

Lecture 3: The Copernican Revolution and Early Protestantism

I. The Ptolemaic system

- A. Aristotelianism as the system of natural philosophy taught in European universities c. 1200-c. 1650
- B. Ptolemy's *Almagest* and the Ptolemaic model of a geocentric universe
- C. Why the Ptolemaic cosmology was accepted so long: scientific, not religious reasons
- D. Underlying assumptions of Aristotelian physics; its deductive approach; 'saving the appearances'; instrumentalism

II. The life and career of Nicholas Copernicus (1473-1543)

- A. His family background and education
- B. How he came to an understanding of the heliocentric system
- C. Georg Rheticus and the publication of *De revolutionibus orbium coelestium* (1543)
- D. The reception of *De revolutionibus* in Germany
  - 1. The Wittenberg interpretation: acceptance of Copernicus's astronomical tables but not of his heliocentric model
  - 2. The support of the Lutherans Michael Mästlin (1550-1631), Philip Melanchthon (1497-1560), and Johannes Kepler (1571-1630)

III. The Protestant reception of the new astronomy

- A. Reformation doctrines that inclined Protestants to accept Copernicanism
  - 1. The three 'solas': sola fide, sola gratia, sola scriptura
  - 2. The priesthood of believers; private interpretation of the Bible; lay theologians
  - 3. The lack of a Magisterium, Index of Prohibited Books, or Inquisition
- B. The result: greater divergence of opinion, greater freedom of thought and expression

IV. The principle of accommodation

- A. John Calvin's metaphorical interpretation of biblical passages on nature
- B. Anthropomorphism: the Old Testament use of metaphors to describe God
- C. The importance of accommodation in the debate over Copernicanism
  - 1. The question of whether the Old Testament is geocentric
  - 2. The issue of whether the Bible's description of the nature should be taken literally or phenomenologically (i.e., as the ordinary language of laymen)
  - 3. Protestant willingness to accept biblical descriptions of nature as figurative
  - 4. Roman Catholic tendency to read these passages literally

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Aristotle	Cracow, Bologna, Padua	<i>praeparatio evangelica</i>
Newton, Einstein	Owen Gingrich	orthodoxy, heresy
Ptolemy of Alexandria	Plato	<i>scientia</i>
(second century A.D.)	<i>Commentariolus</i> (1514)	Hellenistic Age (323-30 BC)
<i>Almagest</i>	University of Wittenberg	Alexandria, Pergamum
crystalline spheres	Georg Rheticus (1514-1574)	demiurge
fixed stars	<i>Narratio prima</i> (1540)	special & general revelation
primum mobile	Nuremberg	Johannes Kepler
Unmoved Mover	Andreas Osiander	Plato's <i>Timaeus</i>
empyrean	Ad lectorem ('to the reader')	cosmology
epicycles	Martin Luther (1483-1546) John	Aristotle
terrestrial, celestial	Calvin (1509-1564)	Albert the Great
Pythagoras (sixth c. B.C.)	University of Tübingen	Thomas Aquinas
Aristarchus of Samos	<i>New Astronomy</i> (1609)	
(c. 310-230 B.C.)	Diego de Zuniga	
ether	University of Salamanca	
Lucas Watzenrode	Antoninus Pius (138-161)	