

A Brief Overview of Aristotle -- Background and Cosmology

Foundations in Cultural Astronomy and Astrology

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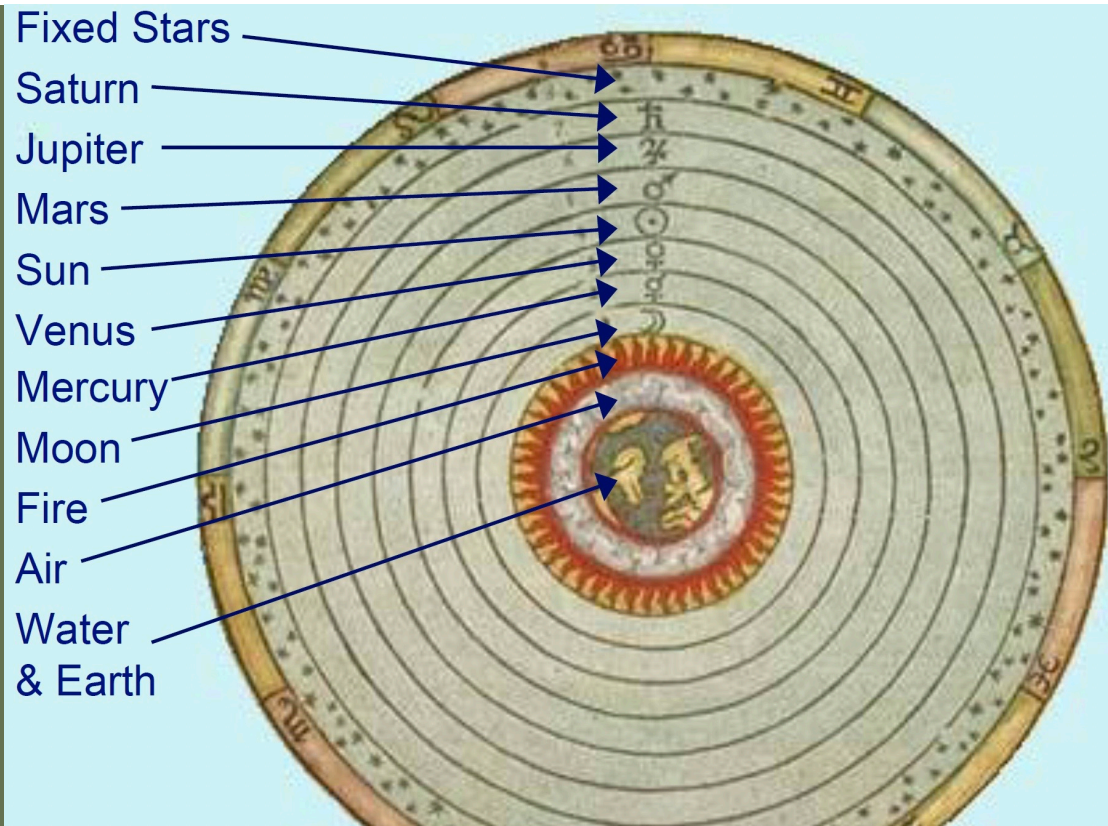
Fresco by the famous artist Raffaello Sanzio da Urbino (1483 – 1520), commonly known as Raphael, depicting Plato holding the *Timaeus* and Aristotle the *Nichomachean Ethics* (in the Vatican next to the Cistine chapel).

Aristotle's primary material was written down 200 years after his death from student notes and, therefore, this is different to Plato's writing (which is said to be written down by Plato himself).



Aristotle – Background

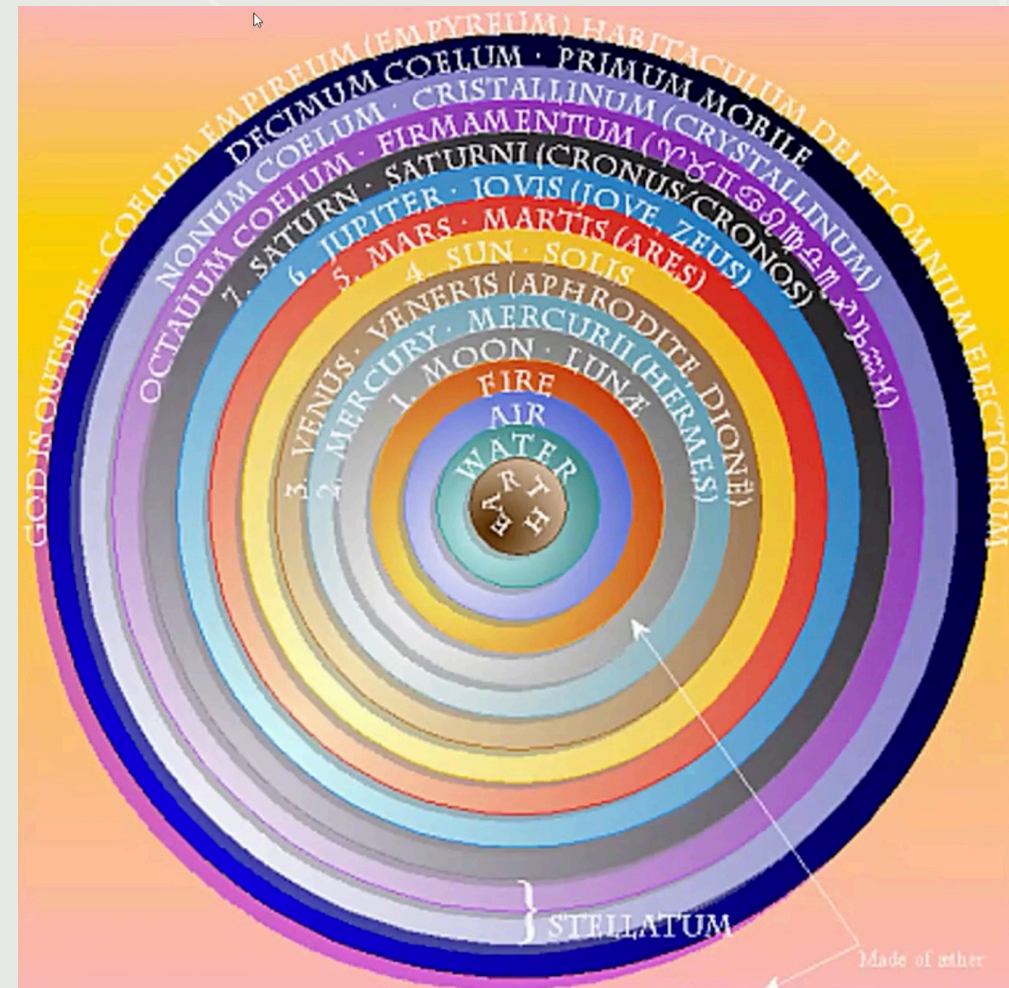
- ▶ C. 384-323 BCE – Born in Stagira, northern Greece
- ▶ His father was the personal physician to Amyntas II of Macedon.
- ▶ In 367, at the age of seventeen, Aristotle went to Athens to study at Plato's Academy & Plato nicknamed him 'the brain' - Aristotle's work not as poetic as Plato since written up by his students from his notes some 200 years after his passing
- ▶ Leaves Athens in 347 after Plato's death, moved to Asia Minor, married the daughter of the local ruler and founded a new Academy
- ▶ In 344 he moved to Lesbos, where he worked with Theophrastus
- ▶ He returned to Macedon, where he tutored the future Alexander the Great, son of King Philip II of Macedon by 343 BCE
- ▶ 336 Alexander succeeded so Aristotle returned to Athens and established the Lyceum, whose members became known as 'Peripatetics'
- ▶ 323 Alexander died and Aristotle went into voluntary exile in Chalcis in Euboea, where he died

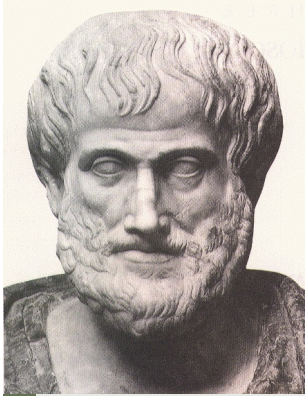


Aristotle's Cosmology

Aristotle's De caelo available online:

<http://archive.org/details/decaeloleofric00arisuoft>





Aristotle's 'Science'

- A response to Plato's 'unscientific' natural philosophy (Bowen and Wildberg 2009, p.1)
- Aristotelian science was based on purposes, or "final" causation
- Things strive to reach their natural place, or to avoid abhorrent situations (e.g. a vacuum)

➤ Elements and Natural Motions

- ❖ Universe comprised of four elements: "...four bodies are fire, air, water, earth."

(*Meteorologica* 339a15-16)

- ❖ Fire/air naturally move upwards, water/earth downwards, each seeking its natural place.
- ❖ Heavier things fall faster, in proportion to weight.

(*Physics*, IV 8)

➤ Teleological Physics

- ❖ Strivings, horror of a vacuum...
- ❖ Everything strives towards the eternal, hence heavenly bodies move in circles, and must be made of a fifth element--*aether*



Detail of a Roman copy (2nd century BCE) of a Greek alabaster portrait bust of Aristotle (c. 325 BCE); in the collection of the Museo Nazionale Romano, Rome.

The Unmoved Mover

- ▶ All things are moved by a primary cause – LOVE (note here translation issues and changes in meaning over time)
- ▶ Immaterial, unique, unchanging, eternal
- ▶ Each of the planets also moves in its own sphere and it the seat of a divine essence

‘We think of the stars as mere bodies, and as units with a serial order, indeed but entirely inanimate; but we should rather conceive them as enjoying life and action’

(Aristotle, *On the Heavens*: 11.16-22)



Aristotle's Naturalism

'This world necessarily has a certain continuity with the upper motions; consequently all its power is derived from them. (For the originating principle of all motion must be deemed the first cause.)'

(Aristotle, *Meteorology*: 339a. 19-24)

- ▶ Stars are living and the Unmoved Mover initiates all movement of them, through LOVE
- ▶ Everything moves according to its own nature (eg. Earth moves towards earth, air towards air, etc.)
- ▶ Humans can directly, empirically perceive the living stars and planets
- ▶ Different to Plato in that Aristotle believes in the power of the human senses and the empirical world whereas Plato proposed we live as if in a cave (See *The Republic*), insensible to the divine and seeing merely reflections of true forms
- ▶ Naturalism: Knowledge is discovered through an empirical approach
- ▶ Due to this approach, Aristotle has been defined as a protophenomenologist (Casey 1998, p. 57)

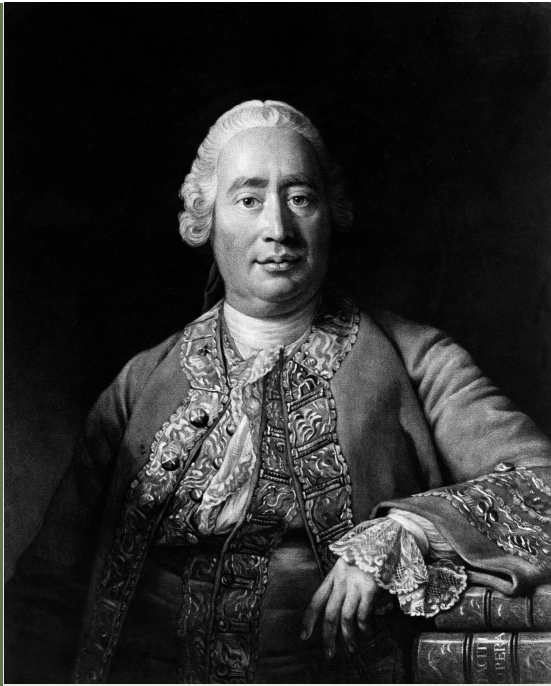


Causality, Telos and Soul for Aristotle

- Theory of Causality -- Four causes for phenomena
 - ❖ Material – bodily constituents (wood)
 - ❖ Efficient – means by which it is brought into existence (carpenter)
 - ❖ Formal – pattern of the thing to be formed (the idea of the designer to make the table, the plan for it)
 - ❖ Final – the end, purpose or goal of it (telos) – (the goal of the wood to be a table and the table to exist)
- Telos and the Soul
 - ❖ The acorn dreaming to be the tree...
 - ❖ Everything strives towards its own potential and moves according to its own nature
 - ❖ A hierarchy of mortal souls – Nutritive (plants), Sensitive (animals) and Rational (humans)
 - ❖ Unlike Plato, Aristotle did not believe a soul could exist without a body

(*On the Soul* - <https://classics.mit.edu/Aristotle/soul.mb.txt>)

- ❖ Also, unlike Plato, Aristotle believed the 'ness' of something exists within itself – there are no universals separate to particulars (Metaphysics 1028b5, 1017b25)... 'within every cat is the perfect nature of cat... every cat contains the perfect essence of cat' (to quote from Bernadette Brady's lecture on Aristotle -- on Moodle)



The Significance of Aristotle's Cosmology and its Influence on Philosophy

- ▶ It can be said that he laid the foundation for the development of the empirical sciences (i.e. sciences such as medicine, zoology, biology, that have an empirical approach entailing the use of observation)
- ▶ His work also laid the foundation for the philosophy underlying Christian theology founded on the work of Thomas Aquinas
- ▶ Aristotelian cosmology in terms of his naturalism influenced philosophers such as David Hume (1711-1776), who concludes, in his *Of Miracles*, that

'A wise man, therefore, proportions his belief to the evidence.'

(<https://davidhume.org/texts/e/10> - E 10.4, SBN 110-1)



The Significance of Aristotle's Cosmology and its Influence on Astrology

- ▶ Aristotelian cosmology dominated European astronomy until the astronomical revolution of the sixteenth and seventeenth-centuries.
- ▶ Aristotle influenced Astrology through Claudius Ptolemy's *Tetrabiblos* (c.120 CE), which became a highly important astrological textbook in the west and was used by the astrologers of the Islamic world from the ninth century onwards.
- ▶ Ptolemy removed all divine and mythological causes from astrology and was the first astrologer we know of to put forward the naturalistic rationale for astrology, namely that if the moon pulls the tides then it, and the other planets, must similarly exert an influence on humanity. This represents a decisive shift within astrology away from an astrology of deities and souls to one of physical influences.
- ▶ The importance of the *Tetrabiblos* in western astrology was consolidated when, in 1138, it became the first major classical astrology text to be translated from Arabic into Latin. This translation was part of a wave of translations of Arabic material, including a very large proportion of Aristotle's work.
- ▶ The introduction of astrology into medieval thought was part of a wider intellectual and cultural revolution which has become known as the 'Twelfth Century Renaissance'.

Aristotle Further Reading -- Primary sources

- *Metaphysics*, 2 Vols, Vol. 1, trans. Hugh Tredennick, Vol. 2 trans. Hugh Tredennick and G. Cyril Armstrong (Cambridge Mass., London, 1933).
- *Physics*, 2 Vols, trans. F. M. Cornford and P. H. Wickstead (Cambridge Mass., London, 1930).
- *On the Soul*, trans. W. S. Hett (Cambridge Mass., London: Harvard University Press, 1936).
- *On the Heavens (De Caelo)*, trans. W. K. C. Guthrie (Cambridge Mass., London, 1921).
- *Meteorologica*, trans. H. D. P. Lee (Cambridge Mass., London: Harvard University Press, 1937).
- *Athenian Constitution*, trans. H. Rackham (Cambridge Mass., London, 1931).
- *Nicomachean Ethics* (https://www.loebclassics.com/view/aristotle-nicomachean_ethics/1926/pb_LCL073.1.xml)

All also available on LOEB Classical Library: <https://www.loebclassics.com/>

Aristotle Further Reading -- Secondary Sources

- Bowen, Alan and Christian Wildberg eds., *New Perspectives on Aristotle's De caelo*. Amsterdam: Brill, 2009.
- Casey, Edward S. *The Fate of Place, a Philosophical History*, Berkley, CA>: University of California Press, 1998
- Hume, David. Of Miracles -- <https://davidhume.org/texts/e/10>
- Ptolemy, Claudius. *Tetrabiblos* (c.120 CE) -- <https://www.loebclassics.com/view/LCL435/1940/volume.xml>