Ancient Thinking

Belief in ETI was widespread in ancient Mediterranean world – Pythagoras (570–500 BC), Democritus (460–370 BC), Epicurus (341–270 BC). Atomist theory.

Aristotle (384–322 BC) denied multiple worlds existed, to impose order on universe.

Two schools of thought:

- **Plutarch** *The Face that is in the Orb of the Moon:* premise of design
  1. Earth is not privileged
  2. Heavenly bodies are not “naturally” positioned; hence there is intelligent design
  3. Moon is sufficiently like Earth to support life
  4. If Moon lifeless, it would exist to no purpose – inconsistent with intelligent design

- **Lucretius:** Accepts 1 & 3 above. Believes in Atomist thoery. No design, but innumerable words imply a **plurality** of intelligences.

Western thought through middle ages dominated by rigid philosophy of Aristotle. St. Augustine believed in the theological uniqueness of life on Earth. St. Thomas Aquinas wrote that God could have created many, but chose to create only one, inhabited planet.

Until Copernicus, Church refused to accept these ideas. After Copernicus, theology was Plutarch-like. After Darwin, Lucretian-like philosophy accepted.

Criticism in 19th century:

- **Whewell** (*The Plurality of Worlds*, 1854) Astronomical, geological evidence that number of planetary systems was small; imperfect design if unredeemable souls existed on other planets.
- Refutation of theory of spontaneous generation (*Redi, Pasteur*)
- Objections to Kant-Laplace nebular hypothesis of solar system origin

Objections overturned in 20th century:

- Miller-Urey experiment
- Astronomical observations of non-special nature of Earth, solar system, Galaxy