



The Scientific Revolution: Its Classical and Christian History

with Dr. Ted Davis

Lecture 11: Revolt of the Handmaiden: The Condemnation of 1277

Outline:

Revolt of the Handmaiden: The Condemnation of 1277

- Some tensions arose in Paris and a few other places (such as Toulouse and Oxford) during the 13th Century, regarding the teaching of certain Aristotelian ideas at universities. At Paris, this pitted certain arts masters (those who taught undergraduates) against the theologians (those who taught graduate courses in theology).
- Some arts masters were teaching some things – or at least talking about them without condemnation – that are contrary to Christian faith:
 - The eternity of the world
 - The soul does not survive death
 - That God cannot do certain things in the creation, even by God’s absolute power. For example, God cannot create other worlds, or move this world from one place to another.
 - These ideas came from Aristotle and certain Islamic followers of Aristotle, such as Ibn Rushd, known to medieval Christians as “Averroes.”
 - The response from the theologians was a series of formal prohibitions of certain teachings at Paris, from 1210 down to 1277.
 - These events had two very important results for natural philosophy and theology:
 - One: Starting in 1272, arts masters at Paris were required to take an oath, swearing that they would not consider theological questions (such as the Trinity or the Incarnation) in their work on natural philosophy—a strict separation of science and theology; if they simply could not avoid such questions, then they had to resolve them in favor of the faith. This actually gave the arts masters significant freedom to explore scientific questions, as long as they didn’t stray unnecessarily into theology.
 - This separation paralleled the development of theology as an independent “science” (form of knowledge) in its own right, following Thomas Aquinas (1225-1274).



Theology is the highest form of knowledge, since its principles come from revelation (Thomas, *Summa theologiae*, I.1, art 2).

- For Thomas, theology is nobler than other sciences. It is more certain and deals with loftier matters that transcend reason (*Summa theologiae*, I.1, art 5). (Note: Galileo would stress this very point from Thomas when responding to clerical criticism in the early 1600s.) Thereby, Thomas effectively made natural philosophy independent of theology, at least in theory. In practice, theologians made very extensive use of logic and natural philosophy in their arguments (using science as the “handmaiden” to theology), while natural philosophers hardly ever made reference to theology.
- Without such a separation of theology and natural philosophy, argues Edward Grant, “the West would not have produced a deeply rooted natural philosophy that was disseminated through Europe by virtue of an extensive network of universities, which laid the foundation for the great scientific advances made in the sixteenth and seventeenth centuries.”—Grant, *Science and Religion, 400 B.C. – A.D. 1550*, p. 248
- Two: In 1277, acting on orders from Pope John XXI (an alumnus of the university), the Bishop of Paris (Étienne Tempier, a former Chancellor of the Sorbonne) investigated the situation and then prohibited the teaching of 219 propositions on diverse topics. Arts masters were strictly forbidden to teach any of them, on pain of excommunication. Some condemned propositions dealt with limits that Aristotelian philosophy placed on God’s freedom and power to act in the creation.
 - The Condemnation was poorly organized and hastily written by a committee of 16 theologians in no more than six weeks. It was issued on 7 March 1277—exactly 3 years to the day after the death of Thomas Aquinas, who had taught theology at Paris from 1268 until his death in 1274. Apparently, the committee wanted to send a message to Thomas’ disciples, since some of his ideas were included among the 219 forbidden teachings. This is particularly ironic, since Thomas had strongly opposed those arts masters who were presenting heresies to students.
 - Ultimately, cooler heads prevailed. Thomas’ extraordinary synthesis of Christian theology with Aristotelian thought won out, and the Church canonized him in 1323. He was then depicted as a



- champion of the Catholic faith over her enemies, including Averroes.
- Despite this series of condemnations, by 1300 Aristotelian ideas were no longer controversial. They became the backbone of the medieval university curriculum. “This was a momentous achievement. It signified that the Catholic Church and its theologians had fully embraced and accepted Greco-Arabic science and natural philosophy.”—Grant, *Science and Religion, 400 B.C. – A.D. 1550*, p. 244
 - Overall, according to Grant, “theology had a relatively small impact on natural philosophy, whereas natural philosophy, logic, and mathematics had so great an influence on theology that they re-shaped the discipline, transforming its subject matter more nearly into natural philosophy than theology or religion.”
 - “With regard to natural philosophy, which ... was the vital element in preparing the way for early modern science, the attitude of the theologians and the church they served was instrumental” in two ways:
 - One: “in permitting natural philosophy to develop as it did”
 - “in contributing significantly to the rationalistic and analytic nature of medieval natural philosophy”—Grant, *Science and Religion, 400 B.C. – A.D. 1550*, pp. 220 & 245
 - According to Grant, there was nothing like this in the Islamic or Byzantine worlds.
 - Perhaps surprisingly, the prohibition of some scientific propositions actually had a positive impact on medieval science.
 - “The Condemnation of 219 articles in theology and natural philosophy by the bishop of Paris in 1277 points to a significant development in the history of medieval philosophy generally, but especially natural philosophy. Whatever may have induced Bishop Stephen Tempier and his advisers to promulgate the condemnation, the most significant outcome was an emphasis on the reality and importance of God’s absolute power (*potentia Dei absoluta*) to do whatever He pleases short of bringing about a logical contradiction.”—Edward Grant, “The Effect of the Condemnation of 1277,” in Kretzmann, et al., *The Cambridge History of Later Medieval Philosophy*, p. 537
 - In the wake of the Condemnation, some leading natural philosophers at Paris sometimes invoked God’s absolute power to propose novel ideas that ran counter to Aristotelian ideas. To that extent, Christian theology influenced medieval natural philosophers to think outside the standard conceptual boxes of their day.



- For example, the 14th -century priest and scholar Jean Buridan argued, contrary to Aristotle, that God's absolute power could move the world, creating a vacuum in the process. Along the way, he apologizes for bringing theology into natural philosophy, but he thinks it cannot be avoided when discussing whether a vacuum might exist somewhere.
- In the early 15th century, Nicole Oresme took seriously the possibility that God's omnipotence could move the whole world—something Aristotle considered absurd—so he tried to make physical sense of the notion.
- A very important result of the Condemnation's emphasis on the reality of God's absolute power, was the rise of nominalism in philosophy. To deal with that adequately would go well beyond the scope of this course, but we would be remiss not to point it out. The chief proponent of nominalism, English philosopher William of Ockham (ca. 1280-ca. 1349), argued that God could produce a given effect in any way he pleases. Thus, we cannot know things a priori, only a posteriori through the senses.
- A big question: Did this type of radical empiricism lead to the birth of modern science? Much debate has taken place among historians.
 - A great Catholic scholar of medieval science, physicist Pierre Duhem, saw the birth of modern science in nominalism and in certain propositions condemned in 1277. In his view, the Condemnation freed medieval science from its Aristotelian prejudices and stimulated the development of a new science of motion that foreshadowed Galileo.
 - Another major Catholic scholar, Fr. Stanley Jaki, drew heavily on Duhem but also went beyond him, arguing that Greek science was "still-born" without Christian theology: it never really took off, because it wasn't grounded in the Christian doctrines of creation and Incarnation.
 - Jaki's view has been popularized by sociologist Rodney Stark, who thinks that historians generally believe Christianity caused modern science. In fact, there is wide disagreement about that, although a few historians do think so.
 - My own view is close to that of Reijer Hooykaas: "medieval theology did not hamper the development of science," but "in some respects it gave scope for free development of science by liberating it from philosophical constraint," although "it did not directly stimulate scientific research." —Hooykaas, "Science and Theology in the Middle Ages," *Free University Quarterly* 3 (1954), p. 77.