Aristotle's Theory of Bodies by Christian Pfeiffer (review)

Scott O'Connor

Journal of the History of Philosophy, Volume 58, Number 1, January 2020,
pp. 167-168 (Review)

Published by Johns Hopkins University Press
DOI: https://doi.org/10.1353/hph.2020.0008

Book Reviews

Christian Pfeiffer. *Aristotle's Theory of Bodies.* Oxford Aristotle Studies. New York: Oxford University Press, 2018. Pp. x + 230. Cloth, $60.00.

Aristotle uses 'body' to describe the matter of animals, the elements and what they compose, as well as magnitudes extended in three-dimensions. These last bodies belong to the category of quantity, alongside surfaces and lines. It is this notion of body that interests Christian Pfeiffer, who presents Aristotle's various discussions of it as one exhaustive theory of body. According to this theory, magnitudes are form-matter composites, where boundaries are forms and extensions are matter. The boundary of a body is its particular shape and its extension is its volume. It follows that Socrates destroys his body and gains another by standing up (since the shape of the sitting and standing bodies, and thus the bodies themselves, are numerically distinct).

The book is divided into three parts: the first locates Aristotle's theory of body in physics, the second articulates the theory, and the third comprises two appendices, one on quantity in *Metaphysics* V.13, the other being a compendium of the propositions argued for in the book.

While Aristotle never wrote a treatise "On Body," Part 1 contends that (i) Aristotle believed a theory of body is part of the conceptual underpinnings of the natural sciences (chapter 3) and (ii) is not merely part of mathematics, though the physicist can draw upon discoveries in mathematics (chapter 4). Pfeiffer argues for (i) via a convincing reading of *Physics* II.2. He motivates (ii) by arguing that physics comprises a collection of studies into notions like time, place, and body. This collection is not itself a science, but "yields principles that may be used in the branches of physical science" (45). How might they be used? More below.

Part 2 begins with Aristotle's claim in *Categories* 6 that bodies are continuous quantities whose parts have position (chapter 5). Pfeiffer's discussion of position is excellent; the parts have position if they are spatially related to one another, where being spatially related does not require the relata to occupy distinct places. This helps explain how lines fail to occupy a place even though their parts have position. His discussion of continuity includes an important defense of his overall project. The problem is that Pfeiffer thinks that *Categories* 6 defines a continuous quantity as one that has all its adjacent parts connected by a boundary (60). Since *Categories* does not explain what being connected by a boundary requires, it leaves open the possibility that a mere heap is so connected and is thus a continuous quantity. This, however, is something precluded by the discussion of continuity in *Physics* V.3, which suggests Aristotle changed his mind about continuity, and thus suggests he changed his mind about bodies too.

Pfeiffer responds by trying to dissolve the tension. His strategy relies on the claim that *Physics* V.3 "is a further elucidation of the definition we find in the *Categories*" (64). Pfeiffer's solution is reasonable, but it muddied my understanding of Part 1. He uses Aristotle's claim that osseous and vascular systems are continuous wholes (*PA* II.9, 654a32–b2) to illustrate how a study of body is part of the conceptual underpinnings of the natural sciences. He writes: "a zoologist must be at a loss, if she has not a sufficient grasp of concepts such as continuity or contact" (14). But would the non-elucidated definition of continuity from *Categories* 6 suffice? Similarly, must a zoologist fully grasp the nature of body, or would it suffice to know that bodies are continuous quantities extended in three dimensions? I could not decide what Pfeiffer's answer to this question is.

Nevertheless, Pfeiffer convincingly reconstructs Aristotle's theory of body in chapter 6, which comprises over a third of the book. The chapter (1) identifies some of the properties of bodies insofar as they are bodies of physical substances, and (2) explains what boundaries and extensions are. For (1), studying bodies qua physical bodies provides a route to explaining Aristotle's claim that bodies are complete/perfect by virtue of having three dimensions. The discussion of the properties of bodies qua physical bodies continues in chapter 7, a valuable contribution on Aristotle's use of continuity in *Physics* V.3, to explain the unity of a physical substance.

For (2), Pfeiffer argues that Aristotelian bodies are closed ones, where 'closed' means that they contain their boundaries. But this does not make boundaries parts of the bodies that contain them. Boundaries, which Pfeiffer argues are dependent particulars, are the forms of (topological) bodies. On the one hand, the form of a body makes it the type of body it is; for instance, a spherical shape makes a sphere the type of body it is. The matter of a body, on the other hand, is its extension, which Pfeiffer persuasively shows is a feature of the relevant substance's matter. Thus, the matter of the spherical body possessed by a bronze sphere is not the bronze but the volume of the bronze.

Anyone interested in Aristotle's natural philosophy and metaphysics should read this book.

SCOTT O'CONNOR

New Jersey City University

Andreas Lammer. *The Elements of Avicenna's Physics: Greek Sources and Arabic Innovations.* Scientia Graeco-Arabica, 20. De Gruyter, 2018. Pp. xx + 594. Cloth, $149.99.

In this timely and outstanding contribution, Andreas Lammer tackles central concepts and problems in Avicenna's *Physics of the Healing*. The analysis provides a wide-ranging but cohesive study of Avicenna's approach and ideas. The philological and philosophical analysis of the historical context of Avicenna's arguments pays dividends. Avicenna's—often radical—reworking of Aristotle's approach in the *Physics* critically engages a long tradition of Peripatetic and Neoplatonic philosophy in Greek and Arabic. Lammer's contribution, based on his doctoral dissertation, lays fertile ground for future work. Given the limitations of this review, I focus in the following on the results and fruitful questions raised by chapters 2, 3, and 4. Despite their importance, I set aside chapter 5, which treats Avicenna's defense of Aristotle view of place, and chapter 6, which deals with his attempt to unify Aristotle's reductive view of time with a Platonist view of it as a stable magnitude.

Chapter 1 assesses the translation history of Aristotle's *Physics* and the status of related commentarial material. Lammer sets the boundaries of what we presently know about Avicenna's sources, which is rather little in terms of direct evidence. Subsequent chapters proceed by piecing together the larger context of ideas that Avicenna would have engaged.

In chapter 2, Lammer assesses Avicenna's method in the exposition of concepts in his *Physics*, I.1. The central argument of the chapter is a significant one: Avicenna does not set out a *method of inquiry* into the principles of natural things, which is the dominant understanding of Aristotle's *Physics* I.1 among ancients and moderns. Rather, Avicenna adopts a *mode of instruction*. Aristotle begins I.1 with the advice that we start from what is "more knowable and clear to us" and proceed to what is more knowable by nature (which corresponds to the instruction of *Posterior Analytics* I.2). However, he also states in I.1 that we proceed from the universals (καθόλου) to the particulars. The ancient Greek commentators resolve this tension by reading καθόλου not as natural-kinds universals but as "indiscriminate particulars." Here, Avicenna conspicuously departs. He offers a more "literal" reading of Aristotle, in which 'universal' means what is most "common" in nature and better known to