

## **The Truth Behind Galileo's Conflict with the Church**

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Galileo Galilei (1564-1642) is often thought of as a pioneer in the birth of modern science who had his scientific accomplishments suppressed by the church of his time. History, however, is more complicated. Galileo certainly brought about new insights and helped launch science in a new direction, and the church is not totally blameless. But Galileo himself took some foolish actions which contributed to his ultimate trial for heresy.

As Thomas Hannam observed, “Galileo’s scientific achievement was solidly based on the natural philosophy that came before him.”<sup>1</sup> His theories almost all had earlier sources. For example, Galileo built upon Francis Bacon’s emphasis on the empirical and on information received through sense impression. The heliocentric model was a debt Galileo owed to Copernicus. However, Galileo was the first to coherently combine these various ideas and to demonstrate them experimentally. In that sense he started something new that would eventually develop into modern science.<sup>2</sup>

Contrary to common understanding, Galileo’s advocacy for a heliocentric model was not initially opposed. He first publicly challenged the Ptolemaic Geocentric model in 1612 in *Letters on the Sun Spots*, and the immediate response was positive. In fact, he received a congratulatory letter from Cardinal Maffeo Barberini (1568-1644) who would later become Pope Urban VIII. However, a fundamental difference of opinion as to the role that the heliocentric model should play emerged between Galileo and the church.

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<sup>1</sup> James Hannam, *The Genesis of Science: How the Christian Middle Ages Launched the Scientific Revolution* (Washington, DC: Regnery Publishing, 2011), 303.

<sup>2</sup> *Ibid.*, 303-04.

Galileo believed that the Bible should be read as a document written in the language of common people, not as a scientific work.<sup>3</sup> However, he went further and argued that that this view of Scripture meant the Bible could be interpreted in contradictory ways, whereas nature was fixed and immutable. Therefore, according to Galileo, when we are seeking to understand physical processes we should not begin with the Bible, but rather with sense experience.

Cardinal Robert Bellarmine (1532-1621), a Jesuit professor, did not agree. Bellarmine thought that unless there was an “iron-clad” justification for doing otherwise, the Bible should always be regarded as if it were literally true.<sup>4</sup> Further, he felt that all scientific endeavors should be based upon the Bible. But because there was very little science in the Bible, many such questions could not be answered.<sup>5</sup>

The church did not object to heliocentrism as a mathematical model; i.e., a tool for making calculations. However, it was another matter entirely to claim that it was literally true. Bellarmine admitted that if it’s truth could be shown, then he would have to concede that various Bible passages were speaking figuratively. But he demanded iron-clad proof before he would make such a concession.

Thus, in 1616, by which time heliocentrism was gaining in popularity, Bellarmine instructed Galileo to stop teaching it as literal truth. Then in 1620 the Congregation of Index issued corrections to Copernicus’ *Revolutions of the Heavenly Spheres*, insisting that it only be taught as a model and not as an accurate picture of reality.<sup>6</sup>

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<sup>3</sup> Ibid., 321.

<sup>4</sup> Ibid., 322.

<sup>5</sup> Ibid., 314.

<sup>6</sup> Ibid., 325.

In 1623, however, Galileo's admirer, Cardinal Maffeo Barberini became pope and took on the name Urban VIII. The following year, Galileo traveled to Rome to meet him. During this visit, the pope explained to Galileo that

it was beyond man's ability to work out how the heavens really worked. Whatever mathematical model was used to describe the movement of the planets, God could easily have arranged things differently but so as to give the same result.<sup>7</sup>

Eight years later, Galileo published his defense of heliocentrism titled *Dialogue Concerning the Two Chief World Systems: The Ptolemaic and the Copernican*. It involved a discussion between three characters, one of whom, Simplicio, was a naïve adherent of Aristotle.<sup>8</sup> In his zeal to argue his point, Galileo placed the words of the pope into the mouth of the simpleton Simplicio.<sup>9</sup> When the pope saw it, he was furious. To complicate matters further, this was the era of the Protestant Reformation and Protestants were criticizing the Catholic church for not holding the Bible in high enough regard. But there was a general consensus among Protestants and Catholics alike that the Bible taught the sun revolved around the earth. Thus, Urban likely felt escalating pressure to disavow theories such as those held by Galileo. As a result, in 1633 Galileo stood trial for heresy and was eventually sentenced to house arrest.<sup>10</sup>

Galileo's trial is indicative of a personal dispute, not an inherent conflict between science and the Christian faith. To decide whether such a conflict exists, one must look to the foundations of the scientific enterprise and the Christian faith as ask if there is any inherent

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<sup>7</sup> Ibid., 326.

<sup>8</sup> Ibid., 330.

<sup>9</sup> Ibid., 330-31.

<sup>10</sup> Ibid., 332.

conflict between the two. It is the entities themselves, not the actions of fallen humanity, that determine conflict, and in this case none is inherently evident. Personal disagreement between people is not the same as inherent conflict between systems.

While the church should not have relegated heliocentrism to a mere mathematical model, Galileo clearly also contributed to his trial. Placing the pope's words into the mouth of Simplicio was sure to prompt a response. But his methodology concerning the roles played by scripture versus experience was also ill advised. While Bellarmine may have set the standard too high in his refusal to accept heliocentrism, it is also true that unfettered freedom to label any passage as "figurative" merely because it conflicts with some modern scientific understanding is even more unwise. First, if God is the Creator of the universe, then His word concerning that universe is the best source of information about it. Second, Galileo recognized human fallenness when it came to the interpretation of scripture but failed to acknowledge that the same risk applies to the formulation of scientific theories and the interpretation of data. Finally, a methodology that limits itself to sensory experience leads to methodological naturalism, which *a priori* excludes certain types of explanations. By limiting the acceptable options, not due to some type of inherent logical problem but due merely to methodological choice, this type of thinking decreases, not increases, our opportunities to arrive at truth.

Thus, the truth about the Galileo trial is far different than what is often assumed today. The church of the time bore responsibility for attempting to bar scientists from arguing for the truth of heliocentrism. But at the same time, Galileo unwisely antagonized the church rather than seeking to accomplish his goals with more grace. Especially given the backdrop of the Protestant Reformation, his trial was more a political action than one borne out of genuine opposition to scientific advancement.