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History 150-03

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Response Paper I

**Prompt IV - One historian has said that the Greeks were the first 'to set aside stories about the gods and proposed natural explanations for natural phenomena.' How do the readings about** **Socrates, Aristotle,** **Archimedes, and** **Eratosthenes illustrate this statement?**

The idea that the Greeks were the first to set aside stories about the gods to rather try and propose natural explanations for natural phenomena can be first examined through Socrates, who was a classical Greek philosopher that is accredited with the development of the Socratic Method. The Socratic Method is still used in modern day teaching and it is described as a form of argumentation between individuals that is based on the asking and answering of questions that promote the act of critical thinking. Socrates was a skeptic of virtually everything, including the idea of Greek Gods and Goddesses, and liked to examine things to the best of his ability by using his methods of questioning to ask people difficult questions that they had to think long and hard about. This was not something that the people of Ancient Greece appreciated by any means, with them eventually concluding that Socrates’ unrecognition and questioning of the Gods was corrupting the youth of Athens. This act of so-called corruption was enough to bring Socrates to trial. *The Apology* was written by Plato, Socrates’ best student, and was written in order to account for the speech that Socrates made at his hearing. Contradictory to its name, *The Apology* was in fact not an apology but a defense for himself, as Socrates fully believed that there was nothing wrong with his actions. He even concludes in a statement that he will not be the last of the philosophers to make their way to Athens. He states that, “You will have more critics… and being younger they will be harsher to you and cause you more annoyance.” In a sense, Socrates seems to be implying that he knew that there were a lot more of these naturalized thinkers making their way to Athens and that he had essentially carved the way for this type of naturalized thinking to continue far after he was gone.

Aristotle, student of Plato and teacher of Alexander the Great, is recognized with being the founder of Greek science. Aristotle was always on a quest to understand the ‘why’ of every situation, so he developed a method of explaining natural phenomena through what he called, The Four Causes. These Four Causes: Material, Formal, Efficient, and Final can be applied to everything that requires some sort of explanation, including something like human movement. Aristotle built on the idea of the Four Causes by developing certain principles that are “specific to the study of nature.” Aristotle was like most other Greek Philosophers, he was not concerned about the simple stories of Gods, but he was interested in the pure and utter forms of natural phenomenon and how they related to the stories of the Gods. In contrast to what many believed during this time regarding the Gods and human nature, Aristotle believed that nature is so far concerned with human bodies that they are subject to natural change. Because of this, he believed that it was the job of students of nature to recognize these changes and determine the reasoning behind each one of these changes.

Archimedes of Syracuse is known for his discovery of the relation between surface area and volume to determine density and specific gravity. What is interesting however, is that in his letter written to Eratosthenes of Cyrene, he wrote about the fact that he did not just want to present his discoveries, he wanted to specifically analyze each geometric step he took to arrive at his conclusion. He was not someone who simply accepted facts as the truth, he wanted to discover exactly how certain things came to be. He discovered, through the act of water displacement, that upon dividing the weight of something by the volume of the water that is displaced when it is dropped in water determines an item’s density. He was able to take a simple observation, such as the fact that when something is placed in water, the same volume of water will be displaced, and turn it into an entire scientific explanation for density. Eratosthenes had this same sort of urge to analyze why certain things happen the way that they do. Eratosthenes was able to determine the circumference of the entire earth by only a few percent margin of error. He was able start with the assumption that because the sun is so far away from Earth, its rays should be parallel anywhere on the surface of the planet. He was then able to take this simple assumption and turn in into a complex mathematical equation that almost completely estimated the accurate circumference of Earth.

Greeks such as Socrates, Aristotle, Archimedes, and Eratosthenes had a sort of passion for understanding the misunderstood rather than just accepting certain virtues as fact that had been passed down for generations. These men and many more devoted their lives to understanding concepts that seemed almost untouchable at this point in time to make our lives in the modern day so much easier. They believed there had to be an explanation for everything in this universe, someone just had to be brave enough to figure it out, and for that everyone living in modern areas should be thankful.