

The Atomistic Worldview

by Sophia



WHAT'S COVERED

In this lecture, we will examine the notion of a philosophical worldview, and present an influential worldview from ancient Greece: philosophical atomism.

This tutorial investigates the philosophical worldview and atomism, in three parts:

1. [Philosophy as a Worldview](#)
2. [The Atomistic Worldview](#)
3. [Atomistic Influence](#)

1. Philosophy as a Worldview

Perhaps you have been asked, “What is your philosophy?” In light of our definition of philosophy—the pursuit of truths that cannot be wholly determined empirically—you may find this question difficult to answer. However, the question and our definition may be more closely related than they seem to be. Since metaphysics, a branch of philosophy, considers first principles and the ultimate components of reality, there is a sense in which *everything* falls within the purview of philosophy.

A cohesive and defensible system of metaphysics enables provides one with a way to interpret reality—a *worldview*. For example, if you answer “what is your philosophy?” by stating your belief that physical reality is the only reality, your answer impacts how you view the world. As a result of your answer, you must reject or radically reinterpret religion and belief in a deity. You must also interpret thought as a purely physical phenomenon, and deny the existence of a brain-independent mind or soul. You must likewise take a position on other abstract entities that many people believe exist.

⇒ **EXAMPLE** Numbers are abstract entities that many people believe exist independent of the human mind. If your philosophy only allows for physical entities, you must reject the existence of mind-independent numbers, since they are not physical things. (You would also have to equate “mind” with part of the brain.) Lastly, you must ensure that your actions are consistent with your beliefs. Hence, in developing a metaphysical view, you have also developed a worldview.

2. The Atomistic Worldview

An early and extremely influential worldview was developed by the ancient Greek atomists. According to atomism, reality is composed of atoms in a void.

The word "atom" comes from the Greek *atomon*, which means "uncuttable." An atom is therefore matter, which is indivisible and without parts. This is not the definition of atom used in contemporary chemistry and physics. We now know that atoms are divisible and have parts (i.e., subatomic particles).

At the time when these atoms (think of them as “chemical atoms”) were discovered, scientists thought they had found a basic, indivisible entity, so they took the name from ancient Greek philosophy and applied it to their discovery. It was later determined that chemical atoms are divisible, but the name (i.e., atom) continues to be used. As a result, we must distinguish a *philosophical atom* from a chemical atom.

Since chemical atoms do not fit this description, they are not the same as philosophical atoms.

The chief defenders of philosophical atomism in ancient Greece were Leucippus and his student Democritus. It is through the latter that we have received most of what we know about ancient Greek atomism. (It is important to note that, in addition to Greek atomism, there were other ancient atomist philosophies, including Indian and Islamic traditions.)

Greek atomism states that everything that exists is either an atom or a collection of atoms. Atoms are the smallest entity, but they are not infinitely small. Aristotle, when attempting to solve one of Parmenides’ (another philosopher) metaphysical puzzles involving change, referred to the atomistic view that new things don’t come into existence. Instead, existing things change their organization: they take new forms.



THINK ABOUT IT

Have you ever seen something begin to exist? Matter doesn’t seem to come into being. It only seems to change form. Consider, for instance, a human coming into being. The cellular material doesn’t come from nowhere. It comes from nutrients consumed and processed by the mother. Matter (the nutrients) is reordered into a new form (a human).

The atomists believed that there were different kinds of atoms. They came in different shapes and sizes and could be combined in a variety of ways. In the atomistic view, different atomic textures were used to explain how different sensations were produced. Different bonding configurations accounted for the degree of solidity of objects and other phenomena. Since, at that time, action at a distance was believed to be impossible, the atomist account was used to solve other puzzles (as in the following example).

⇒ **EXAMPLE** The ability to perceive odors—to smell—was explained as the transfer of atoms from an object into the nose. Different shapes and configurations of atoms produced a variety of smells.

It is important to note that the atomist philosophy is rich in explanations. Starting with a few simple assumptions, the atomists described and explained a variety of complex phenomena.



TERM TO KNOW

3. Atomistic Influence

As was the case with the work of the Pre-Socratics in natural philosophy, science has had to "catch up" with philosophy. With some revisions (including how molecules form bonds), the atomist worldview has been adopted by contemporary science.

However, it is important to keep in mind that, in addition to its influence on the sciences, atomism is a philosophical worldview, and that worldviews impact your perception of reality. The natural explanations for phenomena provided by philosophical atomism provoked religious and theological responses. Some theologians viewed atomism as an attack on religious belief. Others embraced it. In general, the worldview provided by Greek atomism, which is rich in satisfactory explanations of reality, requires us to consider, and even accommodate it. We are compelled to incorporate the tenets of atomism into our own worldviews, just as we are obliged to incorporate contemporary breakthroughs in physics and astrophysics.



SUMMARY

In this lesson, we discussed **Philosophy as a Worldview**, **The Atomistic Worldview**, and **Atomistic Influence**. Ancient Greek atomism is an example of a successful worldview. It provides a metaphysical system that is defensible and rich in explanations of phenomena. It is based on a belief in philosophical atoms of different qualities (e.g., shape, texture) that are the fundamental components of reality.

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TERMS TO KNOW

Philosophical Atom

An indivisible physical entity