

Phi 260: History of Philosophy I
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Aristotle's *Posterior Analytics*

The *Posterior Analytics* contains Aristotle's account of science and human knowledge. For Aristotle, knowledge (*epistēmē*) is demonstrative. That is, it follows from inductive or deductive arguments and is dependent upon previous cognition. Furthermore, to know something means to know why something is so, to know its cause (*aitia*); and to know something means to know something as necessary, or that it could not be otherwise.

We think we know a thing without qualification, and not in the sophistic, coincidental way, whenever we think we recognize the explanation because of which the thing is <so>, and recognize both that it is the explanation of that thing and that it does not admit of being otherwise. (*APo* I.2, 71b10-13)

There are principles (*archai*) that form the basis of all our scientific demonstrations, and these principles have the following properties. (*APo* I.2, 71b20-23) They are

- (a) true
- (b) primary
- (c) immediate
- (d) better known (or cognized) than the conclusion
- (e) prior to the conclusion, and
- (f) explanatory of the conclusion.

At 71b33ff, Aristotle distinguishes between two senses of being better known and prior:

- (i) Better known (prior) "by nature": what is furthest from perception, that is, universals.
- (ii) Better known (prior) "to us": what is closer to perception, that is, particulars.

Presumably, if we are engaged in an inductive inference, we will appeal to things that are better known and prior to us; if we are engaged in a deductive inference, we will appeal to things that are better known and prior by nature.

In I.3 of the *Posterior Analytics*, Aristotle claims that *not all* principles (*archai*) are demonstrable. For to believe that *everything* must be demonstrable would be to lead infinite regresses or circular demonstrations, that is, to skepticism.

[N]ot all knowledge is demonstrative, and in fact knowledge of the immediate premises is indemonstrable. Indeed, it is evident that this must be so; for if we must know the prior things (i.e. those from which the demonstration is derived), and if eventually the regress stops, these immediate premises must be indemonstrable. Besides this, we also say that there is not only knowledge but also some origin of knowledge, which gives us cognition of the definitions. (*APo* I.3, 72b19-24)

In his effort to explain how demonstrations ought to proceed (that is, what will count as legitimate premises of a demonstration), Aristotle goes on, in I.4, to analyze the notions of '<belonging> in every case', 'in its own right', and 'universal'.

- (i) A belongs to B in every case (i.e., not merely in some cases but in all cases)
- (ii) A belongs to B in its own right (*kath hautō*), when
 - (a) Essence of B is composed of A
 - (b) B is present in the account revealing what A is
 - (c) B is not said of A as of another underlying subject
 - (d) A belongs to B because of itself.
- (iii) A belongs to B universally if (i) and (ii) are true.

As Aristotle says, “it is evident, then, that what is universal belongs to things necessarily.” (73b28-29) So, for example, if Bob is a man, then Bob is necessarily a man; if a man is an animal, then a man is necessarily an animal. But note: when we say “Bob is pale”, it is *not necessarily* true (but only contingently true), and the claim “Bob is pale” will not ultimately be the kind of thing about which we can have *epistēmē*. Another way to put this is that we can only have *epistēmē* about essential properties of things. As Aristotle says in I.6: “There is no demonstrative knowledge of coincidents that do not belong to things in their own right (according to our determination of what belongs to things in their own right); for the conclusion cannot be proved necessarily, since it is possible for a coincident not to belong.” (75a18-21)

In the conclusion of the *Posterior Analytics* (II.19), Aristotle returns to the issue of how we arrive at the principles of our demonstrations.

We said before that we cannot know through demonstration without recognizing the first, immediate principles. But one might be puzzled about whether cognition of the immediate principles is or is not the same <as knowledge of truths derived from them>; whether there is knowledge of each, or knowledge of one but something else of the other; and whether the states are acquired rather than <innately> present it us without our noticing them. (99b20-26)

Aristotle claims that we cannot have the principle in us innately, “for then we would possess cognition that is more exact than demonstration, but without noticing it.” (99b27) Nor is it the case that we simply stumble upon these principles, for it would require a certain kind of knowledge to *recognize* them. Rather, “we must have some <suitable> potentiality, but not one that is at a level of exactness superior to that of the knowledge we acquire.” (99b33-34) As he says later, “the soul’s nature gives is a potentiality to be affected in <a certain> way.” (100a14) What is this way?

From perception [*aisthēsis*], then, as we say, memory [*mnēmē*] arises, and from repeated memory of the same thing experience [*empeiria*] arises; for a number of memories make up one experience. From experience, or <rather> from the whole universal that has settled in the soul – the one apart from the many, whatever is present as one and the same in all of them – arises a principle of craft (if it is about what comes to be) or of science (if it is about what is). (100a4-9)

Notice, first, that perception produces the universal in us (cf. 100b5), which is very much opposed to Plato’s thought. Second, the universal settles in the soul or comes to be present in the soul, which, on the other hand, is in harmony with Plato’s thought. (More on this with *De Anima*.)

Finally, Aristotle argues that it is *nous*, here translated as “understanding” (also sometimes translated as “intuition”), that ultimately grasps principles and universals. This is a difficult notion. But recall Plato’s divided line: knowledge (*epistēmē*) is opposed to belief (*doxa*); and knowledge is broken down into *noēsis* and *dianoia*. Something similar is going on in the final two paragraphs of the *Posterior Analytics*.

Like Plato, then, Aristotle believes that knowledge is fundamentally different from belief because the *objects* of knowledge or *nous*, on the one hand, and belief, on the other, are fundamentally different. This is unlike most modern accounts of epistemology, according to which knowledge is justified, true belief (i.e. knowledge is a species of belief).