

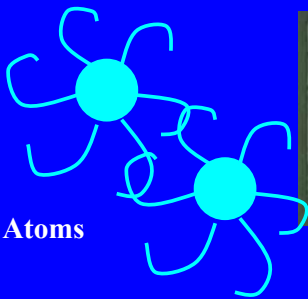


On the Nature of Things

Characteristics of Atoms

- Solid (I, 510)
- Everlasting and Indestructible (I, 518-550)
- Come in finitely many different shapes (II, 480)
- An infinite number of atoms of each shape (II, 525)
- Shapes of atoms account for coherence with other atoms, and for sensible effects.

Characteristics of Atoms

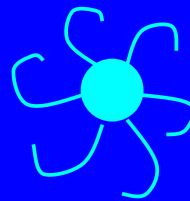


Atoms



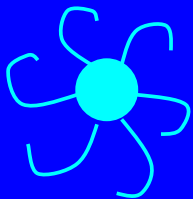
Velcro

Characteristics of Atoms



- Shape
- Size
- Hardness
- Weight
- Location
- “Primary Qualities”

Characteristics of Atoms



- Color?
- Taste?
- Smell?
- Temperature?
- Sound?
- “Secondary Qualities”

Characteristics of Atoms

- Atoms have primary qualities.
- Atoms have *no* secondary qualities
- *Things* have secondary qualities only because of the arrangements of their atoms, and because of the interaction between their atoms and our sense organs.

Characteristics of Cheese

- **Soft texture**
 - Constituent atoms do not bind very tightly.
- **Sharp smell**
 - Atoms that emanate from cheese have shape that enters certain odor-receptors in the nose.

Other Ancient Theories of Reality

- *Thales*: Everything is ultimately water.
- Reductive theory.
- It can be gas, liquid or solid.
- But it has essential properties that are inconsistent with essential properties of some things in reality:
- Fire
- Building blocks of reality must be consistent with all things in reality.

Other Ancient Theories of Reality

- *Thales*: Everything is ultimately water.
- *Anaximander*: Air
- *Heraclitus*: Fire
- *Pherecydes*: Earth

Other Ancient Theories of Reality

- *Empedocles*: Water, Air, Fire, and Earth
- Everything in reality made of various combinations of these.
- *Democritus* took a different approach: ultimate constituents are something unfamiliar to us, so not inconsistent with anything in reality— “theoretical posit”
- But Aristotle endorsed Empedocles’ theory, and his views prevailed until 17th Century.

