

Lecture overview: first class meeting

The Scientific Revolution

Traditional account of the scientific revolution

1. Rise of **mechanism** and materialism
2. **Mathematization** of theories of nature
3. Thoroughgoing **experimentalism**
4. Focus on **method**

New School critiques of the traditional account

1. The continuities with previous centuries are greater than the differences:
 - (a) Magical, alchemical, and other older ideas continued through the 1600s
 - (b) The people studying nature before 1600 often engaged in activities we would think of as "scientific"
2. No such thing as THE scientific revolution: there were changes in the 1600s, but these changes pulled in opposite directions, and do not form a single, cohesive unity

The Presocratics

The first philosophers/ scientists. (Want to know more about the Presocratics? Go [here](#).)

- Thales said that water is, in some sense, the fundamental stuff of the universe.
- Anaximenes said that air is fundamental, and claimed that all changes in nature are the result of condensation and rarefaction (contraction and expansion) of this air.
- Empedocles said there are four fundamental kinds of thing: earth, air, fire, and water. Changes in the natural world are due to two fundamental forces: Love (attraction) and Anger (repulsion).
- Note that all of them claim that what is fundamental, what is truly real, is something physical/ material. Plato will reject this view.

Plato's Allegory of the Cave

- We are the prisoners on the floor of the cave: the shadows on the wall represent the material world know via our 5 senses.

- The world outside the cave represents the realm of the Forms, which Plato believes to be the real world. The Forms are perceived only through reason, not our 5 senses. The forms are eternal, unchanging, and perfect -- whereas the material world is changing and imperfect.