

## The One Beside the Many: Aristotle's Early Theory of Universals

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**I**n his work the *Categories*, Aristotle presents an ontological system that turns Plato's notion of reality upside down. While Plato had identified universals with self-existent forms—the things that, within Plato's ontology, were most real—Aristotle presents primary substance (comprising the individual objects of sense-experience) as that which is most real. Universals, according to Aristotle, exist only as the species and genera predicated of either (1) individual substances (the species 'man' and the genus 'animal' predicated of the individual Socrates), or (2) those qualities present in individual substances (the color or whiteness predicated of Socrates' paleness).

Although Aristotle's ontology equates those things most real with those things most immediately accessible to human experience, thereby making genuine knowledge both more available and more pertinent to the things of this world, his notion of scientific knowledge still depends heavily on the existence of universals. In several of his works, Aristotle discusses the nature of universals and the process or processes through which they can be known. Although in some ways Aristotle's theory of universals is easier to grasp than is Plato's, it presents several unique difficulties. In this paper I will (1) discuss briefly the role universals play in Aristotle's theory of knowledge; (2) attempt to reconstruct the method(s) through which these universals can be known; and (3) discuss some of the problems with Aristotle's theory of universals.

According to Aristotle, scientific knowledge is deduced from first principles. These first principles must be universal, "for the syllogism proceeds through universal premisses" (*APr.* I.27.43b14–15). For example, I might argue as follows: all animals are mortal; all men are animals; therefore all men are mortal. To argue in this way I must know something about the genus 'animal' and also something about the species 'man'. Both of these terms refer to universal concepts.

Also, according to Aristotle, for knowledge to be scientific, it must be necessarily true: the premises from which it is derived must be true in every instance, and must be better known than the scientific knowledge derived from them. Because these premises are first principles, they cannot be known through demonstration; they must be known some other way.

On different occasions, Aristotle presents what at first appear to be three different accounts of how we can obtain knowledge of universals. In the *Nicomachean Ethics*, Aristotle argues that “it is intuitive reason that grasps the first principles” ( VI.6.1141a7–8).

In the *Topics*, however, Aristotle identifies dialectic as the source of first principles:

It [this treatise on dialectical reasoning] has a further use in relation to the ultimate bases of the principles used in the several sciences. For it is impossible to discuss them at all from the principles proper to the particular science in hand, seeing that the principles are the prius of everything else: it is through the opinions generally held on the particular points that these have to be discussed, and this task belongs properly, or most appropriately, to dialectic: for dialectic is a process of criticism wherein lies the path to the principles of all inquiries. (I.2.101a37–b4)

As Aristotle makes clear later in the *Topics* (I.12), and also in the *Posterior Analytics* (*APo.* I.1), dialectic can be of either of two types—reasoning (syllogistic), or inductive.

Aristotle gives a third, more detailed account of how universals come to be known in both the *Posterior Analytics* (II.19), and the *Metaphysics* (*Met.* I.1). According to this account, “we must get to know the primary premisses by induction; for the method by which even sense-perception implants the universal is inductive” (*APo.* II.19.100b4–5). Specifically, we first receive sense impressions. These impressions remain in our souls, producing memory. Then, by systematizing frequently repeated memories of the same things, we obtain experience. From the many notions we form through experience, we become able to make universal judgments about certain classes of objects. Thus, through experience, we obtain a notion of the universal, “the one beside the many which is a single identity within them all” (100a6–8).

According to this account, our notion of a universal begins with a first sense-perception, and becomes increasingly accurate with each

additional perception:

When one of a number of logically indiscriminable particulars has made a stand, the earliest universal is present in the soul: for though the act of sense-perception is of the particular, its content is universal. ... A fresh stand is made among these rudimentary universals, and the process does not cease until the indivisible concepts, the true universals, are established. (100a15–b3)

It is difficult to determine (1) whether these three apparently different accounts are intended to fit together, and (2) if they are indeed so intended, in what way they connect. Aristotle's first two accounts seem to allow for a rational approach to knowledge of universals. Aristotle's immediate premises, which are, (according to the first account) through intuition "better known than and prior to the conclusion" (*APo.* I.2.71b21), seem, at first glance, to correspond to the 'clear and distinct principles' of later rationalists. Also, the second account, in which dialectic leads to a knowledge of universals, appears similar to the account presented by Plato in the *Republic* of how dialectic can discover the truth of first principles (VII.533b–d). It is worth noting again that Aristotle divides dialectic into reasoning and induction: by classifying reasoning as a species of dialectic, Aristotle appears to allow for a rational approach to knowledge of universals.

Although Aristotle's account(s) of how universals can be known is (are) at best eclectic, induction appears to be the most important tool for discovering first principles. It can be argued that the first account—that of intuition—merely provides a name for the process described in the third account—that of induction. The fact that, immediately after describing the process of induction, Aristotle states that "it will be intuition that apprehends the primary premises" lends credence to this possibility (*APo.* II.19.100b12). Also, induction is the basis of at least one of the two types of dialectic to which Aristotle ascribes knowledge of universals in his second account.

Also, even though Aristotle's first two accounts seem to allow a role for rationalism, this rationalism is likely based primarily on what we know inductively. It might be possible, for example, that although we can clearly intuit what must be so, we gain this ability from experience. And perhaps the dialectical reasoning allowed by Aristotle proceeds from premises known through (or at least guessed from) experience.

Aristotle's theory of universals presents several problems. Given

the ontological status Aristotle assigns to universals, as well as the largely inductive method through which they are discovered, it is questionable whether universals can provide us with the type of foundation scientific knowledge requires: for if knowledge is to be scientific, it must, according to Aristotle's definition, follow by necessity from first principles known to be necessarily true.

According to Aristotle's ontology, universals exist only in individual substances. A universal is "that which is of such a nature as to be predicated of many subjects" (*DI*. 7.17a38–39). Secondary substances—universal concepts like 'man' or 'animal'—"do not merely indicate quality, like the term 'white' ... but species and genus determine the quality with reference to a substance: they signify substance qualitatively differentiated" (*Cat*. 5.3b18–20).

Presumably, then, to say 'Socrates is a man' is to say that among those things predicated of Socrates are those qualities ascribed to the universal concept 'man'—the essential qualities that make him a man. But, given the ontological status Aristotle assigns to universals, it is hard to distinguish the essential from the accidental. Suppose that every man were born sitting down and remained forever in that position. Before the first man stood up would the universal form of man be sitting? While this notion seems ridiculous, it is hard to imagine how it could be otherwise, if the universal exists only in its instances. While one might argue that Socrates would still be a man if he stood up, it would be hard, under these circumstances, to determine why he could stand and still be a man, but not lose his ability to reason without losing his manhood. If, then, (1) a universal is merely something predicable of particulars, and (2) a universal is known through experience alone, it is extremely difficult to distinguish, ontologically, those qualities of a universal that inhere essentially in each of its instances from those that are merely found accidentally in each of its instances. This example shows the difficulty of understanding what, precisely, Aristotle means by 'predication'. It is therefore ontologically questionable whether universals that exist only as things predicable of particulars can have an absolute, unchanging status separate from those particulars. But, for Aristotle's theory of scientific knowledge to work, universals must have this status.

In addition, for Aristotle's theory of inductive knowledge to work we must assume that every man has the same mental experiences (*DI*. 1.16a5–10). This assumption means (1) that every man must perceive the world in the same way, (2) that every man must classify experiences

in the same way, and (3) that every man must perceive enough of the same sorts of things to develop identical experience—in other words we must each experience enough men in the same ways that our concept of the universal 'man' will be identical. Connected with this assumption is the notion, discussed above, that a universal can have a fixed nature independent of its instances.

The second and third parts of this assumption are especially troublesome. Suppose we grant the first part of this assumption, that men perceive in the same way. Suppose we also set aside the question of whether universals can have fixed, unchanging natures. Even so, this account remains problematic. For instance, imagine a Native American living in the Americas before the arrival of the Europeans: each of the men he has experienced has had dark skin. In his mind, the concept 'man' may well include the quality of having dark skin. But even if this Native American were to experience the coming of the first Caucasians, he might not classify these men under his existing concept of man. He might, instead, think they were gods or demons.

The biggest problem with gaining knowledge of universals through induction, then, is that we can never know for certain whether our notions of these universals are complete and correct. Aristotle grants that our notions of universals develop gradually through our perceptions of each particular (*APo.* II.19). This being the case, it would seem impossible to know, empirically, when or if our notion of a universal be complete or correct. Even though our notion of this universal might be consistent with each of its instances we have encountered, we can never be certain no instances of this universal exist that contradict our notion of the universal.

This being the case, it appears the concepts of universals gained through induction cannot provide us with the necessarily true first principles we must have if we are to have demonstrative knowledge that meets Aristotle's criteria for scientific knowledge. It seems induction can provide us only with the sort of knowledge claimed by those who "assert that they do not know that every pair is even, but only that everything which they know to be a pair is even" (*APo.* I.1.71a34–b1). But this sort of knowledge is not satisfactory, "[f]or no premiss is ever couched in the form 'every number which you know to be such' ... the predicate is always construed as applicable to any and every instance of the thing" (71b3–5).

Aristotle might argue that since a pair, by definition, is even, nothing

odd can be a pair. If we assume universals are simply definitions we impose on reality, this argument holds. But it will not suffice if universals are to exist independent of our definitions. Also, in some cases, holding to our definitions and refusing to classify particulars with the proper universals because they seem inconsistent with our definitions would be like the Native American's classifying Caucasians not as men, but as gods or demons.

It is clear, then, that given the ontological status Aristotle assigns to universals and the largely inductive method he describes for obtaining knowledge of them, these universals cannot meet the criteria he requires them to meet if they are to be the first principles from which scientific knowledge must be derived.

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