

Aristotle: The Natural Scientist

Despite being Plato's most renowned student, Aristotle railed against many of the core principles of philosophy taught by Plato (and Socrates). Aristotle quite vocally denounced the concept of *Forms* and that *Good* and *Wisdom* were reserved to some Parnassian realm of pure abstract but, rather, such truths were readily discernible everywhere throughout the real living world.

Whereas Socrates and Plato argued that Truth was discovered by stripping away worldly artificialities until one was left with only abstract concepts, Aristotle argued that Truth was discovered by building upon all those “worldly artificialities” until one was able to ascertain the nature which was commonly inherent to all of them. Multiplicative rather than subtractive – that the world itself was comprised of *forms* (lowercase) rather than being mere shadows of theoretical *Forms* (uppercase). That identity is based upon what it actually is and its relationships to other identities.

Another way to describe Aristotle's viewpoint is that he saw Truths less as absolutes and more as varying degrees of completeness. To paraphrase one analogy, consider three truck drivers who are each picking up a load of produce from a farm. One might say that he's just picking up a load of potatoes, while another might say that he's delivering produce to a processing facility, and yet another might say that he's helping to feed hungry people. None of them are wrong and all of them are correct – the distinction lies within the scope of their perceptions as to what they are accomplishing. The statement of the last is no more correct than the first, but is merely more complete.

It is in this distinction of completeness where Aristotle stands apart to be viewed by many as the father of modern science. Where Socrates and Plato placed the utmost importance upon the final Truths, to the exclusion of most all else, Aristotle assigns equal importance upon all the significant factors which contribute towards those Truths. That the part is no less true than the whole, because there are multiple kinds of *why* and no single statement can answer them all. This, in turn, led to his concept of the Four Causes.

Within this theory, he defined an object's composition (*Material Cause*), its physical shape (*Formal Cause*), how it came to be as it is (*Efficient Cause*), and the reason it came to be as it is (*Final Cause*). He states, in no uncertain terms, that one simply cannot truly understand a thing unless one understands all four Causes of that thing. Aristotle also emphasized *entelechy* – that each of the Four Causes were to be found within the thing being studied. These Causes continue to echo in today's world of formal sciences such as Physics, Chemistry, Biology, and Engineering.

Comparable to Plato's principle of the Tripartite Soul, Aristotle conceived a similar pattern within human beings. By his reasoning, we function on one level as a biological life form (*the nutritive soul*), on another level as being cognizant of our environment (*the sensitive soul*), and on a third level in our capacity for complex thought (*the rational soul*). That every living thing possessed an “inner urge” from which it derived “natural happiness” and human beings, as they are far more complex, contain within them a great many of these. Much like the Four Causes, these identifications helped to establish a consistent methodology towards formal study. Over time, these distinctions served to further diversify modern scientific study into branches such as Botany, Biology, and Psychology.

All of these culminate in Aristotle's perception of Virtue. In the most simplistic expression, he defines Virtue as “moderation in all things”. Extremes such as shyness and vanity should be avoided, but one must still maintain a health sense of pride. That both greed and poverty are devoutly to be avoided, but one should seek to attain sufficient wealth to maintain a comfortable existence. That one should not lean towards positive or negative extremes but rather seek the *mean*.

Yet, in order to ascertain the *mean*, one must first be able to properly identify what it is which one intends to measure. Not only must one ascertain to which *soul* the thing belongs, but also its Four Causes. Once this has been accomplished, one may then observe the extremes offered by both absence and excess in order to determine the *mean*. Then, and **only** then, can one properly ascertain Truth.