

History of Science 423/523: Science and Religion

Lecture 4: The Galileo Controversy

I. The Renaissance in Italy

- A. What the Renaissance was: a rebirth of classical Greek and Roman culture
- B. Why the Renaissance began in Italy: urbanisation, economic prosperity, patronage, and pride in Italy's Roman past
- C. Two additional factors that aided in the development of the Renaissance
 - 1. The revival of Greek studies and the influence of Neo-Platonism
 - 2. The invention of movable type by John Gutenberg of Mainz in c. 1447
- D. The new education: the studia humanitatis and the ideal of l'uomo universale

II. The Catholic or Counter Reformation

- A. The Roman Inquisition (introduced in 1552) and its repression of thought
- B. The Index of Prohibited Authors and Books (entrusted to the Inquisition in 1555)
- C. The Society of Jesus (Jesuits): their activities of preaching, missionary activity, and education

III. The career of Galileo Galilei (1564-1642)

- A. His early life and interest in mathematics
- B. His interest in scientific instruments: pulsilogium, thermometer, and telescope (1609)
- C. His astronomical discoveries and experiments in mechanics
- D. Galileo's condemnation by the Congregation of the Holy Office (1616)
 - 1. The issue: Is heliocentricity a theory or only a scientific hypothesis?
 - 2. Cardinal Bellarmine's judgement of Galileo; his two letters
- E. The years following Galileo's condemnation (1616-1632)
 - 1. His audiences with Pope Urban VIII (formerly Cardinal Barberini)
 - 2. His *Dialogue Concerning the Two Systems of the Universe* (1632)
 - 3. His appearance before the Inquisition and condemnation (1633)
- F. Galileo's closing years under house arrest and his death in 1642

IV. The caricature of Galileo as a martyr to intellectual freedom and a victim of the Catholic Church's hostility to science: Why the truth is more complex

- A. Galileo's penchant for making enemies in high places
- B. The opposition of the Aristotelian scientific establishment and the Liga
- C. The church's fear of Protestantism and heresy; its rigid Thomistic Aristotelianism
- D. The Inquisition, the Index, and an authoritarian and fearful papal court

V. Galileo's success in gaining general acceptance of Copernicanism by 1650

Byzantine Empire	Giordano Bruno (1548-1600)	Nova of 1604
Venice, Naples, Genoa	Dominicans	<i>Letters on Sunspots</i> (1613)
Florence, Milan	Erasmus	<i>Letter to the Grand Duchess Christina</i>
Manuel Chrysoloras	Copernicus' <i>De revolutionibus</i>	Simplicio
Constantinople	nihil obstat, imprimatur	Christopher Grassi
Plato, Aristotle	Ignatius Loyola	<i>Discourses on the two New Sciences</i> (1638)
Platonic Academy	Pisa	Council of Trent (1545-63)
parchment	Michelangelo, Isaac Newton	
John Gutenberg of Mainz	Vincenzio Galilei	
incunabula	Ostilio Ricci	
scholasticism	Johannes Kepler	
humanists	Padua	
Paris, Heidelberg, Oxford	Medicean Planets	
Martin Luther (31 Oct. 1517)	<i>Siderius Nuncius</i> (1610)	
Wittenberg	Cesare Cremonini	