Project MUSE

Aristotle's *Metaphysics* Reconsidered

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ARISTOTLE'S *METAPHYSICS* HAS STIMULATED intense renewed debate in the past twenty years. Much of the discussion has focused on *Metaphysics* Z, Aristotle's fascinating and difficult investigation of substance (*ousia*), and to a lesser extent on H and Θ. The place of the central books within the larger project of First Philosophy in the *Metaphysics* has engaged scholars since antiquity, and that relationship has also been reexamined. In addition, scholars have been exploring the *Metaphysics* from various broader perspectives—first, in relation to Aristotle's natural philosophy, his physics, biology, and psychology, and to the *Organon*, his so-called "logical" works, which include the *Categories*, *Topics*, and *Posterior Analytics*; and second, in relation to the broader philosophical tradition, both Plato before him and the ancient commentary tradition in late antiquity.

1. BACKGROUND

Let me begin by recalling where scholarship on Aristotle's *Metaphysics* stood in the second half of the 20th century.

1.1 Developmentalism

A pressing question in the 1960s was Aristotle's philosophical development. Encouraged by the apparent success of establishing the relative dating of Plato's dialogues, scholars in the first two-thirds of the 20th century had similar hopes of establishing a chronology of Aristotle's works and of understanding his philosophical growth. In the early part of the century, Werner Jaeger (1912) ([1923] 1948) famously argued that Aristotle started out as a faithful Platonist, became increasingly critical of Plato, and finally broke with his master altogether to pursue empirical research, culminating in such works as the *History of Animals* and the collection of *Constitutions* of Greek city-states. G. E. L. Owen (1965) objected that Jaeger's developmental thesis misconceived the Platonism that Aristotle encountered during his twenty years as a member of the Academy. While Aristotle was in the Academy, Plato was criticizing his own central views (especially about

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Forms), and a lively debate was apparently ongoing in the Academy. According to Owen, Aristotle was a youthful critic of Plato, but gradually came to a renewed sympathy with Plato's metaphysical program, especially about a general science of being. Interestingly, both Jaeger and Owen regarded *Metaphysics* Λ, which treats divine substance, as representing a stage in Aristotle's thought earlier than Z, and in significant respects at odds with it; but they held that view for different reasons. For Jaeger the text represents a Platonic stage in which metaphysics focuses on separate divine substance, not the whole category of substance. For Owen the text is relatively early because it ignores the vital device he called *focal meaning*, which Aristotle sets out in *Metaphysics* Γ.2 and uses in Z.[1]

Aristotle's philosophical development is no longer a burning issue,[2] but developmentalism has become deeply engrained in Aristotelian scholarship. Commentators often assume that the *Metaphysics* contains various strata, and that certain passages can be downplayed or even ignored because they do not belong to the main version. Although some interpreters explicitly argue for development, they do so usually as a last resort, when no other explanation can satisfactorily explain a contradiction in or between texts. For most scholars development itself has become a side issue. Since the treatises that have come down to us were not published outside the Lyceum, it seems likely that they were updated from time to time during Aristotle's lifetime. If so, it is very difficult to establish a viable chronology.

A topic that has stimulated some recent interest is Aristotle's emphasis on the *order of learning*, that is, the order in which he intended his treatises to be studied. His works are studded with cross-references forward and back to other works in the corpus (or earlier and later parts of the same work).[3] These cross-references are thought to indicate what background Aristotle intended his students to bring to a topic. The *Categories*, which presents an ontology in which physical objects are primary substances, is widely regarded as an early work, but some critics have recently argued that, on the contrary, it is a work for beginners (which might have been written at any time), which leaves out the vital distinction between matter and form precisely so that newcomers to Aristotle's philosophy can grasp the basic metaphysical framework without immediately confronting the serious difficulties to be grappled with in the *Metaphysics*.[4] Others have argued that the *Categories* is pre-explanatory, whereas the central books of the *Metaphysics* work out an explanatory account of substance.[5]

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[1] Owen 1960. More on focal meaning in the final section below. See Code 1996, for a careful reassessment of the relationship between Owen and Jaeger.

[2] For a recent assessment of developmentalism, see the papers in Wians (ed.) 1996. Graham (1987a) proposed a new twist on the developmental thesis, that Aristotle had two distinct and incompatible systems, which date to different periods of his career and come into direct conflict in *Metaphysics* Z. Rist (1989) also defends a developmental reading of Aristotle. Witt (1996) gives a helpful analysis of the development of developmentalism.

[3] Burnyeat (2001) examines these cross-references within the *Metaphysics* and references forward and back to the *Metaphysics* in other Aristotelian texts.

[4] Furth 1988; Gill 1989; Burnyeat 2001.

[5] Loux 1991; Bolton 1996; Wedin 2000. The pre-explanatory account need not have been written earlier than the explanatory account (similar claims have been made about the relationship between *History of Animals* and explanatory works like *Parts of Animals*).

1.2 *Aristotle and Analytic Philosophy*

The 1950s, '60s, and '70s were exhilarating times for Aristotelian studies. Both on the Continent and in the English-speaking world, scholars starting in the late 1950s were seriously exploring Aristotle's philosophical method—dialectic (reasoning that begins from reputable opinions [*endoxa*]) prescribed in the *Topics* and often used in the treatises;[6] and syllogistic and demonstration, laid out in the *Analytics*.[7] Aristotle was hailed as the forefather of significant 20th century philosophical methods and positions. Oxford ordinary language philosophers regarded Aristotle as engaged in a project of conceptual analysis similar to their own.[8] Ancient philosophy also seemed ripe for the application of modern analytical tools, which could clarify and deepen our understanding of the ancient texts. A legendary six week NEH seminar in Colorado Springs in 1970, organized by the leaders in ancient philosophy at the time—Gregory Vlastos, G. E. L. Owen, and John Ackrill, among others—was attended by a band of younger scholars, many of whom are now senior figures in the field. The leaders inspired the participants with the vibrancy and relevance of ancient philosophy. Ancient philosophy also had considerable impact on philosophers who read "Greats" at Oxford, and philosophers in both England and America were discovering seeds of their own ideas in Aristotle's works. W. V. O. Quine's critique of modal logic and Saul Kripke's embrace of essentialism stimulated interest in Aristotle's position.[9] Hilary Putnam credited Aristotle with anticipating his own views about functionalism.[10] Virtue ethics owes its inspiration to Aristotle's ethics. Aristotle seemed highly relevant to contemporary philosophical questions. Many young philosophers were motivated to study Aristotle for what he could contribute to contemporary philosophical debates.

1.3 *Recent Trends*

The late 1970s and 1980s witnessed a significant shift in scholarly interest, led by a group of young scholars, who are now leaders in the field. In her opening editorial in *Oxford Studies in Ancient Philosophy* (1983), Julia Annas characterized the time as an exciting moment in ancient philosophy, with "horizons expanding and interests shifting." She encouraged contributors to venture into less familiar terri-

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[6] Many of Aristotle's works, including the *Metaphysics*, begin with an assessment of the *endoxa*, the views of Aristotle's predecessors. The Second and Third meetings of the Symposium Aristotelicum, attended by scholars from Britain and the Continent, were devoted to issues of method. See S. Mansion (ed.) 1961; and Owen (ed.) 1968. Influential works on method, and especially dialectic, from the 1960s include Owen 1961 (in Mansion) and Aubenque 1962. This topic continues to exercise scholars. For alternative treatments, see Nussbaum 1982; Bolton 1990; and Irwin 1988, esp. ch. 2.

[7] See Barnes 1969, and Barnes's revised view (1981). The *Posterior Analytics* was the topic of the Eighth Symposium Aristotelicum, edited by Enrico Berti (1981). The relation between the *Posterior Analytics* and Aristotle's scientific practice in biology is discussed briefly below.

[8] The Clarendon Aristotle Series was initiated by the Oxford philosopher J. L. Austin in 1962. "He thought that Aristotle's philosophical writings were not sufficiently exploited by contemporary philosophers, and that a new series containing fresh translations . . . would help remedy this." (Advertisement for volumes published in the series in the 1960s and early '70s).

[9] See White 1972–73, and M. Cohen 1978a. Differences between Aristotle's and Kripke's essentialism are discussed by Witt 1989, ch. 6; see also White 1986 §3. On differences between Aristotle's essentialism and other 20th century positions, see Matthews 1990.

[10] Putnam 1975. Cf. Nussbaum 1978, Essay 1.

tory, especially in Post-Aristotelian philosophy. Michael Frede (1987b), in the manifesto introducing his collection of papers, spoke of the enormous increase in interest in Hellenistic philosophy in the past ten years, and exhorted others to devote similar attention to late antiquity.[11] He characterized different approaches to the history of philosophy, and advocated the examination of ancient philosophers, not as paradigms who fit into the history of philosophy because they answered philosophical questions in an exemplary way (that would be to assume that current views are "correct" or that there are perennial philosophical questions, which philosophers of the past answered well or poorly), but instead within all the various histories in which they occur. Our task as interpreters, on this view, is to uncover the philosophers' questions and to discover or reconstruct their reasons for answering them as they did. Frede has spearheaded a vigorously historical approach to the field. Even if that approach has pushed scholars too far to another extreme—Aristotle may have much to contribute to contemporary discussion, once we understand his work in its own historical and philosophical context—Frede's methodology has been a model of scholarly rigor for students of ancient philosophy.[12]

In a similar spirit, scholars of ancient philosophy in the 1980s began seriously to question the use of Aristotle to support contemporary philosophical theories. Myles Burnyeat, in an influential paper presented in and around 1984, which was widely circulated thereafter and published (as a draft) some years later, "Is Aristotle's Philosophy of Mind Still Credible?" (1992), argued strenuously against functionalist interpretations of Aristotle's psychology, concluding that "new functionalist minds do not fit into old Aristotelian bodies." The paper has provoked much thoughtful response.[13]

At the same time (late 1970s and '80s), Aristotelians in significant numbers, stimulated by the investigations into Aristotle's method mentioned above, began to explore a relatively neglected area of Aristotelian studies, his research into biology (which constitutes one quarter of his surviving works) and the relation between his philosophy of science in the *Posterior Analytics* and his practice in the biological works.[14] This enormously productive movement also gave scholars a new perspective from which to investigate the *Metaphysics*.[15]

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[11] Richard Sorabji, with his massive translation project, Ancient Commentators on Aristotle, which saw its first publication in the late 1980s, has contributed mightily to that effort. His recent three volume Sourcebook, *The Philosophy of the Commentators 200–600 AD* (2005), will make the views of the ancient commentators on Aristotle more accessible to English-speaking readers.

[12] See also the powerful discussion of interpretive method in Broadie 1993a, a critical notice of Irwin 1988.

[13] Many of the papers in Nussbaum & Rorty 1992 respond to Burnyeat's paper, including a joint Nussbaum-Putnam reply. For a recent assessment of the debate about functionalism in Aristotle's psychology and guide to the literature, see Caston 2005, §1.

[14] This movement was inspired by the work of David Balme and organized especially by Allan Gotthelf in a series of fruitful international conferences in the 1980s. See esp. Gotthelf (ed.) 1985; and Gotthelf & Lennox (eds.) 1987. Collected papers of several prominent figures in this movement are: Lloyd 1996; Lennox 2001; and Gotthelf 2006.

[15] Furth (1988) was in the vanguard interpreting the *Metaphysics* from the perspective of Aristotle's biology. Another resourceful interpretation of the *Metaphysics*, deeply informed by Aristotle's natural philosophy, is S. Cohen 1996. Recent work on Aristotle's natural philosophy contributes significantly to our understanding of the *Metaphysics*: see Freudenthal 1995, and R. King 2001.

Starting in the late 1960s and continuing until his death in the early 1980s, G. E. L. Owen ran a monthly ancient philosophy reading group first in New York and then in London. The minutes of the London Group, recorded by Myles Burnyeat and others, were published as *Notes on Zeta* (1979), and *Notes on Eta and Theta* (1984). The minutes report the spirited discussion of alternative translations and interpretations of the participants' line by line analysis of the text. These notes are a valuable supplement to W. D. Ross's standard commentary on Aristotle's *Metaphysics* ([1924] 1953).

From 1987 on, new commentaries, monographs, and collections of papers on Aristotle's *Metaphysics* began appearing in rapid succession—I count about 30 books since 1987 and several more in preparation. Many significant articles also appeared during the same period or shortly before. One work early in this period had an enormous impact on further scholarship: the two-volume, *Aristoteles, Metaphysik Z*, an introduction, text and (German) translation, and detailed commentary by Michael Frede and Günther Patzig (1988). The authors also make a case for Aristotle's commitment to individual forms.[16] Subsequent publications on Z, and especially by scholars who agree with Frede and Patzig that in *Metaphysics* Z Aristotle defends the primacy of forms but do not agree that forms are particulars, now regularly locate their studies in relation to Frede and Patzig's magisterial work.

Vigorous debate, though productive, has yielded no general consensus on even the most basic questions about Aristotle's *Metaphysics*. Does *Metaphysics* Z offer Aristotle's most mature reflections on substance? If so, what precisely are his conclusions? Does Z depart from his view in the *Categories*, that individual things like a particular man and a particular horse are primary substances? Does Z complement the *Categories* by asking questions of a different sort—such as, what makes the substances of the *Categories* substances? Does Z stand on its own, or is it one step in a larger investigation that includes H and perhaps Θ, and perhaps most of the *Metaphysics* as we have it? If Z is to be read together with H and Θ, does it offer conclusions on which H and Θ rely; or is it inconclusive, laying out difficulties to which they respond? What is the relation between Z and the claims about First Philosophy in A, B, Γ, and E, and the treatment of divine substance in Λ? How does the science of First Philosophy relate to Aristotle's philosophy of science in the *Posterior Analytics* and to his practice in the special sciences?

An excellent general book on Aristotle, which discusses the *Metaphysics* in relation to the rest of his philosophy, is Jonathan Lear's *Aristotle: The Desire to Understand* (1988) (see also Code forthcoming). Marc Cohen's "Aristotle's Metaphysics" in the *Stanford Encyclopedia of Philosophy* presents a helpful overview of Aristotle's metaphysics.[17] Myles Burnyeat's *Map of Metaphysics Zeta* (2001) guides readers through Z, paying close attention to the signposts that articulate its structure and Z's relation to the rest of the *Metaphysics* and *Organon*. Like Frede and Patzig's

[16] This two-volume edition was widely reviewed, by myself and others. See esp. the critical notice by Wedin (1991).

[17] Politis 2004 is a book-length introduction. This book is particularly good on Aristotle's defense of the Principle of Non-Contradiction (*Met.* Γ.3–4) and response to phenomenalism and relativism (Γ.5–6).

commentary on Z, Burnyeat's book, which defends some provocative theses about the structure and strategy of Z, has prompted further constructive reflection.[18] There is a Clarendon Commentary by David Bostock, *Aristotle's Metaphysics*, Books Z and H (1994).[19] Clarendon commentaries on *Metaphysics* Θ (by Stephen Makin) and Λ (by Lindsay Judson) are in preparation.[20] There are several recent collections of articles devoted specifically to the central books of the *Metaphysics* and Λ: F. J. Pelletier & J. King-Farlow (eds.), *New Essays on Aristotle* (1984); T. Scaltsas, D. Charles, & M. L. Gill (eds.), *Unity, Identity, and Explanation in Aristotle's Metaphysics* (1994); C. Rapp (ed.), *Metaphysik: Die Substanzbücher (Z, H,* Θ*)* (1996); and M. Frede & D. Charles (eds.), *Aristotle's Metaphysics Lambda*, (2000).[21] Many other collections range more widely but include valuable papers on the *Metaphysics*.[22]

This review of recent literature on Aristotle's *Metaphysics* cannot do justice to the rich variety of issues discussed and nuances among recent interpretations.[23] Instead I will focus on four main issues. First, those who agree that *Metaphysics* Z argues that substance in the primary sense is form disagree about the status of forms. Are forms universals or particulars (or perhaps neither)?[24] Second, what is the status of matter? As we shall see, the Aristotelian evidence supports two apparently incompatible views. Some scholars have undertaken to find a viable interpretation that reconciles the evidence. Third, what is the status of H and Θ? Many scholars think that Z stands on its own, with H as a sort of appendix, including an important treatment of the unity of form in H.6. For these scholars Θ turns to a new project. Other scholars think that Z does not stand on its own, but should be read together with HΘ. A key issue for this position is Aristotle's treatment of the unity of composite substances in H.6, and Θ's role in spelling out Aristotle's solution. My final topic will be the status of ZHΘ in the larger scheme of the *Metaphysics*, especially in relation to Γ, E and Λ.[25]

2. OVERVIEW OF *METAPHYSICS* Z

The basic structure of *Metaphysics* Z is widely agreed. There are two introductory chapters. Z.1 argues that the study of being must in the first place be a study of

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[18] See discussions of Burnyeat in Lewis 2000, and Wedin 2000, and the critical notice, Gill 2005a.

[19] See the critical notice of Bostock 1994 by Wedin (1996).

[20] Other Clarendon commentaries on the *Metaphysics* are Madigan 1999, on B and K.1–2; Kirwan 1993, on Γ, Δ and E; and Annas 1976, on M and N.

[21] For articles on *Met.* M and N, see Graeser (ed.) 1987.

[22] In addition to the collections mentioned in nn. 2, 13, and 14 above, see Bogen & McGuire (eds.) 1985; Devereux & Pellegrin (eds.) 1990; and Lewis & Bolton (eds.) 1996.

[23] Let me take this opportunity to make a blanket apology. So many studies have been published in the past twenty years that this survey is bound to overlook some contributions even on its restricted range of topics. Furthermore, though I cite some publications in French and German, my emphasis is on English language publications. My aim here is to chart some of the major recent trends in the scholarly literature on Aristotle's *Metaphysics*.

[24] The modern debate about particular forms in Aristotle was triggered by a pair of important articles presented at an Eastern Division APA Symposium in 1957, by Wilfrid Sellars and Rogers Albritton.

[25] A topic I won't be able to discuss here, but which is of considerable importance for Aristotle's *Metaphysics*, is his critique of Plato. On this topic, with special focus on Aristotle's fragmentary work *On Ideas*, see Fine 1993. Another topic omitted is the interpretation of Aristotle in light of the later tradition. Gerson (2005) uses the Neoplatonists to show us a more Platonic Aristotle.

substance, since other sorts of beings (qualities, quantities, and so on) depend for their existence and for what they are on substances. To understand those other entities, then, we must understand substance first. Z (and arguably H and Θ) focuses mainly on that first task.

Z.2 lists examples of substance, starting with those generally agreed: animals and plants and their parts, and other physical objects. Some thinkers proposed other candidates, such as Plato's Forms. Part of the task, says Aristotle, is to determine which items belong on the list and which not, and whether there are some other substances apart from the perceptible ones. But first, in order to evaluate the claims, he needs to address a different sort of question: What is substance? What is it that makes those entities be or seem to be substances?

Z.3 states that "substance" (*ousia*) is understood in a variety of ways, but especially four: (1) essence, (2) universal, (3) genus, and (4) underlying subject. Some scholars think that these are *criteria* something might reasonably be expected to satisfy to be a substance. Others think they are reputable answers to the question: what is the *cause* of a thing's substantiality? What is the *substance of*, say, Socrates? Is it his essence, his universal or genus, or his underlying subject?[26] Aristotle will reject some of the proposals (universal, genus); others (essence, and on some views the underlying subject) he will keep and clarify. *Metaphysics* Z is structured loosely around this list. Z.3 examines the claim that substance is an ultimate *subject* and argues that, if being a substance is being an ultimate subject, matter alone is substance—a conclusion he rejects. Scholars disagree on the question whether subjecthood is downgraded as a criterion or cause of substantiality or whether the notion is kept and revised to avoid the unwanted conclusion. Z.4–11 (possibly including Z.7–9 and 12) spell out what an *essence* is and argue that a primary thing and its essence are one and the same. These chapters evidently maintain that essence is a viable answer to the question, What is substance? Z.13–16 examine and reject the claim that a *universal* is substance and that a substance is composed of substances. The *genus* receives no separate treatment but appears to be rejected together with the universal.[27] Z.17 starts anew and considers substance as a principle and cause that explains why matter constitutes a composite.[28] Some scholars regard Z.7–9 and Z.12 as later additions, not part of Z's original plan. Others urge their importance for the overall project.

3. THE STATUS OF FORM

Metaphysics B states a series of difficulties that Aristotle thinks his science ought to address. B.6 ends with a final *aporia*: are the principles (*archai*) universals (*katholou*) or particulars (*kath hekasta*)? Against the first alternative, he says: No universal is a substance, for what is common (*koinon*) is a *such* (*toionde*), not a *this* (*tode ti*), and substance is a *this*. Against the second alternative, he says: If the principles are particulars, they will not be knowable, for knowledge of anything is universal

[26] For a helpful discussion of the alternatives, see Devereux 2003, 161–66.

[27] In his summary of Z in H.1, Aristotle mentions the genus together with the universal (1042a13–16) and says that neither is substance (1042a21–22).

[28] I cannot discuss Z.17 here. For two excellent alternative treatments of it, see Wedin 2000, ch. 10; and Devereux 2003, §§3 and 4.1.

(1003a5–17). Some scholars have argued that Z's discussion is guided by this *aporia*.[29] If Aristotle's project is guided by this *aporia*, which way does he solve it? Is substance a particular or a universal?

The question whether forms are particulars or universals is pressing for those scholars who agree that Aristotle's overall conclusion in Z is that substance is form, the conclusion he reaches in the second section of Z (Z.4–11: see especially 1037a21–b7). The main battlefield for the debate has been Z.13, where Aristotle argues that no universal is a substance. For some scholars this text is crucial evidence for their view that Aristotle was committed to particular forms. For those scholars who think that Aristotelian forms are universals Z.13 is a crux, and their task is to interpret the chapter in a way that shows that Aristotle excluded some universals as substances but left room for forms to be primary, even though they are universals (or in some sense general).

3.1 Individual Forms

Aristotle distinguishes a universal from a particular in *De Interpretatione*: "I mean by a universal what is naturally predicated of a number of things, by a particular what is not—for example, man is a universal, Callias a particular" (*De Int.* 7, 17a39–b1). Similar statements occur in Z.13 (1038b9–12) and Z.16 (1040b25–26). Z.13's conclusion at 1038b34–1039a2 is one of two conclusions repeated at the end of Z.16: "It is clear, then, that none of the things said universally is a substance" (1041a3–4). Given Aristotle's argument in Z.4–11 that substance is form, Z.13's claim that no universal is a substance provides good grounds to conclude that form is not a universal.

Several different conceptions of individual forms have been attributed to Aristotle. Some scholars who approach Aristotle's *Metaphysics* from the perspective of his biology, and especially from his treatment of inherited characteristics in *Generation of Animals* IV.3, think that forms can be differentiated below the species level: my form and yours contain a good deal of information in common, but also information that differentiates me from you and which links us to our different families.[30] On another version, material as well as formal features determine the individual form—information like eye-color and nose shape is included in the individual form.[31] Both of these alternatives allow that in principle forms are repeatable: they can occur in more than one individual, even if they are not in fact repeated. Aristotle's theory of animal reproduction, according to which the male contributes the form, the female the matter, would suggest that, if the male sperm adequately masters the female material, the offspring will be male and resemble his father.[32] This conception of form as highly specific, though nonetheless general, is consistent with Aristotle's claim in *Metaphysics* Z.15, that definable form (*logos*) is common, even if it applies to only one thing (1040a29–b1).

[29] Owen (1978–79) spoke of a "pincer-movement." See Code 1984, and Yu 2003, ch. 5. Reeve (2000) thinks that solving this problem, which he calls the *Primacy Dilemma*, is the central project of Aristotle's metaphysics and epistemology.

[30] Cooper 1988, esp. 33–38. Furth (1988) argued that Aristotle's biological works do not commit him to individual forms.

[31] Balme 1987. See below for Balme's more radical thesis.

[32] See the recent account in Reeve 2000, §3.3.

To distinguish forms that cannot be further divided but are repeatable from those that are non-repeatable, some scholars have introduced a distinction between *individual* forms (which are not further divisible but are repeatable) and *particular* forms, which are non-repeatable, each associated exclusively with a single material substance.[33]

Scholars who think that Z.13 shows that forms cannot be universals tend to ascribe to him a stronger position, that forms are *particular*: your form is different from mine, and not merely in the sense that yours is yours and mine is mine.[34] Again there are different versions of this thesis. For Frede and Patzig, our forms may be qualitatively indistinguishable, yet they are numerically distinct.[35] David Balme, arguing that Aristotle was not an essentialist, thought our forms contain all material information about us. Thus a definition of Socrates includes a complete account of all his matter at a given moment.[36] Terence Irwin regards particular forms as formal compounds, which not only include material information but are also themselves material—they contain a bit of matter of the right functional type. Forms are both "material and materiate."[37]

Metaphysics Z.13 is positive evidence that no universal is a substance. It is not positive evidence that Aristotle was committed to particular forms. Burnyeat (2001, 46) makes the striking observation that form is not even mentioned in the chapter that is supposed to decide its fate.

What, then, is the positive evidence for particular forms?[38] First, defenders of particular forms in Aristotle often point to the fact that he sometimes refers to forms as *tode ti* (literally "this something" or "some this").[39] Aristotle certainly uses the expression to specify particulars. The *Categories* states that a primary substance, such as a particular man or a particular horse, is *tode ti*, because it is indivisible (*atomon*) and one in number (3b10–13). The species and genera of primary substances are not *thises* but specify more than one thing (3b13–23). The question asked by those who reject particular forms is whether the phrase *tode ti* applies only to particulars; and if not, whether the reference to forms as *thises* merely indicates that they are highly determinate (not divisible into more determinate kinds) but nonetheless repeatable—that is, *individuals* but not *particulars*.[40]

The strongest positive evidence that Aristotle was committed to particular forms is a passage in *Metaphysics* Λ.5, where he says:

> Of those things that belong in the same species (*eidos*), the causes and elements are different, not in species (*eidos*), but because the <causes> of different particulars

[33] For the distinction, see Code 1986, 412–13 n.5, 414.

[34] At least some scholars who defend universal forms would allow for numerically distinct instantiations of a common form individuated by the material substance whose form it is, or by the matter in which it is realized.

[35] Frede & Patzig 1988, esp. 1:48–57; Frede 1978 and 1985. See also Matthen 1987, Witt 1989, and Spellman 1995.

[36] Balme 1987, 295. For a critique of this view, see Lloyd 1990, 16–28.

[37] Irwin 1988, 248–55.

[38] See Wedin 1991, for a comprehensive discussion of the evidence for the thesis.

[39] E.g., *Met.* Δ.8, 1017b23–26 (on this chapter see Polansky 1983); H.1, 1042a28–29; Θ.7, 1049a35–36; Λ.3, 1070a11.

[40] Lear (1987) treats this issue well in connection with Aristotle's epistemology. See also Gill 1994.

> <are different>—your matter and form (*eidos*) and moving cause and mine, but they are the same in their universal account (*logos*).[41] (1071a27–29)

Defenders of particular forms in Aristotle point to this and other evidence to make the positive case.[42] Then Aristotle's argument in Z.13 that no universal is a substance simply clears the ground for that positive thesis.

3.2 *Universal Forms*

On the other side of this debate are those who think that Z.13 does not make the strong claim that no universal is a substance, but a much weaker claim, which excludes only some universals but not others. There seems good reason to try to neutralize Z.13, in light of passages that appear to state that forms are universals, such as this one in Z.8:

> And that which is whole, such and such form (*eidos*) in these flesh and bones, is Callias and Socrates. They are different because of their matter (since the matter is different), but the same in form (since the form is indivisible [*atomos*]).[43] (1034a5–8)

Aristotle also claims that "definition is of the universal and the form" (Z.11, 1036a28–29) and denies that particulars are definable as such (Z.10, 1036a2–9; Z.15, 1039b27–1040a7).[44] It seems that, as objects of scientific knowledge, forms should be universals.

In the 1960s and '70s many Aristotelians thought that *Metaphysics* Z reversed the order of priority defended in the *Categories*. Whereas the *Categories* called the species *man* a secondary substance and an individual man a primary substance, *Metaphysics* Z was thought to award priority to the species, because the species determines what the individual is.[45] Since the species is a universal which is naturally predicated of a number of things, Z.13 appeared to pose a serious problem.

A crucial step toward solving the problem was the recognition that form in the *Metaphysics* is not a *Categories*-type species, like *man* or *horse*. In an important paper, John Driscoll (1981) showed, to my mind definitively, that the species of the *Categories* and form of *Metaphysics* Z, though both are specified by the same Greek word *eidos*, are not the same thing. In *Metaphysics* Z.10 Aristotle specifies the species *man* and *horse* as *universal composites*, which include form and matter taken universally (1035b27–30). Socrates' species is *man*; his form is his soul (Z.11, 1037a5–7). The *Metaphysics* still speaks of *man* as an *eidos*, and Aristotle's usage can be confusing. Sometimes he uses the word 'man' for the Platonic (separate) Form Man, sometimes for the species *man*; and sometimes, especially when he speaks of his own view together with Plato's, 'man' can specify a form, the human soul (for the ambiguity, see *Met.* H.3, 1043b2–4).

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[41] Scholars have argued that this passage is not evidence for particular forms. For alternative interpretations, see Lesher 1971, 174–75; Modrak 1979, 376–77; and Code 2000, 178.

[42] See Frede & Patzig 1988, 1:48–57. Witt (1989, 163–75) discusses the evidence in *Met.* M.10. Lear 1987 offers an alternative interpretation of M.10. Loux (1991, 223–35) gives a detailed critique of the arguments for particular forms.

[43] Defenders of particular forms do not regard this passage as evidence against their view, claiming that here *eidos* means "species," or "species form," not "particular form." See Irwin 1988, 252; Frede & Patzig 1988, 2:146–48.

[44] On this topic, see M. Cohen 1984 §2.

[45] E.g. Owen 1965; Woods 1967. Cf. Woods's more recent reading of Z.13 (1991).

Once the distinction between form and species is made, Z.13 looks considerably less threatening. Aristotle's official target in the chapter is Platonic universals (separate Forms), and he argues that none of them is a substance. The chapter also appears to reject the substantiality of entities the *Categories* called secondary substances—species and genera like *man* and *animal*—which *Metaphysics* Z treats as universal composites.[46] Z.13 states that what is predicated universally is not a *this* (*tode ti*), but a *such* (*toionde*) (1039a1–2). Some scholars think room is left for form, like the human soul, which Aristotle elsewhere calls a *this*, to be substance, even though it is shared by more than one thing. The proposal that has gained fairly widespread acceptance is that Z.13 is not making the strong claim that no universal is a substance, but a much weaker claim, that no universal is the *substance of* that of which it is universally predicated. This weak proscription excludes species and genera (and Platonic Forms) as substances, but is thought to allow for the substantiality of Aristotelian forms. On this view, form is predicated universally of chunks of matter, but is not the substance of those chunks. Instead, it is the substance of composites, and it is not predicated universally of those.[47]

4. THE STATUS OF MATTER

What about those "old Aristotelian bodies"?[48] There are two extreme positions about Aristotelian matter, each supported by textual evidence. At one extreme is the idea that matter is what it is independent of form. At the other extreme is the idea that matter is determined as what it is by the form of the object whose matter it is. A number of scholars have recently been looking for a way to reconcile the two positions or to diagnose the conflicting evidence.

4.1 Matter and Change

The first idea derives from Aristotle's treatment of change in the *Physics*. Before we turn to that, we should recall the *Categories*. There Aristotle treats particular physical objects (e.g., a particular man or particular horse) as primary substances. They are the ultimate underlying *subjects* on which everything else depends for its existence. Non-substantial properties (quantities and qualities and so on), which characterize those objects, and substantial species and genera, which identify them specifically and more generally, all depend on the primary objects for their existence. Remove the primary substances—the basic subjects—and everything else is removed as well (*Cat.* 5, 2a34–b6). Most scholars think the *Categories* treats physi-

[46] But see Malcolm 1993. Malcolm argues that Z.13 rejects species only as *primary* substances.

[47] For versions of this view, see Loux 1979, 1991; Driscoll 1981; Code 1984, 1986; Lewis 1991; Wedin 2000 ("weak proscription" is his label). For objections, see Bolton 1996, 279n.20; and Gill 2001, 249–54. My own view (2001) is that Z.13 makes trouble for form, whether form is a universal (predicated of many chunks of matter) *or* a particular (predicated of one chunk of matter). One of Aristotle's objections to the universal is that substance is not predicated of a subject, whereas the universal is always predicated of some subject (1038b15–16). Form is excluded as substance by this argument, because it is predicated of a subject—matter. It is excluded whether it is predicated of one chunk of matter or many (note that matter was listed as one of two ways to be a subject at the beginning of the chapter: 1038b5–6).

[48] Burnyeat's phrase (1992), quoted above p. 226.

cal objects as atomic entities without analyzing them further.[49] In tackling change in the *Physics,* however, Aristotle argues that physical objects must themselves be analyzed into matter and form.

Parmenides had denied the possibility of change, arguing that change would involve the emergence of something out of nothing. Aristotle agreed with his predecessor that there is no absolute becoming. His task was to account for change without admitting the emergence of something from nothing.[50] In *Physics* I.7 Aristotle argues that every change involves three principles: a pair of opposites (form and privation), and an underlying subject. A change brings something new into the world, because the form replaces the privation. But the change is not a mere replacement, with the pre-existing entity perishing into nothing and the product emerging out of nothing, because part of the product was there all along—the underlying subject, which was characterized first by the privation and then by the form. In non-substantial changes (changes of quality, quantity, or place) the continuant is a physical object, something the *Categories* calls a primary substance, and the form and privation are pairs of terms, which are properly opposed, in one of the categories of quality, quantity, or place.

According to Aristotle, substantial generation can also be analyzed in terms of three principles. Since a substance is in this case the product of the change, it cannot be what persists through it. *Matter* is introduced as the persisting subject, and *form* is the positive member of a pair of opposites. A new substance (e.g., a statue) comes to be when matter (e.g., bronze) acquires a form (a shape) it originally lacked. Items in the first category are analyzed in the *Physics* into matter and form to account for their substantial generation. In line with the *Physics,* the *Metaphysics* treats items in the first category as *composites* of an underlying subject (matter) and a predicate (form).

The *Physics* I.7 model suggests that the matter that constitutes a composite has an identity independent of the form of the object it temporarily constitutes. The matter and the composite are distinct, because they *have different persistence conditions*: the matter outlasts the composite by persisting through substantial change. Furthermore, the relation between matter and form in a composite is an *accidental* relation: the bronze that constitutes a statue could constitute a plowshare instead; and the shape of the statue that informs the bronze could have been realized in wood or some other suitable material. This idea has been used to support functionalist interpretations of Aristotle: form depends on some suitable matter for its realization, but the relation between them is contingent.

The idea that matter is something independent of form is supported by one reasonable interpretation of *Metaphysics* Z.3.[51] In this chapter Aristotle considers the thesis from the *Categories,* that being a basic subject—something of which other

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[49] But see Devereux 1992. Devereux agues that the *Categories* treats not only living things, like a particular man and a particular horse, but also the soul and body of such objects as primary substances, with the consequence (in the *Categories*) that the soul is not predicable of the body. On this view, Aristotle in the *Categories* is still committed to soul-body dualism similar to that in Plato's *Phaedo.*

[50] On Aristotle's theory of change in the *Physics*, see esp. Waterlow 1982.

[51] See, e.g., Loux 1991, ch. 2; Lewis 1991, ch. 10; Ferejohn 2003; Gill 2005b. Charlton (1970) and Gill (1989) have suggested that Aristotle had a particular historical target, Plato's Receptacle in the *Timaeus.* This interpretation also fits the same general approach.

things are predicated but not itself predicated of anything else—makes something a substance; and he argues that further conditions must be met in order to avoid the outcome that matter alone is substance.[52] Aristotle performs a thought-experiment: Strip away all categorial properties. What is left? Something "whose being is different from all the predicates" (1029a22–23). The final thing, he declares, is in itself neither something, nor so much, nor any other categorial being. All properties belong to it accidentally (1029a23–26). Matter is revealed as an ultimate subject, distinct in being from all its properties.[53]

The chapter has been taken to concern an entity known traditionally as *prime matter*.[54] This is the ultimate subject that underlies all complex physical things: strip off layers and layers of formal properties, and prime matter is at the base. Prime matter is something—a being—but has no determinate content (categorial being) in its own right. Not only is prime matter what lies at the base of all analyses of physical objects, it also serves as the continuant in elemental transformation, the ultimate sort of substantial change. On this view the *Physics* I.7 model guarantees that, when water is transformed into air, prime matter, which had the properties of water (coldness and wetness), comes to have the properties of air (heat and wetness).[55]

4.2 *Matter as Potential*

At the other extreme is the view that matter cannot be specified as what it is independent of form.[56] Consider an alternative reading of *Metaphysics* Z.3. On this view (advocated, e.g., by Frede & Patzig 1987, 2:46–51), Z.3 presents Aristotle's

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[52] The two additional conditions are *thisness* (on which see above, p. 231) and *separation*. On separation see Morrison 1985a, and the debate between Fine and Morrison in *Oxford Studies*. See esp. Fine 1984, and Morrison 1985b. See also the recent assessment by Reeve (2000, §1.1). Many scholars regard thisness and separation as conditions for substantiality independent of subjecthood. I think they are conditions an entity must satisfy to be a legitimate *subject*. Thus I take Z.3 to clarify the subject-criterion. Once clarified, it remains a necessary condition for substantiality (Gill, 1989, ch. 1). Some scholars (e.g., Loux 1991, 66–69; and Devereux 2003) argue that a consequence of the argument in Z.3 is a downgrading of subjecthood. Three objections to this suggestion: (1) Z.3 does not say that subjecthood has been downgraded; (2) Z.13 appeals to subjecthood in arguing against the substantiality of the universal, and the objection has no force if subjecthood has been downgraded (cf. n. 47 above); (3) H.1 summarizes Z and mentions that the universal and the genus (but not the subject) have been rejected; H.1 then returns to subjecthood, mentioning three ways to be a subject: matter, form, and the composite of both; the chapter then argues that matter too is substance as a subject. The appeal to subjecthood in Z.13 and discussion of it in H.1 strongly suggest that subjecthood remains a necessary condition for substantiality. Cf. *Met.* Δ.8, 1017b23–26, which sums up its discussion of substance by saying that substance is spoken of in two ways, (1) as an ultimate subject, which is not predicated of anything else, and (2) as a *this* and separate.

[53] Cf. Locke's Substratum (*Essay* Bk. II., ch. 23 §§1–2). See Kosman 1994, 196–97.

[54] Owens (1978, 334–35) uses Z.3 among other texts from Z–Θ to clarify the distinction between what the scholastics called *materia prima*, the absolutely undetermined substrate, and *materia secunda*, like wood, which has definite properties.

[55] Aristotle's commitment to prime matter has been questioned a number of times in the last half-century. See, e.g., H. R. King 1956; Charlton 1970, Appendix, and 1983; Furth 1988; Gill 1989, ch. 2, and Appendix. On the other side, see, e.g., Robinson 1974. There have been new interpretations of prime matter, too—that it has some essential properties, such as extension: see S. Cohen 1984 and 1996, ch. 3; and Sorabji 1988, ch. 1.

[56] A text often cited is *Phys.* II.2, 194b8–9: "Matter is among the relative terms, since there is a different matter for a different form."

concept of matter.[57] Prime matter may be the ultimate instance of that concept, but other instances are ordinary material stuffs like bronze, the matter of a statue. On the Frede-Patzig view, bronze *as bronze* is not considered as matter (bronze considered as bronze is a quasi-substance). Conceived *as matter*, bronze is *potentially a statue:* its identity is determined by the form of the object whose matter it is. On this view Aristotelian matter cannot be conceived apart from form, the actuality for which it has the potentiality.[58]

Burnyeat's objection (1992), that Aristotle could not have been a functionalist because his concept of the physical was so foreign from ours, appears to rely on a similar conception. According to Burnyeat, the matter of living organisms is already "pregnant with consciousness." Aristotelian science is achieved "from the top down"—teleologically. The emergence of life needs no explanation "from the bottom up," contrary to what we have thought since the 17th century. On Burnyeat's view, Aristotle did not start with matter as physics and chemistry describe it and work up to an explanation of higher level properties.

4.3 *Prime Matter*

It is worth observing that the traditional conception of prime matter appears to run together two distinct and separately problematic ideas—that matter is *both* the ultimate characterless subject/substratum to which properties accidentally belong, a being *different* from all categorial being, which persists through elemental change; *and* essentially potential, pregnant with being, determined as what it is by the actuality or form.[59]

4.4 *Reconciliations*

In a pioneering paper, John Ackrill (1972–73) called attention to the tension between the two conceptions of matter and its relation to form. On one conception the relation between form and matter is *accidental*, whereas on the other the relation is *essential*. The essential relation is prominent in Aristotle's discussions of the matter of living organisms. He repeatedly claims that organic matter separated from its organic context is the matter it was in name only—*homonymously*.[60] A hand separated from the whole body is a hand in name only, because it can no longer perform its function. And what is true for material parts individually is true for the whole body (*De An.* II.1, 412b17–25). A human corpse is not a human body with the soul removed: the organic matter, too, is destroyed (*Meteor.* IV.12, 389b31).

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[57] See also Dancy 1978.

[58] Frede 1994, 175.

[59] See the presentation in Owens 1978, cited above in n. 54. For the incoherence of the first notion, given Aristotle's essentialism, see Loux 1991, 239–52. Loux thinks that Aristotle was nonetheless committed to the notion. For the incoherence of the second notion, see Graham 1987b. I do not think Aristotle was committed to prime matter of either sort, or *a fortiori* to the confused combination of both. Although S. Cohen's (1984 and 1996, see n. 55 above) new proposal is not subject to these objections, I do not think Aristotle held that more plausible view either.

[60] E.g., *Met.* Z.10, 1035b24–25; *GA* I.19, 726b22–24, II.1, 734b24–27. Shields (1999) gives a detailed treatment of homonymy in Aristotle. For his view of this sort of case, see ch. 5.

Reconciling the two ideas about matter, both of which are testified in Aristotle's texts, has been a lively area of Aristotelian studies. Work on Aristotle's biology has contributed significantly to the project, suggesting that Aristotle's investigations combine "top down" teleological explanations with "bottom up" material–efficient causal explanations.[61] Aristotle frequently says in his biological works that "X happens both for a (teleological) reason and from (material) necessity."[62] A view that is increasingly favored among scholars is that Aristotle treats the higher level organic parts as essentially determined as what they are by the form of the organism: call the organic matter the *functional matter*. The lower level materials that constitute those higher level parts are independent of the form: call these the *constituent* or *remnant matter*.[63] At some level of hylomorphic analysis, on this view, the relation between form and matter is accidental.[64]

Not all scholars agree that Aristotle was satisfied with this sort of reconciliation,[65] which still treats the relation between form and matter, at some level of hylomorphic analysis, on the model of the accidental relation between a non-substantial property and a *Categories*-type primary substance.[66]

5. POTENTIALITY, ACTUALITY, AND UNITY

Metaphysics H is often treated as an appendix to Z, to be mined for nuggets to aid our understanding of the preceding book.[67] Book H deserves serious study in its own right.[68] The one chapter that has received considerable attention is the final chapter, H.6, which appears to address two topics: the unity of form and the unity of the composite. The first topic picks up a thread from Z.12. Precisely what H.6 is arguing, however, is disputed: Does Aristotle treat the unity of the composite to help explain the unity of form?[69] Does Aristotle treat the unity of form as a step in the solution of the unity of the composite?[70] Does the whole chapter focus on the unity of the composite?[71]

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[61] On this topic see Cooper 1987, and Lennox 1997.

[62] E.g., *PA* IV.11, 692a1–8; *GA* II.1, 731b18–732a11, and V.8, 789b2–20.

[63] The vivid label "remnant" is Wedin's (2000). Other scholars speak of the *remote* or *persisting* matter.

[64] See esp. S. Cohen 1984, 1996, and Lewis 1994. See also Whiting 1992, though Whiting's representation of other scholars' views is unreliable.

[65] For three alternative proposals, see Kosman 1984; Gill 1989; and Scaltsas 1994.

[66] Rhenius (2006) gives an acute analysis and assessment of three main competing positions, two discussed briefly above and one briefly below, represented by Loux (1991), Lewis (1991, but chiefly the developments of his view in his 1994 and 1995a), and Gill (1989). See also the APA symposium published in *Ancient Philosophy* in 1995 in which these three authors debate their positions.

[67] There are some provocative new proposals about the relation between H and Z on the one hand, and H and Θ on the other. Devereux (2003) argues that H predates Z—in particular that Z.3 reworks the treatment of subjecthood in H.1, and that Z.17 reworks the account of form as cause of being in H.2–3. Yu (1997), esp. 125–29, reaches a quite different conclusion, that H should be read together with Θ, since both treat potential-actual being, whereas Z is concerned with categorial being, and that Θ does not presuppose H and might be prior to it (129 n.12).

[68] See Kosman 1987, on H.2; and Devereux 2003, on H.1–3.

[69] Harte (1996) presents an attractive new interpretation, arguing for this conclusion. For earlier treatments of this sort, see Ross (1924) 1953 and R. Rorty 1973.

[70] Gill 1989. For objections to Gill, see Loux 1995a, Lewis 1995a, and Harte 1996. I develop my view and respond to objections in Gill forthcoming a.

[71] Halper 1989. For objections to Halper, see Loux 1995a, and Harte 1996.

5.1 *Unity of Form*

Before we turn to the unity of form, we must talk about essence and definition. Let me state the issue as I understand it. Z argues that not just any account (*logos*) succeeds as a definition. Otherwise the *Iliad* (its 24 books) would count as a definition. A definition is the account of the essence (*to ti ēn einai*, literally "the what it is to be") (Z.5, 1031a11–12). As Code (1984) puts it, the essence is the ontological correlate of the definiens in the definition of a definable thing. We might think that the definition of an entity should spell out all that the entity is in itself (*kath hauto* or *per se*), excluding its accidental properties. But this is not what Aristotle thinks.

When Aristotle isolates an essence at the beginning of Z.4 (1029b13–22), he alludes to two sorts of thing that an entity is *kath hauto* and restricts the essence to what the entity is *kath hauto* in one way and not the other. The passage appears to rely on a distinction in *Posterior Analytics* I.4, 73a34–b5. There Aristotle distinguishes two sorts of *kath hauto* predicates: (1) Y belongs to X *kath hauto* in one way, if Y is predicated of X, and Y must be mentioned in the account of what X is (call Y an *essential* predicate of X, since Y must belong to X if X is to be what it is). For instance, *animal* is an essential predicate of Callias, because animal is predicated of Callias and must be mentioned in the account of what Callias is. (2) Y belongs to X *kath hauto* in a second way, if Y is predicated of X, and X must be mentioned in the account of what Y is (call Y a *special* predicate of X: the account of Y—the predicate—must mention the kind of thing of which it is predicated). For instance, *odd* is a special predicate of *number*, because odd is predicated of number, and number must be mentioned in the account of what odd is. An *accident* is a property that belongs to a subject, but it need not be mentioned in the account of what the subject is, nor need the subject be mentioned in the account of what it is. Aristotle's favorite example of an accidental predicate is *white* predicated of *man*.

Z.4 restricts the essence to an entity's essential properties and excludes the underlying subject (of which the entity is a special property). Thus the essence of something is limited to properties predicated of that thing which must be mentioned in the account of what it is.[72] Aristotle goes on to say in Z.4 that anything whose account must specify two entities, Y predicated of X, which are independent of each other in being (i.e., which are accidentally related), lacks a definition in the strict sense (1030a2–7). Thus *white man* is not strictly definable, because its account must specify two entities, *white* and *man*, one predicated of the other, whose own accounts are independent of each other.

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[72] Aristotle sometimes talks about properties he calls *kath hauta sumbebēkota* (*per se* accidents), and his paradigmatic example is *having angles equal to two right angles*, which belongs to *triangle* (*PA* I.3, 643a27–31; cf. *De An.* I.1, 402b16–403a2; *APo.* 83b17–31). If I understand aright, the *Topics* calls a property of this sort a *proprium* (*idion*) (*Top.* I.4, 101b17–25, I.5, 102a18–30; cf. *Top.* I.8), an example of which is *receptive of grammar*, which belongs exclusively to human beings, as contrasted with *sleep*, which can belong to other animals, as well as humans. On *kath hauta sumbebēkota* and their relation to the essence, see Matthews 1990. These properties appear to fall into neither of the two groups of *kath hauta* predicates distinguished in *APo.* I.4; but they are not mere accidents either, since they are explained through the essence. Thus I disagree with Lewis (2005), who locates *per se* accidents in the second group of *per se* predicates distinguished in *APo.* I.4—those I have called *special* predicates, like *odd* in relation to *number* or *snub* in relation to *nose*. I am grateful to Dan Devereux for an objection that helped me clarify my views on this.

Aristotle argues in Z.4–6 that many entities fail to be strictly definable—not only accidental compounds like *white man*, but also entities whose account must specify the sort of subject in which they are always realized, like *snubness*, which is a special predicate of the nose. Snubness is a quality, but it is specified with reference to the sort of subject in which it is always realized, as *concavity in a nose* (concavity in the legs is something else: bowleggedness). *Concavity* and *nose* are conceptual components of snubness, which must both be mentioned in its account. Aristotle thinks that all non-substantial properties resemble snubness in the following respect: there is some primary sort of recipient which must be mentioned in their account.[73] The account is not strictly speaking a definition, because it lacks the requisite unity (as he puts it, such accounts are "from addition"). In Z.5 Aristotle says that, strictly speaking, there is an essence and definition of substance alone or especially (1031a10–11).

Thus to be a substance, an entity must have a special sort of unity. It cannot be something whose being is spelled out by predicating one thing of another (Z.4, 1030a2–17). Aristotle's idea is that a primary thing must be something explanatorily basic. If an entity E is specified as Y predicated of X, where X is distinct in being from Y, then Y and X are prior to it, and E must be explained with reference to them. A primary thing should, by contrast, be explained through itself without reference to anything else. Z.6 states a criterion of primacy:[74] a primary thing is one and the same as its essence (1032a4–6). This criterion has been construed in various ways.[75] As I understand the idea, the essence of a primary thing, which is *predicated* of that thing, *exhausts* what it is.[76] Most entities fail to be primary because their essence determines only part of what they are, the other part being determined by the subject in which they are realized, as in the case of *snubness*. If I am right, it is useful to distinguish between the *being* of a thing and its *essence*. The being of a thing is everything the entity is *kath hauto*, whereas the essence is what it is *kath hauto* in the first way only. Primary things are entities whose being and essence are the same—entities whose essence exhausts their being.

Aristotle does not tell us in Z.6 what satisfies his criterion for primacy, but in Z.7 and later chapters of Z he identifies *form* and *essence* (Z.7, 1032b1–2; Z.10, 1035b32). But is form in fact identical with its essence? Does its essence *exhaust* what it is? Is form something *basic*—not analyzable into more basic components

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[73] The difference between snubness and typical non-substantial properties is the level of generality of the subject. Nose, on which snubness depends, is very specific. Other non-substantial properties depend on something more general in the category of substance, e.g. justice depends on human being, health on living thing, white on body or surface. See Frede (1978) 1987, esp. § I.

[74] Not everyone would accept my characterization of the Z.6 thesis. Frank Lewis thinks it is a criterion for the primary cases of essence, or the essence-of relation. On the Z.6 thesis, see Code 1985, 1986; Wedin 2000, ch. 7; Lewis 2003, § II, and reply by Matthews 2003.

[75] The most widely accepted view is that a primary thing is identical with its essence. See, e.g., Code 1985. It has also been argued that the Z.6 criterion demands something weaker than identity: see M. Cohen 1978b; Spellman 1995; and Dahl 1997, 1999, and 2003.

[76] Thus I agree with the view that a primary thing and its essence are identical. But I think the essence is *predicated* of the primary thing (see Gill 2005b). Z.6 treats Platonic Forms as candidates for primacy. In Plato the Z.6 criterion is known as Self-Predication: The Form F is F (Justice is just, Largeness is large). In my view the essence criterion and Self-Predication both involve genuine predication: the item predicated (Y) and the subject of which it is predicated (X) are identical. My view has much in common with Matthews 2003.

that could claim priority? On some interpretations of Z Aristotle argues that form is a basic entity in Z.10–11;[77] on others he starts his argument in Z.7–9;[78] and on some he continues his argument in Z.12.[79]

Z.7–9 are widely regarded as latecomers to *Metaphysics* Z, though most scholars think Aristotle wrote them and added them to Z himself. Z.7–9 strike readers as intrusive, because they treat *becoming*, a topic more suitable to physics than to First Philosophy, whose topic is *being*.[80] Even so, there are cross-references to Z.7–9 in Z.15 (1039b26–27), H.3 (1043b16–18), and Θ.8 (1049b27–29), and these links suggest that Aristotle thought the chapters contributed significantly to his main argument, whenever they came to be part of Z.[81] The cross-references in Z.15 and H.3 both recall the argument in Z.8 that form is not generated. In Z.7–9 Aristotle argues that anything generated contains matter, and that the constituent matter must be mentioned in the account of the generated thing and of the kind to which it belongs (Z.7, 1033a1–5; Z.8, 1033b24–26; Z.10, 1035b27–31).[82] He argues (Z.8) that form is not generated. So form is definable without reference to constituent matter, since it contains none.

But even if form does not contain matter, and so is not defined with reference to *constituent* matter, it might still contain *conceptual* parts that undermine its primacy. Does form resemble snubness? Is it defined with reference to the sort of subject (matter) in which it is always realized (Z.11, 1036a29–b7)? Or is form like the syllable BA, which has conceptual parts (in this case the letters A and B) that must be mentioned in its defining account? If so, are the parts prior to the whole (Z.10 and Z.13)?[83] If form is defined by appeal to genus and differentia, as *man* is defined as *biped animal*, does form yield its primacy to those conceptual parts (Z.12)?[84] Although the details are debatable, Aristotle's conclusion in Z.11 looks pretty clear. A material composite is not the same as its essence, and so fails to be substance in the primary sense. Form is the same as its essence, and therefore succeeds (1037a21–b7).

But has Aristotle actually shown that form is something basic? What about the parts specified in its definition? Do they undermine the primacy of form, or can

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[77] Wedin 2000, ch. 8, argues for what he calls the *purification* of form.

[78] Gill 2005b.

[79] Menn 2001. According to Menn, Z.10–16 constitute a unit.

[80] But see Buchheim (2001, 220–27), who argues that becoming is crucial for Aristotle's project. See also Ferejohn 2003.

[81] *Met.* Λ.3, which covers the same ground as Z.7, is also relevant to the assessment of the significance of Z.7–9 to Aristotle's project. The value of the cross-references is queried by Burnyeat (2001) in his discussion of Z.7–9. For a critique of Burnyeat on this point, see Gill 2005a.

[82] There is one claim in the summary at the end of Z.11 (1037a24–29) that conflicts with my statement in the main text. Here Aristotle says that there is no account of the composite that includes the matter, but there is an account of it in terms of its form alone. Frede (1990) reinterprets an earlier passage in Z.11 (a passage criticizing a view of Socrates the Younger [1036b21–32], which apparently says that the definition of a composite must mention the matter) to fit the summary. But the claim in the summary conflicts not only with the passage about Socrates the Younger, but also with the series of passages cited in my main text, and also with what Aristotle goes on to say in the rest of his summary itself: 1037a29–b7 (see Gill 1989, 136–38). In my view (which I share with Ross 1924, 2:205; and Burnyeat et al. 1979, 97–98), the earlier claim in the summary is the one that is problematic. See Ferejohn 1994 and Heinaman 1997, for critiques of Frede's view.

[83] See Wedin 2000, chs. 8 and 9; Menn 2001.

[84] Menn (2001, §4(b)) makes a good case for the relevance of Z.12 to Aristotle's project in Z. See also Halper 1989, §2.8. For different interpretations of the genus-differentia relation in Z.12, see Granger 1984, §3; and S. Cohen 1996, ch. 4.

form be composed of parts without being posterior to them? Aristotle tackles this question by asking how something can be one, if its account specifies several conceptual parts.

The question of unity is introduced and deferred at Z.11, 1037a18–20. Most scholars think Aristotle confronts the unity of form and definition in Z.12 and again in H.6.[85] He presents his own account in response to a Platonic problem. Aristotle asks the Platonist: Why is *man* one thing, when it is defined as *biped animal*—two things, a genus and a differentia? A Platonist treats *biped* and *animal* as two distinct Forms, with the result that *man* has two more basic conceptual parts. Aristotle claims that he has a solution. The problem is solved by regarding the genus *animal* as potential, and the differentia *biped* as actual (1045a23–25).[86] The genus *animal*, though it is a conceptual part of man, is something indefinite and potential (in Z.13's terms, it is a "such" [*toionde*], or as some philosophers would say, a *determinable*), and therefore *posterior* to the thing determined;[87] the differentia, on the other hand, is definite and actual, and determines the genus into the determinate species *man*. According to Z.12, if we perform a division correctly, taking a differentia of a differentia (e.g., two-footed as a differentia of footed), the object can be defined with reference to the last differentia alone, which is the substance of the thing and its form (1038a9–21). Mention of higher differentiae adds no information not already contained in the last differentia. Thus *man* is not two distinct things, but only one, even though the genus and differentia are specified in its defining account.

The unity of form may not be as easily solved as Z.12 and H.6 suggest.[88] In the *Metaphysics*, Aristotle simplifies the picture and assumes that a form can be determined by a single line of division. In his biological works, he says that we must divide by many differentiae at once (*PA* I.3, 643b9–644a11). For instance, animals are defined not only by their mode of locomotion, but also by their mode of nutrition and reproduction, perception, and so on. So the question is this: What is the unity of the collection of final differentiae, all of which are actualities?[89] Why should we think that form is prior to its actual conceptual parts? This question seems to me still a pressing one.[90]

5.2 Unity of Composites

On one conception of matter that we have discussed, no problem of unity for composite substances should arise, because matter does not make an indepen-

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[85] But see Halper (1989, §2.12), who thinks that Aristotle deals with the unity of form in Z.12 and moves on to the unity of the composite in H.6.

[86] This is one way of understanding Aristotle's solution in H.6. For another, see Harte 1996.

[87] Cf. Aristotle's objection to the Platonists at Z.13, 1038b23–29, and 1039a3–14. Constituents that are merely potential do not undermine the unity of the whole.

[88] For problems about the status of the genus, see S. Cohen 1996, 110–16.

[89] Pellegrin (1985) argues that in his zoology Aristotle does without (unified) species, adopting a "moriology" instead. For a critique of his view, see Lloyd 1990, 9–15. For discussion of the unity of final differentiae in Z.12 and H.6, see Halper 1989, 114–18; Charles 1993 and 2000, esp. ch. 12; and Reeve 2000, 70–79.

[90] Note that this problem emerges from reflection on the metaphysical implications of Aristotle's biological investigations, not from what he says explicitly in the *Metaphysics*. I owe this observation to Dan Devereux. But the problem suggests that the elegant solution Aristotle presents in Z.12 and H.6 may not be sufficient to address the difficulty.

dent contribution to what the composite is. The composite is determined "from the top down." On the other main conception we discussed, according to which form is predicated accidentally of matter as a subject, the unity of composites is a genuine issue. But it need not be a serious issue, if Z presents Aristotle's final conclusion, that substance is form. In that case it is unsurprising that composites lack the requisite unity to be substances in any primary sense. Composites are explained by appeal to their more basic components, or at least to their form. Still, given that Aristotle claims the unity of matter and form in a striking passage in H.6, this chapter has received serious attention from some who think he awards primacy to form.[91] The unity of composites is, on the other hand, urgent for those scholars who think that Aristotle maintains his position in the *Categories*, that living organisms like a particular man and a particular horse are primary substances.

The problem of the unity of composites is rooted, as we have seen, in the role matter plays in substantial generation. Since the constituent matter of a composite can outlast it, the matter makes a distinct contribution to what the composite is. And so the composite is not one and the same as its essence, as prescribed for primary things in Z.6. To revert to my earlier distinction, the *being* of a composite is different from its *essence*. In H.6 Aristotle seems to suggest that there is a way to save composites, not just as derivative substances, but as *primary* substances. He famously concludes the chapter:

> But, as we have said, the ultimate (*eschatē*)[92] matter and the form are the same and one, the one in potentiality (*dunamei*), the other in actuality (*energeiai*), so that it is like seeking what is the cause of oneness and of being one; for each thing is some one thing, and the thing in potentiality and the thing in actuality are somehow one, so that the cause is nothing else unless there is something that caused the movement from potentiality to actuality. And all those things that have no matter are simply just some one thing. (1045b17–23)

What precisely does Aristotle mean when he says that the ultimate matter and the form are the same and one, the one in potentiality, the other in actuality? Some scholars take Aristotle to be claiming that genuine material substances (living organisms) are basic unities, and that matter and form are not real components, but only ways to conceptualize that basic unity.[93] Charles (1994) calls this the *non-explanatory* approach; Lewis (1995a) calls it a projectivist interpretation of matter and form. The *explanatory* approach, by contrast, treats at least one of the pair matter/form or potentiality/actuality as independent of, and prior to, the notion of a composite unified substance (Charles 1994). On this approach Aristotle wants to explain how matter and form, which are not identical to each other, are related so as to compose a unified composite substance.

One might think that Aristotle is talking about form and functional matter, but as Loux (1995a) observes, the components to be unified are not the form

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[91] See the penetrating discussions by Loux (1995a) and Lewis (1995a).

[92] The Greek *eschatē* ("last") can be translated as either "proximate" or "ultimate" (depending upon whether one is counting up from the bottom or down from the top). In this passage the word is often translated "proximate" (also by me in the past). But I've come to think the word should be translated in the same way one translates *eschaton* at Θ.7, 1049a35–36, where Aristotle speaks of form predicated of matter. There the translation is usually "ultimate" or "last." See Gill forthcoming b. Cf. the translations of Furth 1985 and Irwin & Fine 1995.

[93] Kosman 1984, 144; Halper 1989, 188, 193; and possibly Scaltsas 1994, 107–11, 188.

and functional matter: Aristotle's example of a composite in H.6 is not a living organism, but a bronze sphere—whose matter is bronze and whose form is a spherical shape (1045a25–33). Aristotle is apparently claiming that the shape and the bronze are somehow one, the one in potentiality, the other in actuality.

On some readings of Θ the main task of that book is to flesh out this claim through its analysis of potentiality and actuality.

5.3 *Potentiality and Actuality*

At the beginning of Θ.1 Aristotle describes the project in which he has been engaged in the previous books: the topic was being in its primary sense, that being in relation to which all other sorts of beings (qualities, quantities, and so on) must be defined and understood. Being in the primary sense is substance (1045b27–32). He says that since he has talked about being in terms of the categories, he will now discuss potentiality and actuality (1045b32–35). On one view Aristotle says he has finished his first topic and will now move on to an investigation of potentiality and actuality. For instance, Witt (2003) argues that whereas Z investigates *kinds* of beings (categorial beings), Θ investigates potentiality and actuality as *ways* of being, which may apply to any of the kinds of beings.[94] On this view Θ was written, not because the investigation of substance was itself incomplete, but because the distinction between potential and actual being allows Aristotle to present aspects of his conception of reality that could not be captured in terms of categorial being. Θ thus enriches the previous discussion.

We should note that in *Metaphysics* E.2 (cf. *Met.* Δ.7) Aristotle said that *being* has a variety of meanings: (1) accidental; (2) truth; (3) the scheme of the categories; and (4) potentiality and actuality (1026a33–b2). *Metaphysics* E itself treated accidental being and being as truth, and then dismissed them both as not helpful for the current investigation, the inquiry into being *qua* being, or being as such (E.4, 1027b33–1028a6).[95] That left (3), categorial being, and (4), potential and actual being. Aristotle treats categorial being in Z (see his opening claim: Z.1, 1028a10–13) and recalls that treatment at the beginning of Θ.1 (cited at the beginning of this section). So the question is whether, in taking up potentiality and actuality in Θ, Aristotle is still engaged in the same project he undertook in Z—but now from a different perspective—or whether he is embarking on a different sort of investigation. Much will depend on what one thinks Aristotle accomplished in Z (e.g., whether Z reached conclusions or posed difficulties) and what one thinks he was doing in H. One important consideration is that H.1–5 appear to map the notions of potentiality and actuality onto the hylomorphic scheme of Z. My own view is that simple mapping will not enable Aristotle to solve the problems raised in

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[94] According to Witt, Θ contains two main arguments, first concerning the existence of *dunamis* (Θ.3), which she thinks can mean either causal power or potentiality (= inactive power), and second concerning the priority of actuality or activity in relation to *dunamis* (Θ.8). Ross ([1925] 1953, 1: cxxiv–cxxvii) also thought there were two senses of *dunamis*, power and potentiality (= the capacity of a thing to pass into a new state of itself). Cf. Charlton (1991), who distinguishes between causal power and possibility (in contrast to fulfillment). Frede (1994) argues that *dunamis* for Aristotle has only one meaning, that of causal power. For a critique of Ross and Frede, see Code 2003. For my own view, see Gill 2005b, n. 43. On the priotity of actuality, see below, n. 100.

[95] Yu (2003), Introduction, discusses the import of the E.2 passage for the interpretation of Z and HΘ.

Z.[96] I think Aristotle re-conceives the notions of potentiality and actuality in Θ, and what it means for matter to be potential, and for form to be actual. I am thus very sympathetic to a quite different way of reading *Metaphysics* Θ, one that sees it as closely connected with the investigation of substance as primary being in ZH.

In a seminal paper, Aryeh Kosman (1984) pointed out that Θ.1 introduces two potentiality-actuality models, one that employs *dunamis* in the strict sense, as it applies to change, and another, which Aristotle says is *more useful* to the present project (1045b32–1046a1). The present project, according to Kosman (1984) (1994), is the project stated at the beginning of Θ.1. *Metaphysics* Θ continues to investigate being, and especially being in its primary sense, the being of substance. On this view Aristotle proposes to investigate that same topic now using the tools of potentiality and actuality.

Θ then divides into two main sections. Θ.1–5 investigate potentiality and actuality as they apply to change. Here Aristotle is particularly interested in the potency (causal power) of the agent, which brings about a change, and the potency of the patient, which can be changed, and the conditions under which their potencies are actualized. If the change is successful, the patient comes to be in a state other than the one in which it began. Θ.6–8 then turn to the second potentiality-actuality model, which (on this view) tackles the outstanding problems of ZH, showing how material composites are unified according to the framework of H.6.[97] Θ.6 distinguishes the two models and presents Aristotle's famous distinction between change (*kinēsis*) and activity (*energeia*).[98] Θ.7 investigates matter. Aristotle first asks when the matter for a product counts as strictly potential; he then discusses two predicative relations: that between an ordinary composite and its non-substantial properties, and that between matter and form. On some readings of Θ.7, hylomorphic predication as presented here differs crucially from ordinary predication.[99] Θ.8, which treats the priority of actuality to potentiality,[100] arguably links Θ to the treatment of divine substance in Λ.

6. FIRST PHILOSOPHY

We turn finally to a broader question. What is the relation of the central books of the *Metaphysics* to Aristotle's metaphysical project? The title *Metaphysics* (*ta meta ta phusika*), which means literally "the things after the physical things," was not

[96] See Gill 2005b.

[97] For different views about how Aristotle accomplishes this, see Kosman 1984, 1994; and Gill 1989, chs. 5–7, and 2005b.

[98] Much has been written on this topic. See esp. Ackrill 1965, Kosman 1984, and a series of papers by Heinaman. Heinaman (1995) also surveys the literature.

[99] The traditional view (expressed e.g. by Ross [1924] 1953, 2:257) is that matter is subject for form in the same way that a material composite is a subject for its accidental properties. This view was challenged in an important paper by Brunschwig (1979), who argued that hylomorphic predications are definitional, and that the definiens of a definition of a composite specifies matter as a determinable which form determines. See also the detailed development of this idea in Jaulin 1999, esp. §§136, 144, 166. My own view (1989, 149–63 and forthcoming b) shares with them the idea that matter is something determinable, which form determines, but I differ from them about what the material genus is.

[100] On this topic, see Witt 2003, ch. 4, and her earlier 1994. Her 1994 view about priority in substance has been challenged by Makin 2003 (which contains a helpful appendix on alternative interpretations); and Panayides 1999. See also Cleary 1988, ch. 4.

Aristotle's own title.[101] In *Metaphysics* A.1 he calls the project *wisdom* (*sophia*) and says it is knowledge of the first causes and principles (981b25–982a3).[102] *Metaphysics* A and B present two sorts of introductions: A examines the reputable opinions (*endoxa*) of Aristotle's philosophical predecessors about the four causes; B presents puzzles to be resolved. Book Γ characterizes the project as the study of being *qua* being, the study of being as such. Book E characterizes the project as a science, distinct from physics, which studies the separate and unchangeable principles on which all changeable things depend, principles Aristotle regards as divine. He labels the discipline *theology* (1026a18–19), and also First Philosophy (1026a27–31). First Philosophy is apparently not restricted to the study of divine substance, since Aristotle also says in E.1 that this science investigates what is *as* (*qua*) being, both what it is and the things that belong to it as being (1026a31–32).

Some scholars think that Aristotle has two sorts of metaphysical projects, which are distinct, one described in *Metaphysics* Γ, sometimes called *general* metaphysics or ontology, since it investigates everything that is insofar as it is; the other called *special* metaphysics or theology, since it treats the most valuable genus of being, divine substance (1026a19–22).[103] On this view Aristotle lays out the general science in Γ and pursues it in the central books of the *Metaphysics* (ZHΘ). General metaphysics is thought to anticipate special metaphysics, since Z several times mentions an investigation of separate, immaterial, non-sensible substances, to be undertaken later.[104] Z is taken to prepare the way for that more specialized study.

The relation between the science of First Philosophy and the special sciences, like physics and mathematics, has been much discussed.[105] At the center of the controversy is an Aristotelian device that Owen (1960) called *focal meaning* (*pros hen legomenon*). The special sciences mark off a part of being—a genus—and undertake to explain facts about objects that fall within that genus. For instance, physics studies things *as moveable*, arithmetic studies *numbers*, geometry *magnitudes*. Aristotle insists (against Plato) that being is *not a genus* (e.g., *APo.* 92b14, *Met.* B, 998b22). Being divides immediately into the categories (substance, quantity, quality, and so on), which are themselves the highest genera.[106] Apparently there is no proper genus that is the subject-matter of First Philosophy. Aristotle nonetheless thinks there can be a science of being, because all beings are somehow related to being in the primary sense, the being of substance. Non-substantial beings are related to substance by focal meaning (Γ.2).[107]

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[101] The *Metaphysics* as we have it was traditionally thought to have been put into its current arrangement by a later editor. But see the reassessment of the evidence in Menn 1995.

[102] On the general project, see Code 1997, and Gill 2005b.

[103] Owens 1978; Patzig (1960–61) 1979; Frede 1987a. See the discussion in Menn forthcoming.

[104] Z.2, 1028b30–31; Z.11, 1037a10–13; Z.16, 1040b34–1041a3; Z.17, 1041a7–9.

[105] See Irwin 1988; Bolton 1994; Code 1996 and 1997; and Sefrin-Weis 2002.

[106] See Matthews 1995, for a good treatment of the idea that being is said in as many ways as there are categories. See also Kung 1986. Shields (1999, ch. 9) argues, on the contrary, that there is no homonymy of being, and hence no need for a focal analysis of it.

[107] Precisely how the device works is contested. Owen (1960) influenced much subsequent discussion. But his view was challenged by Berti (1971) (who focused on focal meaning in *EE* I.8 and VII.2). See the valuable detailed reassessment by Sefrin-Weis (2002), who reconstructs Aristotle's project of First Philosophy as articulated in *Metaphysics* A, B, Γ, E, and the relevant chapters of K.

The main question, then, is to understand the being of substance and what counts as substance in the primary sense and why. These are the questions that have fueled the investigation of ZHΘ. As we have seen, some scholars argue that form is substance in the primary sense; others argue that a class of physical objects, living organisms, are primary. But whichever side one takes on that question, there remains the question whether the things that seemed to be primary substances in the central books of the *Metaphysics* are ultimately primary. Must those objects be understood in relation to something more basic, the separate and unchangeable divine substances of Λ (or some version of Λ)?

The status of Book Λ is much debated. As I noted at the outset, both Jaeger and Owen regarded the book as earlier than Z, but for different reasons. Burnyeat (2001) has recently suggested that, on the contrary, the book might have been written very late and very quickly at the end of Aristotle's life, summarizing other bits of the *Metaphysics*, and then plunging ahead, all too briefly, to its tantalizing treatment of God.

Many scholars have been dissatisfied with Λ. First, Aristotle spends half the book traveling the same ground as ZHΘ (Λ.1–5). Why include those chapters, if the topic of First Philosophy is divine immaterial substance? Why not rely on the argument in ZHΘ and move directly to theology here? Λ, contrary to expectation, builds up to divine substance from observations about ordinary sensible substances, perishable and imperishable. Indeed, Λ appears to argue for a first unmoved mover, relying on considerations from physics. A second source of disappointment is that Aristotle's theology is expected to investigate what it is to *be* in the primary sense—what it is to be a divine substance. This paradigmatic being is supposed to explain the derivative sorts of being of forms and material substances.[108] Instead, the being of divine substance, though of a rarefied sort (pure actuality or activity), seems not to differ in kind from that of mundane substances.

Perhaps the source of disappointment should be construed as revealing. The time is ripe to reconsider the relation between Λ and the rest of the *Metaphysics*.[109] There may be various ways to show that *Metaphysics* Λ is, after all, precisely the book we were waiting for.[110]

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[108] See Frede's Introduction in Frede & Charles 2000, 2, 50. For a critique of the prevailing views on Λ, see Menn forthcoming.

[109] The issue is central to Reeve 2000 and Menn forthcoming. See also Devereux 1988. For analysis of Λ itself, see the papers in Frede & Charles 2000, which helpfully treat the work chapter by chapter; see also Frede's comprehensive Introduction. Let me simply list some additional articles, which strike me as particularly incisive contributions on aspects of Λ: Kahn 1985; Broadie 1993b; and DeFilippo 1994.

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