truth of these unknowable truths about God, it is not irrational to accept them, since there are various testimonies to their truth. At this point Aquinas offers arguments that what reason knows must be compatible with the revealed articles of faith that remain beyond the reach of our reason. Perhaps it should also be noted that Aquinas clearly thinks that many revealed articles both are and will remain beyond the reach of human reason in this life.

In spite of the area of overlap, we must also remember that faith, strictly understood as the act of believing on the basis of a will moved to assent by the work of the Holy Spirit,<sup>12</sup> and Reason, the act of knowing first principles or knowing scientifically, are mutually exclusive in the sense that the same individual cannot both know that something is the case and believe it by faith; we either know it or believe it, but not both. However, it is possible for one individual to accept something by faith while another knows it, and likewise

it is possible for the same individual to accept a belief by faith at one time and later come to know it. So the act of faith and the act of knowing are exclusive with respect to any given belief by any given individual at a given time. Consequently, the same individual cannot both believe by faith and know by reason the same article at the same time.

### III. *The Arguments for Compatibility*

Aquinas's strategy for justifying faith focuses primarily on content, for that is where the serious questions arise. Faith, which is an act of believing on the basis of an authority, is simply necessary for human life. None of us has the time or opportunity to learn from scratch everything we need to know, and so we constantly avail ourselves of the reports of others. Of course this introduces interesting possibilities of error; reporters may lie, misperceive, misreport, distort, be unduly selective or overlook crucial details in passing along information. But most of the time, we, or someone, can check up on what is being reported. The information can be verified by someone (although not by anyone) if he or she cares to take the time and trouble. Nevertheless, some reliance on testimony is indispensable, since none of us can check on everything ourselves.

The articles of the Christian faith present a special problem in this regard, however. On the one hand it is claimed that it is necessary to believe these articles in order to enjoy the highest and happiest life. But on the other hand, these articles cannot be independently verified by anyone. Is God triune? There is no way to check up on this that does not involve divine revelation. So with these beliefs, we may not simply be adopting a shorter, more convenient way of acquiring useful beliefs, but we may be bypassing scientific evidential processes altogether.

Aquinas addresses this issue in *SCG*, I, Chapter 6, just before he argues for the compatibility of the content of Christian faith with reason, where he argues that the adoption of Christian beliefs is compatible with regulating one's beliefs by reason. It is reasonable, he says, to adopt a set of beliefs that have been attested to by miracles, inspiration of simple people; fulfillment of prophecy, widespread acceptance of a call to a higher life, and the obviousness that these beliefs call one to a higher life. These considerations show that Christian belief is not foolish, even though the content of these beliefs is not accessible by rational means.

Chapter 7 of the *SCG*, Book I, presents four arguments that the truths of reason are compatible in content with the truths of faith. The fact that the teachings of faith lie beyond verification and even full comprehension by reason does not deter Aquinas from trying to make an argument for compatibility. Furthermore, it is interesting that these arguments appear at the beginning of a book intended to help unbelievers, that is, persons who do not accept

the Christian revelation. Is he guilty of begging the question and simply presupposing that this revelation is true? An unbeliever might regard the “conclusion” reported in the chapter heading (“the compatibility of the truth of reason with the truth of faith”) as a trivial and uninteresting conclusion on the grounds that there are no *truths* of faith and that is the reason for the compatibility. But as we have just noted, Aquinas takes himself to have presented reasons in the previous chapter (6) for accepting this particular revelation as true, and also for rejecting Mohammed’s alleged revelation as not worthy of credibility. So we should look at chapter 7 as arguing that we should regard this genuine revelation, whose content does not overlap with reason and which reason is therefore unable to verify (in the sense of demonstration), as fully compatible with reason.

A. Thomas’s first argument trades on the idea that since each category consists of truths, they have to be compatible. The argument goes roughly like this:

1. We are incapable of thinking the deliverances of reason, i.e., propositions *per se nota*, to be false.
2. Therefore, we cannot help but believe that the deliverances of reason are true.
3. The articles of faith are confirmed in a divine way (just argued in Ch. 6).
4. Any claim that has divine confirmation must be regarded as true.<sup>13</sup>
5. Therefore, we must regard the articles of faith as true.
6. Only the false can be opposed to the true (from the definitions of ‘true’ and ‘false’).
7. Therefore, (we must believe that) the articles of faith are compatible with the deliverances of reason.

Given Thomas’s references to what we are capable and incapable of believing ((1) and (2)) and what it is permissible and impermissible to believe ((4) and (5)), I understand the conclusion to have prescriptive force, as claiming that we are obliged to believe in the compatibility of faith and reason. This first argument emphasizes that each category consists only of truths, and therefore they must be compatible. The point of thinking is to acquire knowledge of the truth, according to Thomas, and our cognitive equipment is designed to be in touch with truth. How and why this is so has to be described and argued, and Aquinas turns to that later.<sup>14</sup> For the moment, his point is simply *that* we think this is so and we *cannot help* but think so. We cannot get ourselves to believe that something has been intuited or demonstrated and yet is not true. (Aquinas would have had trouble with Meditation I.) When we take ourselves to know something, we take it to be *true*. Likewise, when we accept the



articles of the faith, we do so because we take them to be divinely confirmed, as coming from God (Aquinas thinks Chapter 6 has provided this evidence). Thus we cannot take these articles as anything but *true*. But truths must always be compatible with truths, as anyone who knows the meanings of the words “true” and “false” knows (this is one of the first principles of thought), and therefore anyone who accepts the articles of faith as God’s revelation must believe them compatible with what reason knows.

At first glance, this argument seems to be absolutely right, and perhaps one may wonder who could disagree with it, unless one rejects the premise that there are divinely confirmed articles of faith, or thinks that we do not take scientific conclusions to be true. But I believe that the argument may have a genuine target, both in Thomas’s era and our own. Thomas assumes that there is one unified system of truth into which all truth fits; he is therefore rejecting a view of some of his contemporaries on the Arts Faculty at Paris, sometimes labelled Averroism, and which Fernand van Steenberghen calls “radical Aristotelianism.” These people “...taught the philosophy of Aristotle [using Averroes as the main interpreter] without concerning themselves with the points of opposition which exist between this philosophy and Christian doctrine.”<sup>15</sup> Thomas may be taken by extension to be rejecting views which makes theological views noncognitive, those which make theology and science separate “language games,” and also complementarist views of religion and scientific knowledge which relegate each to different and non-intersecting spheres of inquiry. In our own century, perhaps Donald McKay<sup>16</sup> and the later Wittgenstein<sup>17</sup> might be examples of contemporary variations on Averroism.

While this first argument for compatibility seems right, it also may seem less than fully helpful. Just why becomes clearer when we ask what Thomas must mean by “faith” and “reason” here. It is clear that he is thinking of the articles of the faith and those things that we know (*cognita*). It is important to take the word “know” very seriously in this context. In presenting the premises, Aquinas appeals to our inability to take these claims as false. We are unable because of the way evidence bypasses the will when we *know* things. Now this inability comes into play only when our knowledge is self-evident (*per se nota*) or demonstrative—deduced from self-evident first principles. Thus the argument does not assure compatibility for that knowledge which is “probable,” which is firmly believed, supported by good evidence, but is not self-evident or deductively demonstrable. Many cases of apparent conflict, however, involve the area of the “probable,” and the argument gives no guidance as to the source of the error nor does it even claim that there must be an error in reasoning in such cases. However, the argument does seem to me to have the salutary effect of making the believer expect that faith and reason, at least with respect to the *truths* of faith and the *truths* of reason, have to be compatible.

Aquinas's position, it must be granted, does claim something substantial: there cannot be a conflict between the teachings of the Christian faith and anything that we know. Therefore, if there appear to be conflicts, we must have made a mistake. We had better check back over our reasoning and see if we can discover our error. Thomas does assume that the error must be in our reasoning (our making inferences from the "first principles" of our science, including possibly the inferences from the first principles of theology, although he never uses that as an example). Either any incompatibilities are apparent but not real, or if they are real, they are due to an error in reasoning. Apparent incompatibilities may arise when we take probable conclusions as fully scientific, i.e., deducible from first principles.

This is the way Aquinas resolves one of the difficulties he faces. Aristotle was taken by many of his contemporaries to teach that the world has always existed, contrary to the article of faith that the world has a beginning in time. The problem disappears, says Aquinas, when we check Aristotle's reasoning and discover that his argument involves probable reasoning and is not a deductively conclusive proof. On the other hand, Aquinas also attacked the Augustinian tradition's philosophical arguments against a beginningless created world. Neither position, he thinks, can be philosophically *demonstrated*. But because the articles of faith decisively teach that the world has a beginning, this is the position the believer must take, even if Aristotle's arguments are the best reasoning we have.<sup>18</sup> An examination of the relevant reasoning shows that the eternity of motions is not securely *known* and there is no conflict between scientific knowledge and the articles of faith.

Another substantial claim of St. Thomas's position is that conflict take the form of logical incompatibilities. He does not concern himself with competing frameworks, incommensurability, etc. This is not, I believe, because this sort of thing never occurred to him, but because he thinks foundationally, and therefore he thinks any alleged perspectival difference will cash itself out as an incompatibility somewhere down the line. Once this happens, we will have to go back and see whether we can isolate its source, a possibly daunting task. If a science is incomplete, that is, if we are unable to make explicit the foundational structure from top to bottom, we may find it impossible to get to the bottom of some incompatibilities.

I said earlier that I agree with Aquinas's argument here. But I should say exactly what I think I have agreed to. I think his argument does not commit me to saying that theological conclusions can never conflict with scientific conclusions. The argument does commit me to say that the first principles of science (where these self-evident and necessary principles have been correctly ascertained by us) cannot conflict with the basic principles of theology, which is "the knowledge of God and the blessed"<sup>19</sup> as that has been revealed to us, and consequently that what has been correctly deduced from these sets

of first principles cannot be incompatible. Assuming that the sciences (both the science of theology and the other sciences) are fairly complicated, there is no assurance that if an incompatibility showed up, it could be tracked down very quickly or easily. Aquinas's position does not assure us of quick or easy answers. But he does insist that a Christian must hold that there is compatibility at bottom; we cannot accept the possibility that there might be two truths incompatible with each other.

B. In his second argument, Aquinas concludes that because revelation and reason both have God as their source, they have to be compatible. He argues as follows:

1. Whatever a teacher introduces into the mind of a student is first in the mind of the teacher. (Unless his teaching is "fictitious," which cannot be said of God.)
2. God is the author of our nature.
3. Therefore, God has planted in us (i.e., taught us) the knowledge of the principles we know naturally.
4. Therefore, these principles are part of the divine wisdom.
5. Therefore, whatever is opposed to these principles is opposed to the divine wisdom.
6. Nothing opposed to the divine wisdom can come from God.
7. But the articles of faith come from God.
8. So the articles of faith cannot be opposed to the divine wisdom, and therefore they cannot be opposed the principles we know naturally.

God's wisdom has to be consistent, and so, therefore, do the aspects of it that God has seen fit to give to us. This argument presupposes that there is a God, that this God created us with the cognitive abilities we have, and that this God has revealed himself. Besides this we have to agree that God possesses all scientific knowledge and whatever else we may know naturally. These assumptions would have been acceptable to Aquinas's Jewish and Islamic audiences as well as his Christian students, and so we may regard them as aimed at Jewish and Islamic believers, who were (ironically) the *gentiles* for whom the *SCG* was written.

The second argument claims that because the articles of faith come from God and the basic principles of our knowledge come from God (as the author of our nature), all of this knowledge must be compatible in the divine wisdom. The argument uses as a premise that God knows everything he teaches. It need not be true in general of an honest teacher that the teacher knows everything that she teaches, although Thomas seems to think so. A teacher might try and might even succeed in teaching something she does not know herself. And a teacher might succeed inadvertently in teaching something she

didn't know, without dissembling or faking. So to buttress Aquinas's argument, let us assume that God knows everything that he teaches. Furthermore on certain conceptions of knowledge, it is impossible to know something that is not true; on such conceptions it follows that everything that God teaches is true, even without assuming God's goodness. Given this assumption, since the principles of reason and the teachings of faith both come from God, they are both part of his knowledge and hence compatible. It is clear, of course, that theology comes from God in a fairly direct way. But Aquinas holds that God is our teacher (quite literally, if the argument is to work) in making us so that we know certain things about our world, about him, etc. We are designed for scientific knowledge; it is not accidental. The "...knowledge of the principles that are known to us naturally has been implanted in us by God; for God is the Author of our nature."<sup>20</sup> Thus, says Thomas, God knows these principles himself. Of course God also knows the articles of faith, since they literally have their origin in God's knowledge (*S.T.*, I, Q1, Art. 2), so both articles of faith and the principles of reason are known by God who can know no falsehoods, especially contradictions. A contradiction or incompatibility is literally inconceivable; it cannot even be thought by a clear, unconfused mind. Since God thinks both the truths of faith and the principles of reason, and his mind is clear and unconfused, faith and reason are not incompatible.

This second argument seems less persuasive than the first. Perhaps there are suspicions attaching to it just because it seems so similar to an argument Descartes gives at the end of *Meditation* III and beginning of IV for the reliability of our faculties.<sup>21</sup> Descartes tried to argue that the nondeceptive character of God guarantees that we have no faculty that would lead us astray if we use it properly. Aquinas might be said to need such an argument here, since we need some reason to believe that our cognitive faculties, especially those involved in grasping the first truths of the sciences, continue to function in the way they were designed to by their Creator, and we need reason to think they were designed with truth in mind. But these observations serve to bring up the main reason why Aquinas's argument here is weak. The fact that God is the author of our nature and that God made our senses and intellect to function as they do does not entail that God teaches us what we know. The leap from maker to teacher is too great; the fact that God made us in such a way as to learn certain things does not prove that God teaches us those things. Nor does it follow, as I already observed, that if someone tries to teach *p* to someone else, the teacher must know it first.

To defend Aquinas just a bit here, we should observe that he only needs to say that whatever *principles* we know are taught to us by God and taught reliably. All the same, it is possible (consistent) that God designed things so that certain principles would ineluctably be believed and that believing them is for our good, without it following that these principles are true. The principles may be taught reliably without having to be true. Aquinas also assumes

that our faculties continue to function just as they were designed to; he does not entertain the possibility that we have, through our own evil, interfered with the functioning of our cognitive faculties in a systemic way, affecting even our ability to apprehend principles. Thus it is possible that God is the author of our nature and we have done something to make it malfunction.

C. The third argument considers the hypothesis that “contrary cognitions” (*contrariae cognitiones*<sup>22</sup>) were somehow planted in us by God. Among “contrary cognitions” Thomas presumably includes first principles that lead to incompatible conclusions. If we found ourselves being led to contrary conclusions in this way, we would be unable to accept either starting point. This is what he means when he writes our intellect would be “chained” and it would miss out on the truth (assuming that one of the beliefs is true<sup>23</sup>). Since God would not make us miss out on the truth, he has not *planted* (*immitterentur*) any contrary cognitions in us. Therefore, faith (revelation) and reason cannot be incompatible.

Since this argument depends in its essentials on the previous argument, I shall not pursue it further.

D. Aquinas bases his fourth argument for compatibility on the nature of our knowing and the contention that this will remain constant as long as the rest of nature does, together with the belief that God does not try to get us to believe the impossible. It is, according to Aquinas, impossible for us to believe something that is obviously necessarily false. He refers to contradictions and incompatibilities as “inconceivable” and I think he means that literally: given our nature, our minds are literally incapable of conceiving such a thought. I think it is understood that the incompatibility is clear and apparent; Aquinas does not think that we have special incompatibility detectors that help discern the presence of hidden contradictions. Our nature is what leads us to accept various first principles, from which our scientific knowledge is derived. This acceptance is involuntary in the sense that we cannot withhold assent from these principles once they are clear to us. It is unchangeably part of our nature. If God were to “implant” in beings of this sort a set of beliefs contrary to these principles or their logical consequences (e.g., by revealing them as articles of faith), they would be in the position of having to conceive the inconceivable or to think a thought that thought cannot think,<sup>24</sup> or we would have obviously contrary opinions existing in the same knowing subject at the same time.

This fourth argument, while not identical to any of the previous three, does not seem to me to add anything substantial to those arguments, and all the materials (i.e., premises) needed for this argument may be found in the previous ones, except for the idea that what is natural does not change as long as nature does not change.

#### IV. Aristotelian Science and the Faith

As an Aristotelian, Thomas had to contend with fellow Aristotelians who were ignoring the tension between Aristotle and certain teachings of the church. His project is both to defend Aristotle and defend orthodoxy. Although Aquinas's advice in Book I, Chapter 7, suggests that he would readily reject Aristotelian "science" at the allegedly heterodox points, this is not what he does. When Aquinas considers Aristotle's teaching on the eternity of the world, he labors mightily to save the science (i.e., Aristotle's argumentation) despite the apparent incompatibility between Aristotle's conclusion and Christian doctrine of creation *ex nihilo*. His "solution" seems to commit him to finding a mistake in Aristotle's reasoning, or something has been "incorrectly derived from the first and self-evident principles..." (SCG, I, 7, [7]) by his colleagues in their readings of Aristotle. But Thomas first looks for room between dogma and science. John Wippel, in an interesting and useful article,<sup>25</sup> shows that Aquinas not only looks for room in this way, he also shifts his position somewhat as he examines sources and sifts arguments during his successive treatments of the eternity of the world. Initially, in his Sentence Commentary, he suggests that even Aristotle did not intend to argue for the eternity of the world, but he only wanted to show that arguments *against* eternity were not scientific demonstrations.<sup>26</sup> Later, says Wippel, Aquinas backed off from this "more benign reading" of Aristotle. Thomas also consistently attacked the teaching that creation in time is demonstrable (e.g., St. Bonaventure and other Neo-Augustinians). Wippel concludes,

In sum, then, it appears that in Thomas's eyes, one cannot demonstrate either eternity or noneternity of the world. The Christian can only accept the noneternal character of the same as a matter of religious belief.<sup>27</sup>

In the end, Thomas follows his strategy; he does not reject science or any scientific argument or observation. Instead he finds science unable to *demonstrate* anything one way or the other on this question, and so the door is open to resolution by revelation. Thus Aristotle has not necessarily made a mistake, and if the Christian had nothing else to go on, a reasonable course of action might be to believe that the world has always existed.<sup>28</sup> But as it happens, the Christian does have something else to go on, the clear revelation of Creation, and so does not accept what might otherwise be reasonable. On the other hand, because he accepts the unity of truth and the propriety of relying on God as a source of information, St. Thomas does not follow enlightenment evidentialism in allowing only evidence of the senses and reason to determine what he believes.

When Aquinas deals with the immortality of the soul, he observes that Aristotle's position is less than totally clear, but that Aristotle provides the makings of an argument for immortality, at least for the immortality of the

agent intellect, even if he fails to draw that conclusion himself. The issue here then focuses on whether the agent intellect is One in all of us or whether there is personal immortality. So again, instead of finding a conflict between reason and faith and choosing one or the other, Aquinas works to eliminate the apparent incompatibility. However, I think it is clear that this time Thomas finds it necessary to do some revision of Aristotle. Even so, he works to “save” as much Aristotle as he can.

Thomas’s practice, then, is to try to save science as much as he tries to save the faith. He never seems to automatically respond simplistically or with a formula that rejects science. On the other hand, we do not find him suggesting that we reject or revise articles of the faith, although he has not ruled that out in principle. Insofar as he holds that the church decides the content of theology and does so infallibly, there is little or no scope for such revision. Aquinas’s attitude is what one would expect from someone who sees each of the sciences as having a secure and (relatively) independent evidential base.

#### *V. Do the Arguments Help?*

The help St. Thomas does offer us is just like the help he might offer in the case of conflict between any two sciences: you must have made a mistake; go back over your work, reconsider your evidence, and make sure you have not drawn any conclusions not fully demonstrated by your premises. This help is exactly what you would expect from one who holds his conception of a science. Each science begins from necessary and immediate first principles which we cannot help but accept. Any conflict of the conclusions of one science with those of another, or any conflict within a science has to be due to some mistake. Faith is involved in the acceptance of the first principles of theology; it is the only science that does not receive its first principles either directly from the operation of the intellect or from another science whose principles are traceable back to the intellect. So Aquinas offers arguments designed to establish the compatibility of theology’s first principles with the first principles of the other sciences. Once that conclusion is established, then theology is, so to speak, on at least as good a footing as every other science. When its conclusions conflict with those of other sciences, therefore, we should assume that somewhere, somehow, we have made a mistake in the derivation of a conclusion. Aquinas also appears to assume in Chapter 7 of *SCG*, Part I, that the mistake will be in the reasonings of the nontheological science, although no reason is given in this passage why we should make that assumption.

So given his epistemology and his theory of the structure of science, Aquinas’s solution to the problem of potential conflict between reason and faith is just exactly what one should expect and it is eminently sensible. Of course, the solution is simpler to state than it may be to apply in practice; it may be

exceedingly difficult in practice to discover the errors in one's reasoning. Fallacies can be subtle and apparent only to a few, as Aquinas suggests is the case with the issue of the eternity of the world, and perhaps also with personal immortality. His solution, while affirming the integrity of faith, does not necessarily always cut in favor of the science of theology. Aquinas's practice in dealing with the issues of his own day favors careful thinking that finds some truth in the erroneous positions, so that opponents do not have to be branded as heretics or fools (something Christian practice today might do well to emulate). I suppose, too, although Aquinas does not say so, that if we find science to be in an insufficiently well-worked out state, we should not be too quick to decide that it is in conflict with faith. No doubt some research programs are going to be more appealing to Christians than others, but some open-mindedness may be necessary until all the connections become clear.

Although we can appreciate the sensible character of much of Aquinas's advice, in the end I think his position has several serious defects for present day Christians trying to deal with these issues. I want to call attention first to some of the defects in his philosophy of science, and then look at some defects in his view of human thinking more generally.

One of the more serious objections to Aquinas's solution to the problem of conflicts between faith and science is its reliance on an unacceptable epistemology and an antiquated view of the sciences. Aquinas links a certain deductive structure of science, proceeding as it were axiomatically from postulates and first principles (axioms?), with an epistemology of science or theory of justification. Thus we know scientifically and fully justifiably because we see the links between the claim under consideration and the first principles. Of course, this may not be the order of our discovery of these claims, but that is another matter. Even if we take the sciences to have the axiomatic type of structure that Aquinas's position suggests, it is quite clear, especially in the case of mathematics (one of the sciences more readily axiomatizable) that the axioms and postulates we settle on will not always commend themselves as self-evident (*per se nota*). Self-evidence is not always one of the main criteria for choosing axioms or postulates when we are giving axiomatizations. What is worse, some claims that one would have thought were *per se nota* and candidates for axioms or postulates have been shown to lead to notorious logical paradoxes. For example, it might seem that the property of non-self-exemplification should be able to be exemplified, but it cannot. In short, it appears that it will not work to try to get an axiomatic structuring of science to coincide with the sort of theory of justification that Aquinas wants. Because Thomas's arguments for compatibility are based on this structure, rejection of the structure means that certain key premises in his arguments must be rejected.



A second way Aquinas has of dealing with incompatibilities, which I have touched on only briefly in this paper, is to discover that our arguments for incompatible conclusions are probable arguments, that is, arguments which make plausible or highly probable a given conclusion, but fall short of demonstration, where a demonstration is a straightforward *deduction* of the given conclusion from the premises. One can see why this might be an attractive solution for someone holding Aquinas's theory of the structure of science, but once again it is of almost no use to us. Not only does it once again presuppose an outmoded view of science, it is also unattractive in dealing with the problems we have to face. For it appears that most of the scientific challenges to theistic belief are based quite directly on probable reasoning. Yet pointing this out hardly seems to alleviate the difficulty we experience. It bothers us that scientific evidence suggests that humans evolved from other life forms while the theological evidence suggests that humans are unique and special creations, and it does not help much to be told that the scientific evidence is, of course, only probable here, and so we are not logically committed to an incompatibility in our thinking. While we do view the theories of science as strongly and consistently probable on their evidence, we do not think this is a weakness that renders scientific conclusions less firm than theological ones. Perhaps this is seen as a weakness by some of our contemporaries who are wont to say, "Well, it's only a theory," and feel perfectly consistent in preferring their theology to some scientific point. But I think this *simple* answer is failing to take science seriously enough.

Aquinas not only holds that the first principles, the principles *per se nota*, that constitute the starting points for the sciences are certain, he also assumes that they are clear. Indeed, it is their clarity that renders them irresistible. However, when we look at our starting points in theology, the Scriptures, and in the sciences, those empirical observations, we find ambiguities, uncertainties, problems of understanding and interpretation. This is a question that will be better discussed by a proper philosopher of science than by me; my only concern here is to note that there are notorious problems of understanding and interpretation in choosing and in interpreting data in the sciences as well as in theology. And as soon as we admit that there are difficulties of interpretation, then questions arise about what may and may not legitimately influence our interpretations. It may be that theology can sometimes properly influence science and the framing of scientific theories, and that scientific conclusions can sometimes influence how the Scriptures are interpreted. I myself think it unlikely that theology and science can be in principle understood completely independently of the other, especially if it is true that scientific theories (and perhaps theological theories as well) are underdetermined by the evidence for them.

Finally, saving the best for last, I must enter a Calvinist caveat about our cognitive abilities. Aquinas's whole account of this problem of the compatibility of faith and reason seems based on an idealization that here ignores the possibility that there is something systemically wrong with our thinking, that there might be patterns of unbelief that we are particularly prone toward, or thoughts that we constantly avoid because of "the smoke of our wrongdoing," to use St. Anselm's colorful phrase. Are there factors that, due to our fallenness, we are led to overemphasize or underemphasize, or improperly bring in or fail to bring in? If we appreciate the underdetermination of our theories by the evidence for them, then the possibility that a theory may be skewed by an improper or irrelevant factor is a real one. One notes the importance of the theory of evolution to theorists who are intent on putting together an atheistic worldview. Might this not lead them to find certain ideas and assumptions more credible than if they did not have this interest? In Thomas's defense, we should observe that elsewhere he has much to say about the weakness of our intellect and our proneness to error, so he can hardly be said to ignore completely human intellectual weakness. He might say that errors of the sort just described will have to cash themselves out as bad premises that will show up in reviews of the reasoning that led to an incompatibility. But some of these factors will not show up as premises, but rather as dispositions to find premises credible or incredible.

Yet one of Aquinas's central assumptions is surely correct and must guide Christian thinking on this topic as well: the assumption that all truth is one, unified, and must fit together compatibly. Inconsistency means we have trouble and need to straighten something out. In the long run we must either drop a view or get some further explanation that shows how the apparent inconsistency is only apparent and not genuine. However, for the short run, we may be unable to come up with the required further explanation or see why a view should be dropped, and simply find ourselves stuck. However that may be, the assumption of consistency is the basis of Aquinas's strategy, and it must be the basis of ours as well.<sup>29</sup>

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## NOTES

1. See also Aquinas's *De Veritate*, Q. XIV. For more exposition see the papers by Konyndyk and Wolterstorff in Audi and Wainwright, eds., *Rationality, Religious Belief, and Moral Commitment* (Cornell, 1986). There is a recent translation of the questions on faith from the *Summa Theologiae* by Mark Jordan, *Faith* (Notre Dame, 1990).

2. Aquinas considers Augustine's definition of belief as "to think with assent," and concludes that when the proper distinctions have been made, this definition will do.

Thomas first distinguishes several senses of ‘thinking.’ If ‘thinking’ is used to mean “any actual consideration by the intellect,” then defining belief as “thinking with assent” does not yield a proper definition (it is not a sufficient condition) because it also applies to knowledge. But if we take thinking to be “deliberation by the intellect (excluding senses) accompanied by inquiry preceding a clear vision of the truth,” then we can accept the definition of belief as thinking (in this latter sense) with assent as adequate (necessary and sufficient). Since knowledge need not involve inquiry and deliberation, the definition now is sufficient, he thinks.

3. While knowledge is superior to faith in the final analysis, faith’s (i.e., theology’s) certitude is superior to that of human knowledge. *S.T.*, I, Q1, Art. 5.

4. This is expressed in *S.T.*, II, II, Q2, Art. 2, as *credere deo* (believing God), *credere deum* (believing about God), and *credere in deum* (believing for the sake of God). (The translation in this note is Jordan’s. See note 1).

5. *S.T.*, I, Q2, Art. 2, ad 2.

6. *Ibid.* Perhaps this is also implicit in *S.T.*, I, Q1, Art. 1, ad 1.

7. Not limited to the narrow or strict set of articles of the Christian faith (or *sacra doctrina*). See *S.T.*, I, Q1, Art. 1, ad 2.

8. As in *S.T.*, I, Q79, and Question XV on higher and lower reason in *De Veritate*.

9. We might call this “subjective” certainty, or confidence, in order to make clear that it refers to the state of the subject—the degree of confidence the subject has. Thomas holds that there is another sort of certainty, call it “objective,” or causal, which refers to the cause or the basis of the belief. Since the basis or cause of faith is the Divine Truth, it is more certain than knowledge and the other intellectual virtues produced by reason in the objective sense, but because we have less clarity about faith than about what we know by reason, and clarity is the source of confidence, reason may be subjectively more certain than faith. However, the “objective” sense is primary, and is what we mean by certainty when we speak of it “simply,” that is, without qualification. See *S.T.*, II, II, Q4, Art. 8.

10. Truths that are *per se nota*, sometimes translated as “self-evident,” are described as being “known as soon as the terms are known,” in *S.T.*, I, Q2, Art. 1, Obj. 2., where the first principles of demonstration are offered as examples, as well as “The whole is greater than the part.”

11. See the *Summa Contra Gentiles*, I, Chaps. 3 and 4, and the *S.T.*, I, Q2, Art. 2, ad 1. Aquinas uses the terms *sacra doctrina*, preambles, the articles of faith, to refer to different but overlapping set of propositions. The distinctions have their basis in the different ways we have access to these propositions.

12. That is, the virtue of Christian faith, which is what Thomas is discussing in the *Summa*. My characterization combines elements from II-II, Q. 4, Art. 1, and Q. 6, Art. 2.

13. I have supplied this premise which is required for validity and is clearly assumed.

14. See the *S.T.*, I, QQ 79-86, and *De Veritate*, Q XIV.

15. *St. Thomas Aquinas and Radical Aristotelianism* (Catholic University of America Press, 1980), p. 2.

16. See his *The Clockwork Image* (Intervarsity, 1974). In fairness, I must emphasize that I said “perhaps.” It is not completely clear that McKay holds this sort of position.

17. I take the suggestion from Stuart Brown's "Christian Averroism, Fideism, and the 'Two-fold Truth,'" in *The Philosophy in Christianity* (Cambridge, 1989), edited by Godfrey Vesey, 207-223.

18. Locke's position on probable conclusions in his *Essay Concerning Human Understanding*, Book IV, Chapter 18, Section 9, is similar.

19. *S.T.*, I, Q1, Art. 2.

20. *SCG*, I, 7, 2.

21. I have in mind Descartes's conclusion that "[God] surely did not give me the kind of faculty which would ever enable me to go wrong while using it correctly," which occurs in the course of his argument for the principle of clarity and distinctness at the beginning of Meditation IV. (Using the translation in *The Philosophical Writings of Descartes*, tr. Cottingham, Stoothoff, and Murdoch (Cambridge, 1984), Vol. II, pp. 37-38.)

22. Pegis translates this as "contrary knowledges." I think that translation is misleading here, and I do not follow it.

23. In the case of contrary beliefs this assumption is not necessarily justified; for contradictory beliefs it is.

24. To borrow memorable phrases from George Bishop Berkeley and Søren Kierkegaard, respectively.

25. "Thomas Aquinas on the Possibility of Eternal Creation," in his *Metaphysical Themes in Thomas Aquinas* (Catholic University of America Press, 1984), Chap. VIII, 191-214.

26. According to Ralph McInerny, Aquinas always accepted Aristotle's contention that the world cannot have come into being in the same way that things in the world come into being—by being produced by something which potentially is what actually comes to be. If this were the only sense of coming to be, the world could not have come to be. To be created is a very different sense of coming to be.

27. *Ibid.*, p. 192.

28. St. Thomas does not seem to commit himself on whether there is probable argument for both conclusions and on what, in the absence of revelation, the most reasonable course of action in the present case would be. Wippel shows that he does not commit himself on the issue of the possibility of eternal creation until the late *De Aeternitate Mundi*, and even there certain textual problems complicate our understanding of Aquinas. Wippel, pp. 205-14.

29. An earlier and briefer version of this paper was presented at the Pascal Centre of Redeemer College in August 1992. Kent Emery, Jr., Ralph McInerny, Alvin Plantinga, Del Ratzsch, and Arvin Vos have given me helpful comments on subsequent drafts. I am most deeply indebted to Norman Kretzmann, who commented extensively on the early version, for suggesting improvements, saving me from numerous errors, and pointing me to additional helpful sources.