

Scientific Revolution—Galileo

- **“Official Story” of Galileo promotes misconceptions**
 - Before Scientific Revolution, everyone was superstitious, gullible, ignorant
 - Christians based belief in geocentric universe on Bible.
 - The Church was afraid of the discoveries of science and sought to cover them up.
 - Galileo was a critical contributor to Geocentric theory.
 - Galileo was persecuted by bigoted Catholics.

Scientific Revolution—Galileo

- **Ancient scientists were brilliant, sophisticated**
 - Knew size of earth in 200 B.C. Astronomy was advanced science.
 - Proposed many intelligent theories regarding natural world; but could not prove them.
- **Medievals considered Aristotle the authority on science, not the Bible**
 - Apostle Paul and other Church fathers, studied the Greeks.
 - Believe in geocentric orbits was based on observations and **absence of parallax**.
 - Tycho Brahe’s hybrid model combined insights of both Copernicus and geo-centrism, and was accepted by many Churchmen.

Scientific Revolution—Galileo

- **The Catholics Church was patron of science, promoted research, founded Universities**
 - Permitted **Copernicus** to published theory (20 years before Galileo was born).
 - *Feared heresies and schism*, not science. *All* Scholars were encouraged to publish controversial ideas in Latin.
 - Accepted **Tycho Brahe’s** hybrid theory. In Galileo’s time it was preferred by many scientists.
- **Galileo’s observations did not prove Geo-centrism**
 - Moons orbiting Jupiter was irrelevant to theory, observations regarding tides were wrong.
 - **Brahe’s** careful measurements, **Kepler’s** theory of elliptical orbits were critical—not Galileo’s insights.

Scientific Revolution—Galileo

- **The Church permitted research on helio-centric theories from 1543-1616**
 - Allowed Galileo freedom to publish until late in career.
 - No persecution of Galileo until publication of provocative work.
 - Kepler’s observations showed problems with Copernican theory (orbits were elliptical).
- **Galileo’s claim to fame is prosecution by inquisition, not scientific contributions**
 - Controversy promoted by Protestants/Atheists in order to bash Catholic Church.
 - Controversy promoted by Soviet Union in order to bash Christianity, promote “Scientific Socialism.”

Scientific Revolution—Newton

- **Newton's universal laws of Gravitation and Motion laid foundation of modern physics**
 - Mind-boggling insights into mechanics, optics, mathematics
 - Kepler's theory of planetary and Descartes' Cartesian system were most important scientific influences.
 - Formalized ideas of gravity, force, mass, motion.
 - Opened door to systematic study of energy and matter.
- **Newton was a (non-conforming) Christian**
 - Argued against nefarious, atheistic implications of his theories.
 - Wrote more articles on theology than on physics.
- **Newton's ideas were a thunderbolt—far more radical than any other scientific discovery in history.**