

well as others have an immaterial ground. This metaphysical solution is merely a postulate of practical reason, but as such it dovetails with the goal of scientific unity that, after all, is only a regulative idea too. Moreover, this solution intimates a plausible uniformity of purpose, be it animal or human. It is to be hoped that Guyer's contribution will be read by environmental philosophers who dismiss Kant as a staunch anthropocentrist.

In sum, Watkins's anthology contains insightful, innovative, and substantial studies by leading Kant scholars on topics that deserve attention. My only regret is that the volume is not as comprehensive as the title suggests. Kant determined the mechanics of tropical coastal winds, trade winds, and the monsoon; he defended an empirical methodology in the study of earthquakes; he predicted the long-term fate of the Earth's axial rotation; and he identified the origin of the solar system as well as the cause of its ecliptic plane. The consideration of Kant's reflections on meteorology, seismology, astrophysics, and astronomy in *Kant and the Sciences* would have been valuable.

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Aristotle's Theory of Substance: The Categories and Metaphysics Zeta, by Michael V. Wedin. Oxford: Oxford University Press, 2000. Pp. xiii + 482. H/b £42.50, \$60.00.

What is the relationship between Aristotle's *Categories* and *Metaphysics Z*? Many scholars think that the two texts are incompatible because they defend different candidates for primary substance. Whereas the *Categories* argues that concrete physical objects, such as a particular man and a particular horse (which Wedin calls *c*-substances) are primary, *Metaphysics Z* awards primacy instead to substantial forms. Michael Wedin, rejecting the scholarly tradition, defends the attractive idea that the *Categories* and *Metaphysics Z* are compatible. On his view, the two texts are engaged in different but complementary projects, and the later theory in *Metaphysics Z* presupposes the earlier doctrine in the *Categories*. The *Categories* asks what is *ontologically* primary, and awards primacy to *c*-substances. The project of *Metaphysics Z* is explanatory, asking what *makes* a *c*-substance ontologically primary. This question becomes: what is the *substance-of* a *c*-substance? Wedin thinks that there is some internal structural feature of a *c*-substance that explains the central claims about it in the *Categories*—for instance, why Socrates falls under the species, man, why he has the chief characteristics he has, and why he remains one and the same through a replacement of his accidental properties. According to Wedin, Aristotle's answer to the explanatory question is substantial form. The so-called

canonical chapters of *Z* (that is, Book *Z* minus chapters seven to nine and chapter twelve, which are thought to be later additions) develop an account of substantial form according to which form is structurally or *explanatorily* primary.

Wedin's main thesis is very plausible, and his detailed argument is consistently illuminating. He takes well-considered stands on virtually all the contested issues and passages in the *Categories* and *Metaphysics Z* (with one notable exception: he takes no official stand on the most hotly disputed issue, whether substantial form is a universal or a particular). He pays careful attention to the text and develops his proposals through a vigorous critique of competing interpretations. Thus, in addition to Wedin's own comprehensive interpretation of the *Categories* and *Metaphysics Z*, the reader gains access to the main strands of recent scholarship on a wide range of issues in Aristotle's metaphysics. In this respect *Aristotle's Theory of Substance* represents the culmination of several decades of tough scholarly reflection. The book demands careful reading and amply repays it.

Wedin's argument for the compatibility of the *Categories* and *Metaphysics Z* is compelling, and especially his thesis that substantial form enjoys explanatory priority while c-substances remain ontologically primary. I have some reservations, however, about the overall shape of the project in *Z*, as Wedin conceives it. He accepts the scholarly consensus that *Metaphysics Z.7–9* (on the generation of c-substances) and *Z.12* (on definition) are later additions to *Metaphysics Z*. He uses *Z.12* but studiously ignores *Z.7–9*. My concern is that even if *Z.7–9* were not part of the original *Z*, most scholars would agree that Aristotle included them in *Z* himself (for example, there are back-references to claims in these chapters within the central books). Now it is of course possible that Aristotle muddied the waters by incorporating an independent treatise on physics (second philosophy) into his treatise on metaphysics (first philosophy), and Wedin is by no means alone in undertaking to make sense of the ur-*Z* without *Z.7–9*. But surely these chapters were incorporated into *Z* for a reason. I think that Aristotle included *Z.7–9* to motivate questions addressed in *Z.10–11*. Wedin finds *Z.10–11* the most daunting chapters in the book, but they are much easier to understand if one takes into account the scaffolding Aristotle provides in *Z.7–9*. For instance, *Z.8* takes the first step in Aristotle's argument for a thesis in *Z.10–11* that Wedin regards as fundamental—the purity of form (the doctrine that form is free of material admixture)—since *Z.7–9* argue that anything generated contains matter, and *Z.8* argues that form is not generated. So form need not contain matter on that ground at least.

The omission of *Z.7–9* might be justified, if *Z.10–11* and the later chapters of *Z* could be adequately interpreted independently of them (Wedin makes a good case for the purity of form without relying on *Z.8*). But Wedin claims that various issues are introduced in *Z.10–11* only to be excluded, such as universal compounds, which contain form and matter taken universally. (The universal compound is now widely agreed to be the analysed species or genus of

the *Categories*.) The discussion of universal compounds, too, begins in *Z.7–9*. For instance, *Z.7*, 1033a1–5, concludes that the account of a bronze sphere must mention its matter; and *Z.8*, 1033b24–6, claims that organic *c*-substances, such as Callias and Socrates, are like particular bronze spheres, and that their species and genus—the universal compounds of *Z.10*—are like bronze spheres generally. The fact that *c*-substances are generated entails that they contain matter. Since the species and genera of *c*-substances classify them as wholes, Aristotle concludes that matter taken universally is included in them. If one reads *Z.10–11* in the light of *Z.7–9*, much that Wedin finds difficult or irrelevant in fact contributes to Aristotle’s argument. More is going on in *Z.10–11* than Wedin supposes. They investigate not only substantial forms but also *c*-substances compounded of matter and form. Once we appreciate that Aristotle is concerned with the *c*-substances themselves and not merely with their forms, the landscape of *Z* takes on a different shape. *Z* is not single-mindedly examining the substance-of *c*-substances and devising an explanatory theory, as Wedin contends. Aristotle is also examining the *c*-substances themselves and raising puzzles about their unity and definability.

I have another concern of the same sort. One risks mistaking the project of *Metaphysics Z*, if one reads *Z* in isolation from the following two books—*H* on perceptible substances (*c*-substances), and *Θ* on potentiality and actuality. *H*, at least, is widely agreed (also by Wedin) to continue the investigation of *Z*, and many scholars include *Θ* as an intrinsic part of Aristotle’s project in the central books. I am not suggesting that Wedin should have offered a detailed analysis of *H* and *Θ* on a par with his admirable analysis of *Z*. He has written a big book, and such an analysis would have called for a book twice as long. Even so, the shape of *Z* itself is affected by its role within that larger context.

One example of the importance of the later books for the interpretation of *Z* is Aristotle’s treatment of subjecthood. Being an ultimate subject was a criterion for being a primary substance (Wedin’s *c*-substance) in the *Categories*. Other entities, such as qualities and quantities that characterize the *c*-substances and the species and kinds that classify them, depend on the *c*-substances as their subjects. Remove the *c*-substances and everything else is removed as well. The *Categories* left *c*-substances unanalysed. Once they are analysed into matter and form, an obvious question arises: What now is the primary subject? The compound? But the compound consists of two more basic components, matter and form. Is the matter of the *c*-substance the primary subject? Or the form of the *c*-substance? After two preliminary chapters, *Z.3* opens by proposing four ways to talk about substance. According to Wedin, all four ways are ways to be the *substance-of* a *c*-substance: the essence, the universal, the genus, and the subject. *Z.3* focuses on the subject. As readers of the *Categories* might expect, given the hylomorphic analysis of *c*-substances, Aristotle proposes three ways to be a subject: as matter, as form, and as the compound of both. After devoting most of the chapter to matter, Aristotle concludes that the form and the compound have a better claim to be substance

than matter does (1029a26–30). He then says that we must investigate that most puzzling entity: form. On Wedin's view *Z*.3 rejects the primary subject as the substance-of the c-substance and awards primacy to substantial form. He takes this chapter to set the stage for the explanatory notion of primacy, which emerges in *Z*.4.

But does Aristotle reject subjecthood in *Z*.3? Certainly one can read *Z*.3 as concluding that the form and the compound have a better claim to be substance *as subject* than matter does. In any case, the first chapter of the next book, *H*.1, after summarizing the main issues covered in *Z* (skipping over the contents of *Z*.3) (1042a3–24), devotes the second half of the chapter to subjecthood. Again Aristotle lists three ways to be a subject—as matter, as form, and as the compound of both (1042a24–31). The chapter ends with an argument to show that even matter is substance (as a subject) (1042a32–b3). This later discussion makes it unlikely that Aristotle abandoned subjecthood in *Z*.3. Was subjecthood even introduced as a candidate to be the *substance-of* a c-substance (this is an interpretative proposal by Wedin and not demanded by the Greek)? The traditional view seems much more likely: subjecthood is examined in *Z*.3 because any reader of the *Categories* will regard being an ultimate or primary subject as a criterion for being a primary substance. Although Aristotle does reject some items on *Z*.3's original list (notoriously he rejects the universal and the genus in *Z*.13–16, and recalls that rejection in his summary in *H*.1), the claims of subjecthood seem more secure. The evidence from *H*.1 (further examples from *H* and *Θ* could be cited) strongly suggests that *Z* has not simply replaced an interest in ontological primacy with an interest in explanatory primacy, but is investigating both issues at once. If one reads *Z* from the perspective of *H* and *Θ*, one might well ask whether *Z* is presenting a *theory* of substance at all. *Z* is arguably aporetic rather than doctrinal—following reasonable leads and exposing difficulties which the later books will undertake to resolve.

Although I have expressed some doubts about the overall shape of *Z*, it must be said that Wedin offers a coherent and elegant reading, one that will stimulate much fruitful discussion and rethinking of alternative positions. *Aristotle's Theory of Substance* is an important book, essential reading for anyone seriously interested in Aristotle's metaphysics.

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The Nature of Intrinsic Value, by Michael J. Zimmerman. Lanham, MD: Rowman and Littlefield, 2001. Pp. vii + 278. H/b \$ 70.00, P/b \$26.75.

On the back of the paperback edition of this book, Fred Feldman writes, ‘This book should help restore the concept of intrinsic value to its central position in moral philosophy. It clearly establishes Zimmerman as the premier authority in the field.’ I agree. This book is the best treatment of intrinsic value in many years. It is clear, well written, and well argued. Zimmerman is careful about the details of his view, and the work will richly reward similarly careful study. It should be read by anyone interested in the topic of intrinsic value.

The book contains a preface, six chapters, and an appendix. In the preface, Zimmerman writes that his work is inspired by Moore’s *Principia Ethica* and that he aims to use Moore’s work as a springboard to investigate some of the issues raised by Moore. In the first chapter, Zimmerman provides an overview of the whole work and a discussion of the ambiguities of the term ‘value’. In the second, Zimmerman focuses on criticisms of the concept of intrinsic value raised by Peter Geach, Philippa Foot, and, most recently, by Judith Thomson. In the third chapter, Zimmerman addresses the fundamentally important issue of the bearers of intrinsic value. Zimmerman defends the view that the bearers of intrinsic value are concrete states which are understood roughly along the lines suggested by Jaegwon Kim of individuals exemplifying a property at a time. Here Zimmerman also presents an account of what it is for one concrete state to be a part of another. In the fourth chapter, he proposes an analysis of the concept of intrinsic value in terms of ethically required favour, disfavour, or indifference. In taking this approach, he follows the lead of earlier writers such as Brentano and Chisholm, but he differs from them in important ways. For example, Zimmerman holds that the contemplation of intrinsically good or bad states requires a *degree* of favour or disfavour. The fourth chapter also contains a good discussion of the logic of requirement and fitness. The fifth chapter addresses the difficult issue of computing intrinsic value. Zimmerman is deeply sceptical of the Moorean principle of organic unities, that the intrinsic value of a whole is not necessarily equal to the sum of the values of its parts. In contrast, Zimmerman holds, roughly, that the intrinsic value of a whole is equal to the sum of its parts that have ‘basic’ intrinsic value. Zimmerman provides us with a detailed account of what it is for something to have basic intrinsic value, an account which builds neatly upon his treatment in previous chapters on the bearers of value, parthood conditions, and the analysis of intrinsic value. In the sixth chapter, Zimmerman discusses particular instances of intrinsic value. He addresses the value of pleasure, displeasure, and indifference in what is intrinsically good, bad, and neutral. He also has an interesting treatment of moral virtue and vice, moral goodness and badness, and whether there can be such a thing as admirable immorality. Finally, Zimmerman includes an appendix which takes up extrinsic value of various kinds. Throughout the book, the views of recent writers, along with objections and