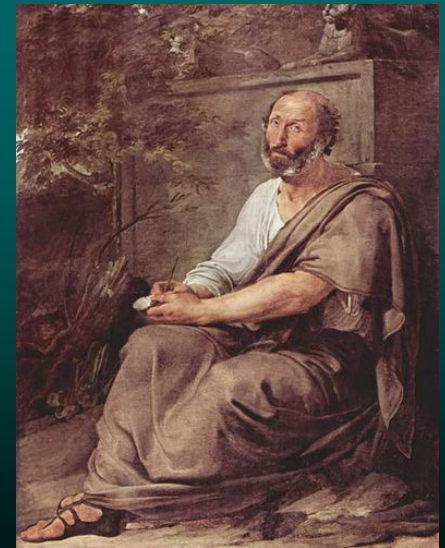
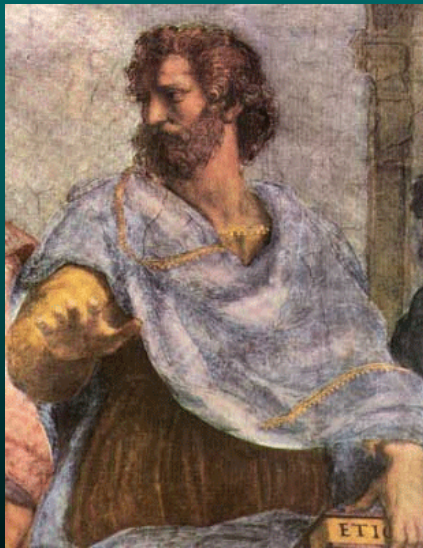


Aristotle

B.C. 384 – 322 B.C.



Aristotle

- His work in physics and cosmology dominated Western thought until the time of Galileo and Newton.
- Much of it was subsequently proved wrong.
- Began with the accepted Greek notion that everything was made up of one of four elements:
 - earth
 - water
 - air
 - fire



The Four Elements

- Accepted the notion of the earth at the centre of the universe, with the moon, planets, sun and stars all orbiting around it in perfect circles.
- Believed the four elements always sought to return to their 'natural place'.
- Example:
 - A rock would drop to the earth as soon as any obstacles preventing it from doing so were removed.
 - Because 'earth' elements, being denser and heavier, would naturally seek to move downwards towards the centre of the planet.
 - Water elements would float around the surface
 - Air would rise above that
 - Fire would seek to rise above them all, explaining the leaping, upward direction of flames



The Fifth Element

- The notion of everything tending towards its ‘natural place’ was not consistent with his view of the rest of the cosmos rotating in perfect, uniform order.
- To explain this, added a fifth element to the traditional four – ‘aether’ – which naturally had a circular motion.
- Everything beyond the moon was regulated by aether, explaining both its perfect movement and stability, while everything below it was subject to the laws of the four other elements.
- Widely accepted for next two thousand years.
- Made a lasting impact on the development of scientific thought.



Towards Biology

- Some of Aristotle's biology was faulty, such as the notion of the heart, not the brain, as the seat of the mind.
- Consistent with his empirical approach he undertook detailed dissections to dispel certain myths, for example, that an embryo is formed at the moment of fertilisation, and that the sex of an animal is determined by its position in the womb.
- Aristotle was one of the first to attempt a methodical classification of animals, using means of reproduction, differentiating between those animals which gave birth to live young, and those which laid eggs.



The Legacy of Aristotle

- Aristotle believed there was much to be learned from observing nature.
- Applied this approach to vast areas of existing knowledge to validate, reject, or add to what was already known.

