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The Foundations of Knowledge in Aristotle and Epicurus: A Comparative Analysis

ABSTRACT: As early proponents of foundationalism, Aristotle and Epicurus share the view that all knowledge rests on indubitable foundations. For Aristotle, these foundations are intellectual first principles. But for Epicurus, sense perception is basic. If certainty is the criterion of knowledge, then, despite their different approaches, neither philosopher succeeds in providing a mechanism sufficient to certify knowledge claims. For the foundationalist wishing to avoid nihilism, therefore, Aristotle's and Epicurus' failures are instructive.

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Both Aristotle and Epicurus developed a theory of knowledge based on the premise that knowledge must rest on indubitable foundations.[1] Yet, they have different ideas about what constitutes an indubitable foundation for knowledge. Because foundationalism remains a popular theory of knowledge, a comparative analysis between Aristotle's and Epicurus' theories is of more than historical interest.

I will begin by outlining each philosopher's account of the foundations of knowledge. I will then perform a comparative analysis of the two accounts. While I argue that Epicurus' empiricist account of foundational knowledge is superior to Aristotle's deductive rationalism, in the end I conclude that both Epicurus and Aristotle ultimately fail to offer a mechanism for attaining certain knowledge. Their failures, I suggest, provide insights regarding how to approach a workable foundationalist account of knowledge.

Aristotle's *Posterior Analytics* begins, "All instruction given or received by way of argument proceeds from pre-existent knowledge."[2] By this he means that knowledge acquisition is a cumulative process. Aristotle takes it as a historical fact that new knowledge is always based upon something already known.[3] He observes that all fields of learning progress by building upon existing knowledge.[4] If we possess knowledge of something, we should be able to explain it from something prior, which is better known than what follows from it. Aristotle claims that we can do this through a process he calls demonstration.[5] Demonstration proceeds by deducing a proposition from other propositions that are logically prior to it.

Aristotle observes, however, that demonstration must lead to either (1)

1. Julia Annas, ed., *Voices of Ancient Philosophy: An Introductory Reader*, (New York: Oxford University Press, 2001): 200, 205.
2. Aristotle, "Posterior Analytics," in *Introduction to Aristotle*, ed. Richard McKeon, 2nd ed., (Chicago and London: The University of Chicago Press, 1973): 11.
3. Aristotle, 11.
4. Aristotle, 11.
5. Aristotle, 13.

an infinite regress, where each new bit of knowledge must be proved from prior knowledge, which itself must be proved from prior knowledge, and so on ad infinitum; (2) circular reasoning, whereby any proposition ultimately would have to be proved from itself; or (3) a foundation that does not require further proof.[6] On Aristotle's view, neither (1) nor (2) can possibly lead to knowledge.[7] An infinite regress cannot lead to knowledge because, in that case, the truth-value of any proposition would always hang on some further proposition whose truth-value had yet to be determined. And (2) cannot lead to genuine knowledge since anything—even obviously false propositions—could be "proved" by reasoning in a circle, which is absurd.[8] Aristotle concludes that knowledge must have foundations that do not require proof themselves.[9] Hence, for Aristotle, the structure of knowledge is hierarchical. We get back to the foundations of knowledge when we find those propositions that are prior to everything that follows from them, and to which no other proposition is prior.

Because demonstration proceeds by moving toward what is most prior, the foundations of knowledge are reached only at the end of the demonstration process. This fact raises a problem for Aristotle. If what is known is known in reference to something prior—as Aristotle believes—and nothing is prior to the foundations, how do we come to know the foundations? At the end of Book II of the *Posterior Analytics*, Aristotle responds to this problem with a story about how we come to comprehend the foundations of knowledge.[10] He says that we come to know the foundations of knowledge, or "first principles,"[11] differently than we come to know other propositions. They do not require demonstrative proof; rather, we arrive at first principles through a process that begins with perception.[12] We perceive particular things and form memories of them.[13] Particulars, on Aristotle's view, are not objects of knowledge *per se*. Nevertheless, when we form enough memories about particulars of a certain type, we thereby attain experience.[14] Through experience we finally arrive at universals, which, for Aristotle, are the first principles.[15]

Aristotle intends for this argument to explain how the foundations of knowledge can be comprehended without having to be proved from something more basic. It does nothing, though, to establish that knowledge acquired in this fashion is by any means indubitable. Aristotle's first principles depend on the faculties of perception and memory. However, our senses can deceive us, and memory is not always reliable. It follows that first principles are subject to doubt. Thus, first principles are not indubitable.

Despite the fact that our senses can deceive us, Aristotle and Epicurus each believe that perception plays an important role in the acquisition of knowledge. Whereas Aristotle thinks that perception is merely a starting point toward attaining comprehension of first

6. Aristotle, 16-18.
7. Aristotle, 16-17.
8. Proponents of a coherence theory of epistemic justification deny the linear, hierarchical structure of knowledge argued for by Aristotle, and insist that knowledge is structured in a "web of mutually supporting beliefs." See Noah Lemos, *An Introduction to the Theory of Knowledge*, (New York: Cambridge University Press, 2007): 68.
9. Aristotle, 16.
10. Aristotle, 108-111.
11. Annas, 200.
12. Aristotle, 109.
13. Aristotle, 109.
14. Aristotle, 109.
15. Aristotle, 110.

principles, Epicurus identifies perception itself as the foundation of knowledge.[16] In contrast to Aristotle, who must offer a separate theory to explain how first principles come to be known otherwise than from logical deduction, Epicurus conceives of perception as both the foundation and starting point of all knowledge.[17] Thus Epicurus is able to offer one, unified, empirical account of knowledge acquisition.

According to Epicurus, it is clear from the ostensive nature of language that perception is both the starting point and the foundation of knowledge. He writes, "It is necessary that the first concept corresponding to each utterance be seen, and not require demonstration, if we are to have something to which to refer the object of inquiry or puzzlement or belief."[18] In other words, in order for a statement to be either true or false, it must have a meaning, and—to the extent that our words refer to the physical world—meaning is a function of the correspondence between word and perceptible object.

The ostensive character of language shows that our concepts are derived from perceptual experience. Perception is therefore preconceptual. In fact, Epicurus claims that perception is irrational—in the sense that perception itself is without rational content.[19] Epicurus understands perception as the effect of impressions that physical objects make on our sense organs. Thus, if I perceive a red spherical shape, I may form a belief, e.g., "there is a red ball in front of me." Although my belief is about the content of my perceptual experience, it is not itself a part of my perceptual experience.[20] Whereas I argued above that the fallibility of sense perception is problematic in the context of Aristotle's theory of first principles, Epicurus argues that perceptions—qua perceptions—are always true.[21] However, the use of the word "true" is misleading in light of Epicurus' claim that perceptions are irrational, and so—properly speaking—are neither true nor false. The important point for Epicurus is that only when we form beliefs about our perceptions do we become vulnerable to error. Hence, "true" as applied to perceptions is perhaps better understood as "not false."

An illustration of what Epicurus has in mind will be instructive. In his exposition of Epicurus' theory of knowledge from *Adversus Mathematicos*, Sextus Empiricus writes,

> I would not say that sight is mistaken because from a distance it sees the tower as small and round, but larger and square from close to. Rather it is telling the truth, because when the perceived object appears to it small and of such a shape, it really is small and of such a shape, as the edges of the images are rubbed off by their passing through the air, and when it appears big and of another, again likewise it is big and of another shape. However, it is not the same thing which is both these.[22]

16. Epicurus, "Letter to Herodotus," in *Voices of Ancient Philosophy: An Introductory Reader*, Julia Annas, ed., (New York: Oxford University Press, 2001): 201.
17. Epicurus, 201.
18. Epicurus, 201.
19. Diogenes Laertius, "The Lives of the Philosophers X," in *Voices of Ancient Philosophy: An Introductory Reader*, Julia Annas, ed., (New York: Oxford University Press, 2001): 201-202.
20. Sextus Empiricus, "Adversus Mathematicos," in *Voices of Ancient Philosophy: An Introductory Reader*, Julia Annas, ed., (New York: Oxford University Press, 2001): 202.
21. Sextus Empiricus, 202.
22. Sextus Empiricus, 202.

Perceptions, according to Epicurus, cannot contradict one another; the two perceptions discussed in the above quotation, though different, are both "true" because the different perspectives on the tower impart different sense-data[23] to the perceiver. Hence, a person can only go wrong when she forms a belief, such as "the tower itself is small and round," or "the tower itself is large and square." Epicurus thereby secures the certainty of the truth of his foundations of knowledge, but the price he pays is that such truths lack rational content (and are thus not true in the robust sense of the word).

Because beliefs may be either true or false, Epicurus devises a twofold system by which one may evaluate experiential beliefs on one hand, and theoretical beliefs on the other hand. Apropos, an experiential belief is confirmed when further experience directly supports it.[24] Sextus Empiricus provides this example of confirmation:

> [W]hen Plato is approaching from a distance, I guess and believe, given the distance, that it is Plato. When he has come nearer, there is further testimony that it is Plato, the distance having been removed, and it is confirmed through what is evident itself.[25]

Confirmation, then, is the criterion of an experiential belief's being true. On the other hand, nonconfirmation is the criterion of an experiential belief's being false.[26] An experiential belief is nonconfirmed when further experience contradicts it. If, for example, the man whom I believe from a distance to be Plato turns out to be someone else when he comes nearer, then my belief will have been nonconfirmed.

Alternatively, a theoretical belief is nondisconfirmed when a relevant, though necessarily indirect, experience fails to prove it false.[27] Nondisconfirmation is the criterion for a theoretical belief's being true. For example, Sextus Empiricus writes:

> Epicurus says that void, which is an unclear item, exists, and justifies this through something evident, motion. For if there were no void there ought not to be motion either, since the moving body would have no place into which to shift, everything being full and solid. So that, since motion does exist, what is apparent does not disconfirm the unclear object of belief.[28]

A theoretical belief, however, is disconfirmed when a relevant, though indirect, experience gives it negative support.[29] Thus, the experience of total motionlessness would disconfirm the existence of void. Disconfirmation, then, is the criterion for a theoretical belief's being false.

23. "Subjective entities (allegedly) having the properties the perceived external object (if there is one) appears to have. In seeing a white circle under a red light and at an oblique angle, the sense-datum would be red and elliptical (the way the white circle looks)." See Fred Dretske, "sense-data," in *The Oxford Companion to Philosophy*, Ted Honderich, ed., (New York: Oxford University Press, 1995): 822.
24. Sextus Empiricus, 202.
25. Sextus Empiricus, 202-203.
26. Sextus Empiricus, 203.
27. Sextus Empiricus, 203.
28. Sextus Empiricus, 203.
29. Sextus Empiricus, 203.

According to Epicurus, if we follow his criteria for confirmation or nonconfirmation on the one hand, and nondisconfirmation or disconfirmation on the other hand, we can slowly and cautiously build up a stable system of knowledge. [30] The real strength of this method lies in its capacity to falsify (i.e., nonconfirm) beliefs when experiences contradict them. It is important to note, however, that Epicurus' method cannot firmly establish the truth of any given belief. At best, Epicurus' method for testing beliefs can lend positive support for a belief, since confirmation simply means that a belief about a subsequent experience conforms with a previously held belief.

As we have seen, both Aristotle and Epicurus offer robust foundationalist theories of knowledge. Although Aristotle draws on empiricism in order to account for knowledge of first principle, his foundationalism is largely a product of rationalism. In contrast, Epicurus' foundationalism is a thoroughly empirical theory. Thus, together their theories represent early attempts to provide a foundationalist account of the structure of knowledge from either side of the epistemological divide.

Recall that, for Aristotle, we know something when it can be deduced from first principles. Because deduction is a truth-preserving operation, as long as the first principles are true, whatever is deduced from them will also be true. Despite Aristotle's commitment to rationalism, in order to avoid an infinite regress, he is forced to account for the acquisition of first principles via empirical processes, viz., sense perception and memory. This suggests a limit to rationalism's capacity to explain how we acquire knowledge (especially knowledge of the external world). Yet, I have argued that the truth of Aristotle's first principles may be called into question precisely because the perceptual processes that are used in forming them are not wholly reliable, which suggests that empiricism, too, has its limits (specifically with respect to the fallibility of perceptual processes). But beyond that, Aristotle's account of first principles is obscure. First principles are somehow encoded within, but not directly apprehensible through perception of what Aristotle terms particulars. We only come to comprehend Aristotle's first principles at the end of an intellectual process.[31] And only then, for Aristotle, do first principles function as foundational constituents of knowledge.

If structural unity is a desideratum of a theory of knowledge, Epicurus' theory has the advantage. In opposition to Aristotle's hybrid theory, Epicurus offers a comparatively straightforward empirical account of the structure of knowledge. For Epicurus, sense perception is the foundation of all knowledge. Unlike Aristotle's first principles, sense perception is a direct and immediate foundation for knowledge, but it engenders a different problem, viz., sense perceptions lack rational content. In order to give meaning to our sense experiences, it seems that we have to form beliefs about them. Yet, Epicurus makes it clear that beliefs are fallible. In response to the problem of how to justify our beliefs, Epicurus offers a system for testing them that involves constant reference back to experience. Epicurus' system works best as a mechanism for falsifying beliefs (when experience contradicts a belief), but it can offer only varying degrees of assurance that our beliefs are true, since mere sense experiences, which are void of meaning in themselves, are the only indubitable "truths."

Both Aristotle and Epicurus assume that infallibility is a criterion of knowledge, yet neither one sufficiently explains how their respective concepts of the foundations of knowledge justify more extensive claims to certain knowledge. If the basic claim of foundationalism is right—viz., that knowledge must be built up from a solid foundation—Aristotle's and Epicurus' failures (and, indeed, the failures of foundationalism to the present day) suggest either that infallibility is too strong a criterion for knowledge, or that knowledge is an unattainable goal. ■

30. Note that nonconfirmation is not the negation of confirmation (although the two are mutually exclusive), nor is nondisconfirmation the negation of disconfirmation (although they too are mutually exclusive).

31. Aristotle, 108-111.