## Lecture 1. Introduction

## What Is Science? What Is Philosophy?

***How did the image of science and philosophy change in different periods of history. — History as a metaproject: we are the Modern Europeans; the definition and interpretation of the concept of “cosmo-”, “theo-”, “anthropocentism”. — The main forms and tendencies in the development of philosophical knowledge (idealism, materialism, positivism); the method of philosophical knowledge. The rise of conception about principal cognoscibility of the outer world by the human reason.***

1. Some possible definitions of the term **science**:

“<…> **modern science** is a discovery as well as an invention. It was a discovery that nature generally acts regularly enough to be described by laws and even by mathematics; and required invention to devise the techniques, abstractions, apparatus, and organization for exhibiting the regularities and securing their law-like descriptions”. (*The Oxford Companion to the History of Modern Science*)

“Even in writings as recent as those of Locke and Hume there are many passages where the words ‘**science’**, ‘**scientific’**, etc., derived from *scientia* (the Latin equivalent of the Greek *episteme*), are reserved for knowledge of what is necessarily the case. Such knowledge is acquired by rational institution or by demonstration. This usually goes back to Plato and Aristotle. Well into the XVIII century, what we call natural science was usually called natural philosophy” (Thomas Mautner’s *Dictionary of Philosophy*).

***The conception of science and its definition*** have differed throughout various periods of history. We have to point at the peculiarities of the concept of science in the certain epoch depending on how do we answer to the question, when did science appear?

We could summarize ***the typical answers to the question*** in the following five:

* Science appeared together with the emergence of the first states in human history (not together with the human being, because science demands for its institutional organization), consequently science is the set of all knowledge about the world around us, which a restricted circle of persons could only employ (as the Egyptian priests or Babylonian Chaldeans, etc.);
* Science appeared in Ancient Greece in the form of natural philosophy and mathematics, i.e., as theoretical form of knowledge (for example, Euclid’s Elements, Ionian and Milesian Schools, Pythagoreans, etc.);
* Science appeared in the Modern Age, when experiment formed the basis of knowledge about reality (the emergence of mathematics as the language of science — Galileo and Newton);
* Science appeared while the Industrial Revolution, when the ideas about the immediate connection between production and theoretical knowledge (for example, the invention of steam engine in the XVIII century);
* Science appeared in the XX century as a separate field of knowledge about the world around us and the driving force for creation the postindustrial world (cyberspace, social nets, IT sphere development, etc.).

***NB!*** The Medieval science was primarily hermetic (like alchemy or astrology), or held under Catholic Church. Therefore, the knowledge that Medieval world used to consider to be scientific were either doubted by the experimental approach, or left aside as pseudo-scientific in the time of Modern Age.

1. The Modern culture, philosophy, civilization, the very term ‘Modern’ towards this period of time is an invention of XVII century. The same invention was the term of ‘century’:

As a Hungarian born American historian John Lukacs wrote (in his The End of the Twentieth Century and the End of the Modern Age, 1993), Oxford English Dictionary gives that the word century appeared in the English language in 1626, and up to the middle of XVII century it meant the Roman military unit of 100 people. Only afterwards it gained its usual (for us) meaning, which is quite typical for the Modern Age. The other typical thing was the introduction of the terms Antiquity and Modernity, and the division of the whole history into three parts — Ancient world, Middle ages and Modern age — appeared 300 years ago (for instance, one may find them in the works of Chornius and Cellarius in 1680s).

We will conceive that in the world history there are the following stages:

* **Ancient world** (or **Antiquity**) — which finished with the fall of the Western Roman Empire in 476 AD. The date also means the end of *Pax Romanum*;
* **The Middle Ages** — finished with the fall of the Eastern Roman Empire (Byzantium) in 1453, or with the discovery of America by Christopher Columbus in 1492, or the end of the first circumnavigation under F. Magellan in 1522;
* **The Renaissance** as threshold of **Modernity**, which finished in XVII century with rise and development of experiment in natural sciences.

We also mean that the civilizations of

* **Antiquity** could be characterized in terms of **cosmocentrism** (the order of the world, when **nature** understood as **cosmos** /Gr. order/ gives all the entities their law and principle of organization);
* **Middle Ages** could be characterized in terms of **theocentrism** (the order of the world, when **God** **of the Christians** gives all the entities their law and principle of organization);
* **Modernity** (following **Renaissance**) characterized in terms of **anthropocentrism** (the order of the world, when the **human being** himself gives all the entities their law and organization).

1. Philosophy appears in Ancient Greece in VII century BC. Traditionally **Thales of Miletus** is thought to be the first philosopher (he said “All is water”). It was **Pythagoras** who started to call himself a “philosopher”. Initially the first philosophers were in search for **the primal element** of life as the basis of essence, so this period of pre-Socratic thought we call the **natural philosophy** (or, **physiology**).

**The subject-matter of philosophical investigation is truth**. As a term, truth has been interpreted variously in the history of thought.

Thus, in the Greek philosophy the truth (***ἀλήθεια*** — aletheia) had been understood as “uncoveredness” of being in the Middle Ages the truth was interpreted as ***veritas***(from Latin *vero* — ‘to tell the truth’); in Modernity the truth has transformed into ***certitudo***, or certainty. “In the last case being appears to be the system of the world and systematically consociates via the firmly established method” (Prof. K. A. Sergeev and Prof. Yu. V. Perov).

**The principal problem in philosophy is the question on the essence**. As M. Heidegger puts it: “Why there is a thing, not nothing?” — As F. Engels puts it: “The great basic question of all philosophy, especially of more recent philosophy, is that concerning the relation of thinking and being <…> The answers which the philosophers gave to this question split them into two great camps. Those who asserted the primacy of spirit to nature and <…> comprised the camp of idealism. The others, who regarded nature as primary, belong to the various schools of materialism” (in *Ludwig Feuerbach and The End of Classical German Philosophy*).

Thus, two principal movements in the history of philosophy we may consider ***idealism*** and ***materialism***. In the middle of the XIX century **Auguste Comte** (1798—1857) established so-called ‘positive philosophy’ (positive = based upon the empirical data of experimental sciences), or ***positivism***, which became the third way in philosophy.

1. **Method** (Gr. *μέθοδος, methodos* — way) in philosophy is conceived as a way of achievement a certain goal, a set of approaches or operations of theoretical exploration of reality. In sciences method is a way of knowledge, which is being laid by the investigator to his object. Doing this, he considers the *hypothesis*. At the same time, philosophy, being the discipline which searches into the foundations of science as such, provides the investigator with the means to check, if the chosen method leads to the goal, and if he employs it consistently.

***Key words***: philosophy, science, natural philosophy, the primal element, Antiquity, Middle ages, Modernity, cosmocentrism, theocentrism, anthropocentrism, truth, method, idealism, materialism, positivism.

***Key figures***: Thales of Miletus, Anaximander, Anaximenes, Pythagoras, Parmenides, Zeno of Elea, Heraclitus of Ephesus, Anaxagoras, F. Engels, A. Comte, M. Heidegger.