The Copernican Revolution, the Scientific Revolution, and the Mechanical Philosophy

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Phil. 401
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Course Goals

By the end of the quarter, students should be able to explain in what ways the mechanical philosophers agreed and disagreed with Aristotle and scholastics about

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3. **Empirical Theories,** in particular, the place of the earth in the solar system, the composition of matter, and the causes of terrestial and celestial motion.

We're on our way to meeting goal three, but we've got two more to go ...

Course Structure

Question: Why did we read about Aristotle and Copernicus first in this class?

Answer:

- Aristotle's worldview was **unified**: his cosmology (e.g., the earth is the center of the universe) was related to his theory of motion (i.e., involving "natural places" of elements), which was related to scholastics' views about the value of controlled experiments (e.g., that they may not reveal natural motions).

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- So to reject one part of Aristotle's worldview, one must reject many other features.
- Thus, after Copernicus, philosophers developed not only new "scientific" theories (e.g., of sunspots, motion, vacuums, etc.), but also new philosophical theories about, for example, the role of authority and experiments as sources of knowledge.

Moving Forward

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- Interpretations of these sources differ significantly.
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  - We'll discuss whether there was a "scientific revolution" at all in the last two weeks.
- Large narratives often neglect differences between thinkers.
  - E.g., Galileo, Locke, and Descartes all thought there was something special about "primary qualities" but for different reasons.