

Lecture One: Historical Context and Descartes' Life

1. First Contrast: Pre-Modern vs. Modern

We can draw attention to a number of contrasts between the **pre-modern** (a.k.a. late post-classical, medieval) period and the **modern** period. These contrasts are simplifying, and only represent general tendencies. But it's still useful to have some idea of the dominant cultural currents.

Pre-modern (11th-15th centuries)

God plays a significant role in society and philosophising. Philosophers (e.g. St. Thomas Aquinas) do offer philosophical arguments for their views, but they do go to great lengths to mould their philosophy to pre-existing theological commitments when necessary.

A culture comfortable with appeals to authority: primarily God's authority, and derivatively the church's authority and the authority of the sovereign (e.g. the divine right of kings).

Philosophically: the height of Aristotelian philosophy. This involves a commitment to **hylomorphism** and (typically) some form of **direct realism** about perception.

Hylomorphism: objects are composed of a combination of **matter** and **substantial forms** (akin to an organising principle). This makes space for **natural teleology**: things in the world have purposes (final causes) which they are trying to fulfil.

In epistemology we have **forms** directly perceived by the mind – no intermediary sensation or idea. The world is enriched with real qualities like temperature, colour, taste, etc.

Metaphysics, philosophy of logic and language are central concerns.

Economically we have a **feudal** system. Serfs work independently and contribute part of their production to their lord. On the surface this is a social system bound together by reciprocal duties and loyalty.

Modern (late 15th century onwards)

God's and church's authority downplayed. We have the **enlightenment ideal**: individuals can come to understand the world around them and what they should do for themselves.

This is reflected within religion itself: the **protestantism** of Martin Luther (1483-1546) and John Calvin (1509-1564) involves cultivating a more personal relationship with God, unmediated by the church.

This growing individualism is represented in political thought: a growing concern for individual rights and liberty. A monarch's authority starts to look questionable: political legitimacy has to be earned.

Economically we have the collapse of **feudalism**. Growing technology means production is moved to the city, and the creation of a **proletariat** (people who sell their labour). A social system mediated by

self interest and a 'natural propensity to truck and barter' (Adam Smith). The early stages of **capitalism**.

Philosophically: the influence of new scientific methods is huge. We can start to reductively explain the behaviour of the natural world without using **natural teleology**. **Corpuscularianism** displaces **hylomorphism**.

In **epistemology**: the triumph of the 'idea' idea: we perceive the world via mental images that represent the world. This **representationalism** hugely influential on the history of philosophy.

2. Second Contrast: Rationalism vs. Empiricism

The modern **rationalists** and **empiricists** typically agree on the rejection of scholastic Aristotelianism, and on the 'idea' idea. But they disagree with one another on fundamental issues.

"Empiricists are like ants; they collect and put to use; but rationalists are like spiders; they spin threads out of themselves." Francis Bacon

Rationalists include:

René Descartes (1596-1650), *Discourse on the Method* (1637), *Meditations on the First Philosophy* (1641)

Benedictus Spinoza (1632-1677) *Ethics demonstrated in Geometrical Order*

Gottfried Wilhelm Leibniz (1646-1716) *Discourse on Metaphysics, New System, Monadology*.

They are loosely united by the idea that it is possible, by the use of reason, to gain superior kind of knowledge to that derived from the senses. We have a faculty of reason, intuition, 'natural light', 'light of reason' that can perceive things 'truly, as they are in themselves'.

They were inspired by the development of science – in particular scientists' use of **mathematical** and **geometrical** tools.

Empiricists, in contrast are more inspired by the experimental, observational style of the modern science (they downplay its *a priori* elements). For them, the only way to gain substantive knowledge about the world is through sense experience – observation and experiment especially.

3. Descartes' Early Life

Born 1596 in La Haye (now Descartes, central France between Tours and Poitiers). His father, Joachim Descartes, was a councillor at the Parliament of Brittany. Mother Jeanne Brochard died the following year. Descartes was raised by his grandmother. He describes his childhood as a time of distress, melancholia, and illness.

In 1606, Descartes begins to board at the Jesuit College of La Flèche at Anjou. Here Descartes got the best education available at the time. During the first five years, Descartes learns Latin and Greek and becomes familiar with the classic texts. During the next three years, he studies arithmetic, music, geometry, astronomy, metaphysics, natural philosophy, and ethics.

He learns the 'scholastic world-view'. This combines the principles of Aristotelianism (**hylomorphism** and **natural teleology**) with Christian Theology.

Formal debates were organised at the Universities. Taking part in them required mental agility, knowledge of logical terminology, and ability to make fine distinctions and qualifications. Claims were tested for internal inconsistency and clash with authorities (Bible and Aristotle).

4. After College

Descartes finishes a law degree at the University of Poitiers in 1616. He also studies medicine there. Crucial: meets Isaac Beeckman in November 1618 in Netherlands. Beeckman describes himself as 'physico-mathematician'. Together, they are drawn into passionate debates about mathematics and sciences.

Beeckman was seeking reductive, mathematical explanations of macro-level phenomena on the underlying mechanical micro-level. The goal was to explain things like optics, hydrostatics, gravity, and acoustics mathematically on the atomic level.

During Descartes's life-time the scientific revolution was gathering pace. The main inventions were done in cosmology: Galileo Galilei, Tycho Brahe and Johannes Kepler. The results and success of this project were in obvious conflict with the Aristotelian world-view. Explanations based on purposes came to be seen as circular, inaccurate, and uninformative.

The clash between the writings of the authorities and the observations became untenable. However, the new sciences needed underpinnings.

In 1619, Descartes reports having seen three vivid dreams near Ulm. He interprets them giving him a new project in life: to find a completely new philosophy which leaves a place for God in mechanical world-view of the physical Universe.

Descartes proposed that the whole universe is made of one kind of matter, with a few describable properties, which follows one set of laws. This unified vision set the framework for the subsequent Newtonian unification of mechanics and astronomy.

The "mechanical" approach favoured a contact or impact model of the interaction of small, unobservable "corpuscles" of matter (which possess only a limited number of mainly geometric properties, such as size, motion, shape, etc.).

In contrast to Aristotle's "real qualities," the properties (or modes) of bodies dealt with in Cartesian physics are measurable specifically on ratio scales, and hence are subject in all the right ways to mathematics.

The plan was to reduce the class of metaphysically suspect properties, such as heat, weight, taste, to the empirically quantifiable attributes of size, shape, and motion, and so to develop a theory that requires only the properties of extension to describe the manifest order of the natural world.

A letter to Mersenne (28 January 1641): "these six meditations contain all the foundations of my physics. But please do not tell people, for that might make it harder for supporters of Aristotle to approve them. I hope that readers will gradually get used to my principles, and recognize their truth, before they notice that they destroy the principles of Aristotle."

Publishes some major philosophical works, beginning with the *Discourse on Method*. Here he tries to establish the way you go about seeking truth in the sciences.

1641: *The Meditations on First Philosophy*.

1644: *Principia Philosophiae*

During the last years of his life, Descartes lives in the countryside. He continues his scientific work: physics and physiology (animal machines).

In the year 1649, the Queen Christina of Sweden invites Descartes to Stockholm to teach her. Descartes dies of Pneumonia on 11th of February 1650.