

FORMAL CAUSES

*Definition, Explanation, and Primacy
in Socratic and Aristotelian Thought*

MICHAEL T. FEREJOHN

OXFORD

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*For my mother, née Olga Lucilla Collazo Santiago, my wife,
Donna Marie Hall, and my daughter, Lucia Margaret Ferejohn*

Acknowledgements

The inception of the historical part of this project can be traced back to the early 1970s when I was a graduate student in the philosophy department of University of California at Irvine. It had been (and still remains) a piece of conventional wisdom that Aristotle's commendation of the historical Socrates for being "the first to seek universal definitions" in the course of his ethical inquiries is somehow connected with his own marked preference for definition-based (i.e., "formal cause") scientific explanations (i.e., demonstrations) in the *Posterior Analytics*. But while there has been broad agreement about the correctness of this observation, little has been done to develop a precise understanding of what it *means*, by identifying a set of common assumptions underlying both the Socratic search for definitions and the Aristotelian theory of demonstration. The major obstacle to this task had been that it was not at all obvious where in the Platonic corpus one could find information concerning Socratic views on the topics of definition, explanation, and the connections between them. I first came to see the glimmerings of a solution to this difficulty while participating in a seminar taught by the legendary itinerant—and brilliantly iconoclastic—Richard Sharvy, who at the time was visiting the UCI philosophy department. One segment of the seminar was devoted to Sharvy's novel interpretation of a familiar argument in the *Euthyphro*—that piety cannot be defined as god-lovedness. On previous interpretations, the argument's major inferences are warranted by some sort of substitution principle. Against this, Sharvy argued that the logic of the argument depends instead on the Fregean insight that even though a definition expresses some equivalence-relation, such as property (or concept) identity, the " $=_{df}$ " relation itself is nonetheless asymmetrical because it also requires that the definiens be *explanatorily prior* to the definiendum. On Sharvy's interpretation, then, the crucial inferences are instances of the transitivity of explanatory priority. In my seminar paper I raised textual questions about Sharvy's interpretation of the argument but nonetheless endorsed his claim to find the Fregean insight concerning the asymmetry of definition in the *Euthyphro*. I also suggested en passant that Aristotle's "formal cause" mode of demonstration likewise seems to

involve the explanatory priority of *definientia* over *definienda*, but at the time I wasn't sufficiently knowledgeable about Aristotle's theory of demonstration to develop this suggestion beyond the level of impressionistic speculation. As it happens, much of my research since then has been concerned with the relation between definition and demonstration in the *Posterior Analytics*. But it was only quite recently that I was able to see how to apply the results of this work to establish what I am convinced is a clear line of doctrinal connection between the Socratic and Aristotelian positions.

While my reconstruction in Chapter 2 of a Socratic definition-based model of explanation stems predominantly from my early engagement with Sharvy's work on the *Euthyphro* argument, my overall understanding of the relation between definition and demonstration in Aristotle's *Posterior Analytics* has been substantially influenced by a number of earlier treatments of those topics. In particular, I learned an immense amount from Marguerite Deslauriers' superb discussion of the various types of definition catalogued in the *Posterior Analytics*, and also from David Charles's groundbreaking work on the relations among the concepts of causality, explanation, and essence in *Posterior Analytics B* 8–10. In addition, the views I defend in Chapter 4 concerning the role of convertible statements in the Aristotelian theory of demonstration owe much to the early work of James Lennox on this topic. But even as I acknowledge those debts, I hasten to add that I do not expect any of these scholars to be entirely receptive to the lines of interpretation I develop here. Unfortunately, I became aware of David Bronstein's current research on the Aristotelian theory of demonstration only after submitting the final manuscript to the Press, and I greatly regret not being able to give his views on the topics I discuss here the careful attention they deserve.

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Introduction

It is sometimes doubted that the history of philosophy differs in any important way from the history of ideas, or what is often referred to as “intellectual history,” at least when the ideas or intellectual developments in question are philosophical in nature. The appropriate response to this sort of doubt, in my view, is to point out the two-sided nature of the history of philosophy. On the one hand, it is certainly true that the historian of philosophy, much like the intellectual historian, tries to achieve clarity about what views various classical authors held, how they attempted to support those views, and what is often something quite different, what was their *underlying* motivation in holding them. But on the other hand, the philosophical historian, unlike the “pure” historian, is also concerned at the same time to engage critically with the classical authors under study. The objective in this sort of work is not merely to understand certain historical doctrines and arguments, but also to make reasoned assessments of their philosophical merit.¹ Of necessity, the latter task involves entering into an odd sort of transtemporal philosophical exchange with a subject-author² where the scholar functions simultaneously as careful and sympathetic reader and as rigorous philosophical critic.

¹ These should not be seen as two independent activities that are to be conducted sequentially. According to the principle of Exegetical Charity, one of the philosophical historian’s most important tools, one should strive to attribute the most reasonable position possible to one’s subject-author, all else being equal. But this in turn will often necessitate a *prior* comparative philosophical assessment of various competing interpretations of the text in question. The *ceteris paribus* clause here is crucial. Properly restricted, the principle does not license interpretations that are demonstrably anachronistic or that depart too far from what the text actually contains.

² The oddity is due to the obvious fact that one party to this sort of exchange is long dead and, in the case of the ancient authors, able to communicate only through a long and hazardous sequence of textual transmission. This handicap is part of what underwrites the need for the maxim of Exegetical Charity discussed in note 1.

It of course follows from this description that a good historian of philosophy must also be at least a reasonably competent philosopher in her own right.³

It might also seem to follow that there is a direct correlation between the two competencies, so that the best philosophers invariably make the best historians of philosophy. But the historical record points to the opposite conclusion—that as a general rule some of the greatest philosophical minds have not been the most reliable informants concerning the doctrines of their predecessors. There is a perfectly reasonable explanation for this apparent discrepancy. In addition to adequate philosophical acumen, there is another equally important requirement for doing history of philosophy, one that can easily be overlooked or underestimated. It is the ability and willingness to subordinate one's own philosophical proclivities and projects in order to put oneself, at least temporarily, into the mindset of the subject-author. To most, adopting the requisite attitude of intellectual deference will not seem a particularly difficult thing to do, but the striking fact is that it is almost never achieved by any of the major figures in the history of philosophy. In fact, it may ultimately be a reflection of the power of their intellects and the greatness of their philosophical visions that their understanding of the doctrines of their predecessors is often deeply colored by their own philosophical ideas.

One especially clear example of a philosopher who fits this pattern is Aristotle, the latest of the three major ancient philosophical thinkers we will deal with at length below.⁴ For better or worse, he is one of our most prolific and most important sources concerning the views of thinkers who preceded him. What is more, his historical work is all the more valuable because he is the first ancient author to see himself as responding both to pre-Socratic natural philosophy and ancient Greek rationalism, two intellectual traditions that had theretofore managed more or less to ignore one another. Yet for all this, it has long been recognized that Aristotle's discussions of his predecessors' views generally come to us through the prism of his own philosophical doctrines. This is clear, for

³ In this respect the history of philosophy is analogous to the history of mathematics. It is hard to imagine someone charting the development of proof techniques without the ability to distinguish good proofs from bad.

⁴ Other major philosophical figures fitting this pattern include Gottfried Leibniz, Immanuel Kant, and G. W. F. Hegel, and more recently, Bertrand Russell and Saul Kripke.

example, in his historical surveys in the opening books of the *Physics* and the *Metaphysics*, both of which are organized around the doctrine of the four *aitiai*, Aristotle's own purportedly exhaustive catalogue of *all* legitimate modes of explanation. It has even been plausibly suggested that Aristotle's predecessors are all portrayed in these surveys as "inchoate Aristotelians," all groping for, but none fully grasping, the whole truth contained in Aristotle's own philosophy.⁵

Surely the proper lesson to take away from this is *not* that Aristotle's historical reports should be discounted altogether. This is not even a genuine option, since they are generally the richest, and often the only, source of available information about the views of the thinkers who preceded him. However, it does mean that his testimony should never simply be accepted at face value. Instead, the most reasonable strategy—and the one I shall employ in this investigation—is to approach Aristotle's historical accounts cautiously and judiciously, by identifying aspects of his own thought responsible for slanting those accounts, and then, by correcting for these, attempting to develop a more accurate understanding of the historical doctrines he reports.

It is particularly fortunate that Socrates and Plato, the remaining two philosophers we will discuss at any length here, are both included among the earlier thinkers covered by Aristotle's historical surveys. For one of the greatest obstacles to understanding the respective places of these two figures in the ancient philosophical tradition is the fact that Socrates himself left no texts. This has placed scholars in the difficult position of trying to distinguish his philosophical doctrines from those of his student largely by studying a single body of work consisting of philosophical dialogues, all written by Plato, but in which the character of Socrates is nearly always featured as principal protagonist. No doubt the project of distinguishing "Socratic" from "Platonic" doctrines would be virtually hopeless if all we had to go on were the Platonic dialogues themselves. It is therefore extremely fortuitous that the perils of textual transmission have spared at least some other ancient sources that discuss Socrates not as a dramatic persona but as an actual historical figure with philosophical views and interests that sometimes differ significantly from those of Plato. These additional sources, together with recent work on the chronological

⁵ Guthrie 1957.

ordering of Plato's works,⁶ open the methodological possibility of teasing out various "Socratic" strands of thought within the Platonic dialogues.⁷

Among the ancient informants who discuss the philosophical thought of the historical Socrates as opposed to his biography,⁸ Aristotle is without doubt the most valuable. Indeed, the reason for this assessment was implicit in my very opening remarks concerning the prerequisites for doing the history of philosophy. Because of his undisputed stature as a great philosopher in his own right, Aristotle is arguably the only ancient source on the historical Socrates whom we can confidently believe to have a full and adequate understanding of the philosophical material he reports.

As it happens, the occasions when Aristotle mentions Socrates by name are remarkably rare. In fact, Aristotle credits Socrates with only two philosophical innovations—one doctrinal and the other methodological.⁹ The original doctrinal contribution, according to Aristotle's discussion in Book *H* of *Nicomachean Ethics*, lies in Socrates' paradoxical denial of the possibility of *akrasia* (i.e., of someone intentionally performing an action that she

⁶ There has been a recent trend among Plato scholars to cast doubt upon the entire project of ordering Plato's works chronologically. Here I will rely on the minimal assumption that it is possible to group the dialogues into three broad chronological classifications (early, middle, and late) without endorsing the implausibly optimistic view that the dialogues can be placed in a strict chronological order. On this, see Brandwood 1990, Young 1994, and Kahn 2003.

⁷ I have little interest in the purely historical question (which so preoccupied Gregory Vlastos in his later work) of whether the positions I identify here as Socratic were actually endorsed by the biological organism whose name they bear. The interpretation of Plato's dialogues advanced here would not be affected materially if it should turn out that the views advocated by the character Socrates in the early dialogues were not held by the historical Socrates but were instead innovations of Plato himself, early in his career.

⁸ Writers in the doxographical tradition, such as Diogenes Laertius, and possibly Xenophon, seem to fall midway between these two extremes inasmuch as they report the doctrines of their subjects but are not generally concerned with the reasons given in support of their doctrines.

I omit Plato from discussion here because he almost never speaks to us in his own voice. The only possible exception is the *Seventh Letter*, but there are doubts about its authenticity, and in any case it never mentions Socrates. Granted, the *character* Socrates occasionally relates things about his earlier life (for instance, the reports in the *Apology* (26 D–E) and the *Phaedo* (96 B–99 D) of his youthful dalliance with the doctrines of Anaxagoras), but these autobiographical snippets are internal to the dramatic structure of the works and cannot be assumed to represent Plato's own views about Socrates' life.

⁹ Here I am using the term "philosophical" in a relatively narrow and technical sense that does not apply to Aristotle's report at *Politics* 1261 a 4–12 of Socrates' view that women and children should be held as community property in the ideal city. In any case, Aristotle indicates explicitly in this passage that he is referring not to the historical Socrates but to the protagonist of Plato's *Republic*.

believes, all things considered, she ought not to do). Moreover, Aristotle does not merely report this Socratic view, but discusses it at some length from a critical perspective. In fact, he uses this reportedly Socratic position as a touchstone when he goes on to develop his own characteristically nuanced position, that on one way of formulating the issue *akrasia* is possible, but on another it is not.

Aristotle's discussion of *akrasia* in the *Nicomachean Ethics* is a particularly clear example of an historian of philosophy functioning in the dual capacities of historian and philosophical critic, which were distinguished above. By contrast, in two key passages in the *Metaphysics*, where he describes Socrates' signal *methodological* contribution, Aristotle seems to confine himself to the role of pure historian and makes no explicit comment as to the correctness or importance of this contribution. Because both passages are extremely compact and will serve us as principal texts, it will be economical to present them here in full.

Both passages occur within broader surveys of the views of earlier thinkers, surveys that are evidently intended to provide an historical context for Aristotle's own comprehensive investigation into the nature of all beings, which occupies the bulk of his *Metaphysics*. The first passage occurs in *Metaphysics A* 6, following a discussion of Pythagorean and Heraclitean influences on Plato's philosophical development. At this point, Aristotle turns his attention to the subject of Socrates with the following quick remark.

Socrates, exercising himself with the ethical, and not with the whole of nature, sought the universal in these [ethical matters], and was the first to concentrate on definitions. (*Metaphysics A* 6, 987 b 103)¹⁰

The second passage, which is a bit more expansive, and may just be a gloss on the first, curiously enough occurs in *Metaphysics M*, a book that for the most part is concerned with the ontological status of mathematical entities. Here again, there is but the briefest reference to Socrates:

But it was natural that Socrates should seek the essence. For he was seeking to deduce, and essence is the starting point of deduction. For there was not yet the dialectical power that enables people even without knowledge of essence to speculate about contraries and inquire whether the same science deals with

¹⁰ Except where I indicate otherwise, all translations of Platonic and Aristotelian texts used in this volume are my own.

contraries. For two things may be ascribed to Socrates: inductive arguments and universal definitions, both of which are concerned with the starting point of essence. (*Metaphysics M 4*, 1087 b 22–30)

Again, in neither of these passages does Aristotle offer an opinion on whether these aspects of Socratic thought constituted methodological advances or not. Nevertheless, I think it is plausible to infer from his silence, together with other considerations,¹¹ that his attitude is one of at least general approval, or so I shall be assuming in what follows.

The situation is very much different in the case of Plato. In passages surrounding the two just discussed, Aristotle represents Plato as imposing a distinctive metaphysical overlay upon the Socratic search for definitions, by positing a class of very special “separate” entities (Forms), which are intended to serve as the *ontological correlates* of the universal definitions that Socrates sought. Here again, Aristotle doesn’t say explicitly whether he thinks this Platonic innovation is a good or bad thing, but what we know from other Aristotelian texts (most importantly, *Metaphysics A* 6 and 9 and *Z* 13–16) and also Alexander’s commentary on the lost *Peri Ideon* gives us good reason to suppose that he regards it as a momentous philosophical error. Thus, the overall picture to be gleaned from the two passages presented above is that Aristotle believes (1) that Socrates’ quest for universal definitions of key ethical concepts was a significant advance in the development of philosophical methodology, and (2) that this valuable Socratic contribution was somehow subverted or sidetracked by Plato’s metaphysical separation of the objects of definition from the world given to us by the senses.

This historical picture, which will constantly be in the background throughout what follows, quite naturally gives rise to a number of exegetical and philosophical questions about all three of the thinkers involved, and in what follows I shall be concerned particularly to document and to develop an understanding of Socrates’ and Aristotle’s endorsements of the view that definitions function as basic explanatory principles, and consequently as epistemic foundations.¹²

¹¹ The most important of these is that Aristotle himself emphasizes the importance of definitions throughout his career. Showing that and how this is so will be my central task in Chapters 3–6.

¹² In note 7 to this Introduction, I expressed a lack of interest in the general question of whether the views expressed by Plato’s protagonist were actually held by the living organism that was called “Socrates” and walked the streets of Athens in the 5th c. BCE. However, the

To begin with, inasmuch as the Socratic search for universal definitions seems to be a distinctly *theoretical* enterprise, we will want to know precisely how this idea could have emerged in the course of Socrates' familiar dogged and pragmatic pursuit of ethical questions, seemingly to the *exclusion* of theoretical concerns. This will be one of the central tasks of the first two chapters. In Sections 1.1 and 1.2, I argue that the ultimate source of this seemingly unlikely development is Socrates' largely practical concern to develop effective procedures for the testing and *certification* of ethical experts, i.e., to make principled distinctions between (a) those whose ethical advice truly ought to be followed, and (b) the enormous variety of shams, frauds, and fools who are falsely believed (by themselves or others) to have this status. On my general line of interpretation, this pragmatic certification program is eventually transformed in two distinguishable stages into the more theoretical epistemological project of identifying necessary and sufficient conditions on the possession of knowledge.

In Sections 1.3–1.5, I focus on the most prominent Socratic test for expertise, which on my view gives rise ultimately to the pronounced emphasis on universal definitions for which Aristotle commends the historical Socrates. In its most general form, this test is motivated by the quite reasonable thought that a genuine expert does not merely pronounce views in his special field, but also is able to respond adequately when challenged to explain, defend, or elaborate upon those views and other obviously related topics as well. In some passages, this general condition, which I shall call the “account-requirement” on genuine expertise, takes on a distinctly *ad hominem* tone, as when the title character of the *Laches* complains that anyone who converses with Socrates will sooner or later be called upon to “give an account” (in this case, a defense) not only of the views he endorses, but also of his entire manner of living (*Laches* 187 E–188 C). By contrast, I argue, at other places in the *Laches* Socrates *depersonalizes* the account-requirement in such a way that indicates he is

parallel between Aristotle's reports that the historical Socrates sought universal definitions in the course of his ethical inquiries, and the fact that Plato frequently presents the character of Socrates as pursuing definitions of the ethical virtues in such dialogues as the *Euthyphro*, *Laches*, and *Charmides* strongly suggests that the Platonic portrait of Socrates in those works is accurate, at least on this particular point. An analogous point could be made concerning the parallel between Aristotle's representation of the historical Socrates as denying the possibility of *akrasia*, and the Platonic portrayal of Socrates in the *Protagoras* as arguing for the same position.

not narrowly concerned only with whether the particular interlocutor before him possesses genuine expertise in a certain area, but is concerned more generally with discovering what conditions *any* cognitive subject would have to satisfy in order to be said to possess genuine knowledge of any sort whatsoever. This depersonalization, I later argue, is the first of two developments that together eventually transform the Socratic certification project into theoretical epistemology as that sub-discipline of philosophy is understood today.

On my proposed interpretation, the general account-requirement is actually motivated by two different commonsense ideas about the requirements for expertise in a given field, which give rise to correspondingly different ways in which Socrates understands the requirement. Sections 1.4 and 1.5 are concerned with what I refer to as the “definitional account-requirement.” This stems from the eminently reasonable idea that a true expert must, at the very least, know *what* she is talking about. As this plausible but somewhat amorphous thought is made more precise in the course of the *depersonalization* of Socrates’ certification program, it takes the form of the much discussed “Socratic” principle, commonly referred to as the “Priority of Definition” (PD), that it is not possible to know anything at all about a given subject unless one first of all knows *what it is*. On this way of thinking, an arithmetician must first be able to say what numbers are, an astronomer what stars are, a botanist what plants are, and so forth, if they are to lay claim to any knowledge at all within their respective fields of study. As it happens, however, Socrates himself evidently does not always understand PD in the same way, and in Section 1.4, I distinguish a number of more specific versions of the principle corresponding to these different understandings. In Section 1.5, I argue that none of these different specifications of PD is as closely connected to the “paradox of inquiry” in the *Meno* as some scholars have thought.

I close the chapter in Section 1.6 on a note of philosophical assessment. I consider the objection that one particular form of PD may be too strong to be defensible, and more specifically, that its implications for the possibility of applying concepts to particular cases infects the Socratic method of the early dialogues with a vicious methodological circularity. This alleged circularity, which Peter Geach dubbed the “Socratic fallacy,”¹³ is claimed

¹³ Geach 1966: 378 ff.

to arise as a result of Socrates insisting on the one hand, in accordance with PD, that one cannot know what are instances of a moral virtue without first knowing its definition, and on the other hand trying to discover the definition of a virtue by *first* considering what count as legitimate instances of it. On the solution I defend here, PD entails no more than that knowledge of a definition is necessary for adjudicating *every* putative example of the concept in question. On this proposal, Socrates allows the possibility of (i) knowing *some* particularly clear-cut examples of a virtue without knowing the definition, (ii) subsequently relying on those “easy” cases to discover the definition, and finally (iii) applying the resultant definition to settle the remaining “harder” cases.

Notice that PD is a *necessity* thesis: it sets knowledge of the definition of a subject as a necessary condition for having any knowledge at all about it. However, it is hardly likely that Socrates proposes it simply as a gate-keeping device intended to determine whether someone has the proper credentials to be granted authority in a given field. Consequently, it seems that he must also have some *constructive* view about how knowledge of definitions, once acquired, can be applied in acquiring other sorts of knowledge about a given subject.¹⁴ That he does in fact have such a view, and exactly what that view is, are the central topics of Chapter 2. I argue that at least the broad lines of a Socratic ethical research program can be made out through a careful study of certain key passages in the *Euthyphro*. The rationale for this program, I argue, stems from a second commonsense idea about what can and should be expected of a genuine expert in a given field—namely, that she will be able to produce upon demand adequate *explanations* of the truth of the propositions she espouses. In later Aristotelian terms, this means that an expert will know not only *that* the thesis she espouses is true but also “*why* it is true.”¹⁵ This gives rise to what I call the “explanatory account-requirement.”

I argue further that the definitional and explanatory specifications of the Socratic general account-requirement come together in the form of what I refer to as “definition-based explanatory accounts” and that such accounts play the central role in Socrates’ positive ethical research program. I do this by first examining a passage in the *Euthyphro* where

¹⁴ Since Socrates and his interlocutors never succeed in discovering any of the definitions they seek, this positive view must of course be interpreted counterfactually.

¹⁵ *Posterior Analytics* A 2, 71 b 9–12.

Socrates maintains that knowledge of the definition of piety would enable him to *diagnose* particular instances of piety and impiety. I interpret this to mean that he thinks that knowing the definition would enable him to not only to *discover* which acts are pious but also to *explain* why they are pious. I call this the “diagnostic” function of definitions.

In Section 2.2, I identify a problem with the rationale Socrates gives at *Euthyphro* 6 E for requesting definitions of the virtues. I argue that even though there is nothing problematic about Socrates’ endorsement of the diagnostic function of definitions in itself, it does present a serious methodological problem when set beside the independent observation that throughout the early dialogues Socrates systematically rejects the idea that the sort of definitions of the virtues he seeks can be given in terms of characteristic modes or patterns of overt behavior. His implicit reason for these rejections is that he denies there are any rigid connections between possessing a given virtue and presenting any distinctive sorts of behavior. As a result, I argue, he constantly nudges his interlocutors away from this way of thinking about the virtues and in the direction of defining them as inner *psychological states* necessarily linked to the virtues, and at the same time capable of motivating widely variant modes of behavior in different circumstances. I argue that this systematic preference for psychological definitions of the ethical virtues effectively vitiates the diagnostic function Socrates announces at *Euthyphro* 6 D, and moreover that it does so for essentially the same reason that leads him to reject behavioral definitions, namely that there are no *publicly observable criteria* for the possession of virtues if they are conceived of as inner psychological states. I conclude, somewhat pessimistically, that Socrates’ insistence on such psychological definitions effectively undermines the possibility of implementing the ethical research program he announces at *Euthyphro* 6 E.

In Section 2.3, I examine the inferential structure of a well-known argument that Socrates deploys later in the *Euthyphro* against a proposed definition of piety as what is god-loved, and I argue that the forms of inference Socrates endorses in that argument implicitly commit him to the view that the definition of piety, once acquired, would enable him not just to *diagnose* particular cases of piety and explain *why* they are pious, but also to explain why they have certain other characteristics that follow from their being pious. This suggests that he sees the