Aristotelianism: The Naturalistic Worldview

by Sophia

☰ WHAT'S COVERED

In Aristotle's lifetime, he was known as "the man who knew everything," with no sarcasm intended. His breadth of knowledge was the reason that Alexander of Macedonia (i.e., Alexander the Great) sought him out as his private tutor. During the Middle Ages, Aristotle was referred to as, "the Philosopher" (note the capital "P"). In this tutorial, we will examine some of Aristotle's intellectual legacy.

This tutorial provides an overview of Aristotle's worldview in two parts:

1. Aristotle's Intellectual Legacy: Naturalism
2. Formal Logic

1. Aristotle's Intellectual Legacy: Naturalism

If you were asked to summarize Aristotle's contributions to humanity in a single word, "science" would be a good answer. He was not the first philosopher to consider topics that are now seen as scientific (recall the contributions of the Pre-Socratics), but Aristotle was innovative in keeping science self-contained. Like the Pre-Socratics, he did not use divine involvement to account for phenomena he could not explain. He also did not rely on metaphysical *abstractions* like "humanity". Although Aristotle used metaphysics (even in his biology), his descriptions of reality and explanations of phenomena were based *in this world*. They could—and should—be studied, measured, quantified, and tested.

Today, we call this kind of worldview *naturalism*. The naturalistic worldview specifically excludes the supernatural and, in so doing, forces us to deepen our understanding of the natural world. Naturalism does not necessarily exclude any notion of, or belief in, the supernatural. Instead, it denies the supernatural any role when explaining natural phenomena. This is the standard observed by science today.

When we assume that there are natural explanations, *we look for them*, and science advances. When we accept a supernatural explanation, we cease looking for natural causes, and science stagnates. For example, if witches are blamed when crops fail, natural causes are not investigated. Areas including irrigation, fertilizer, crop

rotation, and more are not explored. Potential remedies and improvements are left undiscovered. The same thing happens when metaphysical abstractions are accepted as explanations. Someone who believes (without foundation) that it is human nature to degenerate, will not discover medical treatments for diseases.

This approach is called *methodological naturalism*. It doesn't deny the existence of supernatural entities but asserts that science must not accept non-natural explanations for phenomena. As a result of this contribution by Aristotle, the sciences have enjoyed much success.

Consider an example from Aristotle's ethics. Aristotle didn't look for the foundations of ethics by performing conceptual analyses on the good and the just (as Plato did). Instead, he grounded his ethics in biology, on the kind of entities that humans are, and should be, according to their biological nature. He applied this naturalistic method with great success, especially when combined with his introduction of research.

Aristotle was one of the first (if not the first) investigators to gather and analyze works on a topic *before* beginning his analysis and before coming to any conclusions. This research methodology, combined with his methodological naturalism, led him to become known as the Father of Biology, the Father of Physics, and (sometimes) the Father of Astronomy. The need to precisely define natural kinds led him to develop binomial nomenclature and to perform some of the first dissections.

This painting, titled *Aristotle with a bust of Homer* also known as *Aristotle Contemplating a Bust of Homer,* was painted in 1653 by Rembrandt. Rembrandt painted it on a canvas with oil paints.

❓ DID YOU KNOW

Aristotle studied ocean creatures by examining, and sometimes dissecting, the fish and other animals caught by fishermen. He described the hectocotyl arm of the male octopus, which is used in sexual reproduction. He also accurately differentiated aquatic mammals from fish, including sharks.

Aristotle's contributions to the sciences cannot be overstated. In addition to almost single-handedly creating the science of biology, he introduced the use of formal research processes and methodological naturalism, which benefited all of the sciences.

2. Formal Logic

Aristotle is also known as the Father of Logic. Although every philosopher before Aristotle used logic, argument, and reasoning to pursue truth (e.g., Socrates), Aristotle was the first to treat logic as a separate discipline, analogous to mathematics (i.e., it can be studied, formalized, and proven). He was the first to use logic according to precise rules that determined validity. This was a significant advance in the development of reasoning. Knowing which conclusions follow from which premises is crucial. Here is an example of how Aristotelian logic can help us to make valid arguments.

⤳ EXAMPLE People often like to give one-premise arguments that are, in fact, two-premise arguments. For example, "Some immigrants from country X have committed crimes. Therefore, we should not allow people from that country to enter the U.S." Aristotelian syllogistic logic enables us to understand that for this conclusion to be valid, we must have an implicit first premise, of the form, "We should not let people enter the U.S. who are from a county whose immigrants have committed a crime." But is this premise defensible? No. If this premise was accepted, no one would be allowed to enter the U.S., including U.S. citizens.

Aristotle's formal system of syllogistic logic is good at detecting weak reasoning and teaches us to base our thinking and our arguments on reason, not emotion. In developing formal logic, Aristotle also introduced purely syntactical methods (that is, focusing entirely on structure, without any need to examine semantic content) for determining logical consequences. This was the first step in the development of computers (and computer programming). Aristotelian syllogism represents the beginnings of formal logic, but it is not only of historical interest. It continues to be studied in courses on logic and critical thinking, and questions involving its use are included in standardized testing.

📋 SUMMARY

In this lesson, we discussed **Aristotle's Intellectual Legacy** and **Formal Logic**. Aristotle's philosophical legacy is only a small part of his overall intellectual legacy. His approach to questions and explanations resulted in the establishment and accomplishments of science as we know it. His formalization of logic improved the process of reasoning and led to the development of advanced logical systems used in electronic circuitry and computers. His contributions continue to impact modern lives in a variety of ways.

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🔖 ATTRIBUTIONS

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