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The Underlying Argument of Aristotle's *Metaphysics Z.3*

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Abstract

This paper argues that Aristotle's *Metaphysics Z.3* deploys a *reductio* against the claim that 'substances underlie by being the subjects of predication', in order to demonstrate the need for a new explanation of how substances underlie. *Z.13* and *H.1* corroborate this reading: both allude to an argument originally contained in *Z.3*, but now lost from our text, that form, matter and compound 'underlie' in different ways. This helps explain some of *Z*'s peculiarities—and it avoids committing Aristotle to self-contradiction about whether matter is substance, a claim denied in the *reductio* but endorsed elsewhere.

Keywords

Aristotle – *Metaphysics Zeta* – matter – substance

1 Introduction

Aristotle's *Metaphysics Z.3* is a difficult chapter, even by the standards of the *Metaphysics* as a whole. There are, broadly speaking, two interpretative questions: (1) What is the thesis of the chapter? (2) How does the chapter fit into the rest of *Z*, and indeed with the rest of the *Metaphysics*? On a first reading, the answers seem easy to supply: *Z.3* argues that matter is not substance, and this argument represents just one stage in Aristotle's standard doxastic method of reviewing several promising or popular answers to a question, in this case: 'What is substance?' But the more one attends to the nuances of *Z.3*, not to

mention the other chapters of Z and H, the less certain these answers become. In this paper, I supply what I take to be preferable answers to both questions. I argue that the real target of Z.3 is not the claim that matter is substance, but rather the claim that substances are primary subjects, where subjecthood is understood in terms of what I call asymmetrical predication (i.e. being the subject of predicates but not being predicated of anything else). One consequence of this will be to suggest that our text of Z.3 is incomplete: what we have is only the first part of a longer discussion defending the claim that substances, including matter, underlie.

2 The Project of *Metaphysics Z*

Aristotle begins *Metaphysics Z.1* by noting that ‘what is’ (τὸ ὄν) is ‘said in many ways’ (1028a10-11).¹ Aristotle immediately suggests two ways to use the term, one corresponding to the various properties or predicates an object might have, and another corresponding to the object itself, the bearer of the properties, or grammatical subject of the predicates. The latter, Aristotle says, is the primary sense of the term ‘τὸ ὄν’, which indicates substance (πρῶτον ὄν τὸ τί ἐστίν, ὅπερ σημαίνει τὴν οὐσίαν, 1028a14-15), while the former are said to exist insofar as they depend on the latter (1028a15-25). In other words, substance exists primarily (τὸ πρῶτως ὄν, 1028a30), while the other categories (i.e. the properties or predicates) exist secondarily or, we might say, derivatively.

But, just like ‘what is’, ‘primary’ is said in many ways. Something can be primary in definition (λόγῳ), in knowledge (γνώσει) or in time (χρόνῳ). Substance, we are told, is primary in all three ways (1028a31-b2). This gives us our first three criteria for evaluating a conception of substance or a candidate for substancehood: substances are primary in definition, knowledge and time. But, in concluding Z.1, Aristotle directs us quickly to a different, albeit importantly related, question: what kinds of substance are there (1028b2-7)? Aristotle suggests that getting clear on the answer to this question will help us get clearer on the nature of substance as well, hence he temporarily abandons the issue of primacy. The strategy appears to be one of reciprocal clarification: we already have some idea of what substance is and (as we shall see) some idea of what kinds of thing count as substances, but investigating each of these questions in more detail in a quasi-independent way will allow us eventually to get better answers to both questions.

¹ Translations are my own unless otherwise noted.

The role of Z.2 is to begin clarifying what the candidates for substance are. Aristotle lists many of the things commonly taken to be (or to be candidates for) substance, although he is careful not to commit himself to endorsing any of the members on this list (1028b13-15). The most obvious candidates, he suggests, are sensible bodies, most notably plants and animals and their parts, but also elemental bodies (e.g. fire or water), and many other physical objects, including the universe and celestial bodies (1028b8-13). But non-physical entities are also candidates, including geometric entities (e.g. surfaces or points), arithmetic entities (i.e. numbers), Platonic Forms and other mathematical objects. Aristotle concludes Z.2 with a clear statement of his doxastic method: in Ross's translation: 'Regarding these matters, then, we must inquire which of the common statements are right and which are not right'—in terms of the nature of substance and what kinds of substances there are, starting with a sketch (ὑποτυπωσαμένοις) of the nature of substance, a sketch which will undergo further revision in what follows (1028b27-32).

Z.3 begins a more precise investigation into the nature of substance. We should not be surprised to learn that substance too is said in many ways (1028b33). Aristotle provides four candidates for what kinds of thing are substances: the essence (τὸ τί ἦν εἶναι), the universal (τὸ καθόλου), the genus (τὸ γένος) and what underlies (τὸ ὑποκείμενον). Aristotle claims that each of these 'appears to be the substance of each' (οὐσία δοκεῖ εἶναι ἐκάστου), where the 'each' (ἐκάστου) could refer to either 'each thing' (i.e. each thing that is a substance: each animal, each plant etc.) or 'each kind of substance' (e.g. the substance of physical substances, mathematical substances etc.).² The upshot in either case is the same: these four candidates are contenders for the title 'substance of substance', that is, for being what explains why the various kinds of substances (whatever they are) are, in fact, substances.³

The rest of Z, including the remaining paragraphs of Z.3, are meant to examine each of the four candidates presented at 1028b34-6: Z.4-6 and Z.10-11 deal

2 The Greek of this sentence reads: καὶ γὰρ τὸ τί ἦν εἶναι καὶ τὸ καθόλου καὶ τὸ γένος οὐσία δοκεῖ εἶναι ἐκάστου, καὶ τέταρτον τούτων τὸ ὑποκείμενον. The construction of this sentence has been the subject of some debate: the fact that τὸ ὑποκείμενον is separated from the other three candidates have led some commentators to think Aristotle is making some distinction between them, notably that the 'substance of' qualification applies only to the first three (See, for instance, Devereux 2003, 165; Irwin 1988, 203). But nothing forces us to read the sentence this way. The simpler and more natural interpretation is simply that τὸ ὑποκείμενον comes last because it is the subject of the discussion about to occur. Cf. Frede & Patzig 1988 *ad loc.*

3 Cf. Bostock 1994, 74; Devereux 2003, 163; Frede & Patzig 1988, 33; Wedin 2000, 157.

with essence; Z.13-16 deal with the universal and the genus together;⁴ Z.3 deals with what underlies. Despite being labeled the most plausible option of the four (1029a1), much less space is devoted to discussing what underlies than to discussing the other options. It is to the details of this argument that we now turn.

3 The Argument of Z.3

The argument in Z.3 is complex, and merits a close reading. The argument can be broken up into four stages, which I label [A], [B], [C] and [D]:

[A] *Introduction: subject as substance*

1028b36-7: definition of subjecthood through asymmetrical predication;
1029a1-2: subjecthood is the most likely candidate for substancehood;
1029a2-5: introduction of candidates of subject: Form, matter, compound.

[B] *Elaboration of subject as substance*

1029a10: consequence of subject as substance: only matter is substance;
1029a11-19: argument that subject-as-substance entails only matter is substance;
1029a20-7: clarified definition of matter according to subject as substance.

[C] *Critique of subject as substance*

1029a27: rejection of thesis that clarified definition of matter is substance;
1029a27-30: argument against clarified definition of matter as substance;
1029a30-3: further thoughts on form and compound as substance.

[D] *Further thoughts*

1029a33-b12: methodological considerations on investigating the intelligible.

In what follows I shall focus on the first three stages, leaving [D] to one side. [D] seems to have little bearing on what comes before, and there is some variance in the manuscripts about its proper place.⁵

⁴ Z.7-9 and Z.12 are commonly thought to be later insertions. Cf. Burnyeat 2001, 9-10; Gill 2000, 130; Lewis 2000, 104. I follow Bostock 1994, 236-7, in supposing that Z.17 is displaced and should occur somewhere after *H.2*.

⁵ See Burnyeat 2001, 17-18.

Of particular importance in reconstructing this argument is to note its general progression: primary subjects are the most viable candidate for substance but, since matter is the only plausible primary subject, form and compound could not be substances. But there are independent reasons to think that the subject-as-substance view is wrong, because it has incorrect results for the extension of subjecthood. Hence Aristotle's argument is aimed at the general claim introduced as the target of Z.3 that the criterion of substancehood is asymmetrical predication—not the more specific claim that matter is substance, or even that matter is the only substance; and not that substances underlie. As we shall see in Section 4 below, Aristotle agrees that matter is a substance, and that substances underlie; what Aristotle rejects is the supposition that asymmetrical predication is the hallmark of what it means for substances to underlie. In other words, 'underlie', like 'substance', is ambiguous, and Z.3 rejects one way of understanding it.

3.1 [A] *Introduction: Subject as Substance (1028b36-1029a5)*

Now on to the specifics of the argument. Aristotle begins by noting that, of the four candidates for substancehood he has introduced, the subject is the most plausible (μάλιστα γὰρ δοκεῖ εἶναι οὐσία τὸ ὑποκείμενον πρῶτον, 1029a1). Aristotle defines being a primary subject in terms of asymmetrical predication (1028b36-7): x is a primary subject just in case other entities are predicated of x but x is not predicated of anything else.

'Primary' is an important qualification here: for Aristotle it is not sufficient for something to be a subject that it simply underlie some predicate or other. Aristotle envisages a hierarchical system where x can be the subject of y , but y is itself the subject of z , that is, where z is predicated of y , and y is predicated of x . In such situations, y would not count as a substance. Likewise, if there were some object which was not predicated of something else, but which in turn had nothing predicated of it, it would not be a primary subject.⁶

This gives us, to use Burnyeat's classification, a logical definition of what subjecthood is, but we still need a metaphysical definition of which things are subjects.⁷ Aristotle gives three options: matter, form (or shape, ἡ μορφή) and the compound of matter and form (1029a2-3). These options are understood in the standard way: bronze is an example of matter, the figure of the statue is its form and the arrangement of bronze in this figure is the compound (1029a3-5).

⁶ For brevity's sake, I will sometimes drop the qualification 'primary' in what follows.

⁷ See Burnyeat 2001, 6-8.

After reiterating the definition of subjecthood as asymmetrical predication, Aristotle raises two complaints about his argument up to this point. The argument is ‘unclear’ (ἄδηλον) and it makes matter substance (1029a10). Aristotle does not elaborate on what, exactly, is unclear, but he does spend the bulk of what remains in Z.3 discussing the latter complaint, suggesting that ‘unclear’ just means ‘needs further exposition’. Aristotle provides this further exposition in explaining what exactly it means for matter to be substance (i.e. subject) on the present view.

3.2 [B] *Elaboration of Subject as Substance* (1029a10-27)

Aristotle begins the next section of his argument with the strong claim that: ‘If it [matter] is not substance, what else it is escapes us’ (1029a10-11). He spends the next several lines explaining why this is so. His argument is based on fleshing out the distinction between subjects and predicates. When we take an object and remove all its predicates, all that is left over is the object itself: this object is the (grammatical and metaphysical) subject of the predicates. Aristotle gives a list of the kinds of predicate involved here: qualitative predicates such as attributes (πάθη), products (ποιήματα), capacities (δυνάμεις), as well as quantities like length, breadth and depth (1029a12-14). The only thing left over when these predicates are removed, Aristotle argues, is ‘what is determined by them’ (τὸ ὀριζόμενον ὑπὸ τούτων, 1029a18). What is determined by these predicates is matter: hence matter is the only thing left over to play the role of substance (1029a18-19). If matter alone is subject, then, given the assumptions we have already made, matter alone is substance.⁸

There are two difficult interpretative problems in this passage. The first is whether the predicate-removal process is physical or conceptual.⁹ I see little reason to accept the physical reading, if only because the weaker conceptual

8 Gill 1989, 30 and Schofield 1972 both argue that the upshot of Z.3 is that matter must be the sort of thing which does not have any predicates, and therefore is not really anything at all. The main textual evidence for their view is the line that says: ‘when the others are taken off, there does not appear to be anything remaining’ (περιαιρουμένων γὰρ τῶν ἄλλων οὐ φαίνεται οὐδὲν ὑπομένον, 1029a11-12). The Greek here does not compel their reading: ‘the others’ is not equivalent to ‘all others’, and ‘nothing remaining’ could mean ‘nothing else remaining’. Moreover, the conception of matter they defend would fail to satisfy asymmetrical predication, and so does not fit the logic of the argument. This is because Aristotle’s argument is: ‘matter is the primary subject, but this is a problem on independent grounds’, not: ‘substances are primary subjects, but there are no primary subjects, and hence no substances at all.’

9 For the physical reading, see Bostock 1994, 77-8; Dancy 1978, 395-8; Devereux 2003, 173; Frede & Patzig 1988 *ad loc.*; Irwin 1988, 208-9; Schofield 1972, *passim*. For the conceptual reading, see Gill 1989, 20; Lewis 1991, 277; Stahl 1981, *passim*.

reading is all that is required to make Aristotle's point. The $\mu\acute{\epsilon}\nu \dots \delta\acute{\epsilon}$ construction has led many commentators to envision a two-stage process, where the qualitative predicates are removed first, and only then are the quantitative predicates removed.¹⁰ This interpretation also motivates the physical reading, the idea being that, if the physical extension of a particular body is more fundamental to it than its other predicates, that object will survive losing its qualitative predicates but not its quantitative predicates. So, to use Dancy's example, we can remove a statue's paint without destroying the physical body that underlies it, but we cannot remove the statue's physical dimensions without destroying the body.¹¹ But the text of our passage does not require us to see such a division between the kinds of predicates. For one thing, the notion that we have to remove the qualitative predicates first, since removing the quantitative predicates would *ipso facto* destroy the qualitative predicates as well, is not convincing. It is perfectly conceivable that we could (physically) remove an object's physical dimensions without destroying the body or its qualitative properties. For instance, flattening a bronze sphere would change its length, breadth and depth, but it would not change or destroy the object's color or texture.¹² One might respond that we are talking about quantitative properties in general, so the right image is removing *any* particular quantitative property from the object, rather than just changing it. If this were the case, then of course the qualitative properties would be destroyed as well. But this is because, if we make the object have literally no quantitative properties any more, then the object would have no extension. But spatial extension is an essential property of matter. Hence this response is not available to the proponent of the physical reading. The conceptual reading on the other hand, allows us to consider the matter independently of any particular dimensions it may have.

The second interpretive problem in this part of Z.3 is both more difficult and more significant: whether Aristotle is arguing for or against the existence of prime matter.¹³ So far we have only been told that subjects underlie asymmetrical predication, and that matter, for instance the bronze of a statue, is the

10 See Bostock 1994, 77-8; Dancy 1978, 395; Devereux 2003, 173; Irwin 1988, 208; Lewis 1991, 282-94; Wedin 2000, 179, 188-9. Against this reading is Loux 1991, 12.

11 Dancy 1978, 398.

12 Cf. Lewis 1991, 287 n. 33.

13 For those who see the passage as being about prime matter, see Bostock 1994, 73, 77; Frede & Patzig 1988 *ad loc.*; Lewis 1991, 278-82; Owens 1963, 117; Page 1985, 71-2; Robinson 1974, 186. For those who do not, see Charlton 1970; 138 and 1983 204-5; Dancy 1978, 408; Gill 1989, 25-6; King 1956, 388; Loux 1991, 67; Schofield 1972, 99-100; Stahl 1981, 177. Graham 1987, 223-32, provides a more complex account that does not quite fit in either category.

only thing that can meet the criteria for being a subject. But Aristotle gives us a more developed definition of matter at 1029a20-6:¹⁴

λέγω δ' ὕλην ἢ καθ' αὐτήν μήτε τί μήτε ποσὸν μήτε ἄλλο μηδὲν λέγεται οἷς ὠρίσται τὸ ὄν. ἔστι γάρ τι καθ' οὗ κατηγορεῖται τούτων ἕκαστον, ᾧ τὸ εἶναι ἕτερον καὶ τῶν κατηγοριῶν ἐκάστη... ὥστε τὸ ἔσχατον καθ' αὐτὸ οὔτε τί οὔτε ποσὸν οὔτε ἄλλο οὐδὲν ἐστίν· οὐδὲ δὴ αἱ ἀποφάσεις, καὶ γὰρ αὐταὶ ὑπάρξουσι κατὰ συμβεβηκός.

By 'matter' I mean that which is in its own right neither a specific thing nor a specific quality nor any other specific predicate by which being is determined. For there exists something of which each of these is predicated, the being of which is different from each of its predicates... such that, that thing is in its own right neither a specific thing nor a specific quality nor anything else. But nor is it the negations of these, for they too will belong [to matter] only contingently.

The idea of matter being nothing determinate in its own right, of having all its properties contingently, is often equated with the idea of prime matter, the fundamental stuff which underlies the change between the basic elements of earth, air, fire and water. Some authors take this passage as a refutation of prime matter because, as they read the passage, Aristotle is attributing logical problems to the very concept. Others see Aristotle as endorsing prime matter, but placing it outside the category of substance. I think both of these

14 I have omitted lines 1029a23-24, which read 'for the others are predicted of substance, but it [substance] is predicated of matter' (τὰ μὲν γὰρ ἄλλα τῆς οὐσίας κατηγορεῖται, αὕτη δὲ τῆς ὕλης). This gloss is not only disruptive (of both the syntax and the logic of the passage), it is also inept, and I suspect it is an interpolation. The whole point of Z.3 is that substance is subject, and hence substance is not predicated of anything. Hence, on this definition of substance, it is contradictory to say that substance is predicated of matter, yet 1029a23-4 says exactly that (cf. Bostock 1994, 79; Devereux 2003, 165, 176; Gill 2000, 133 n. 11; Loux 1991, 63). There is, as far as I can see, no other possible antecedent for αὕτη here except for substance, and so the line cannot be given a more plausible reading. Lewis 2000 sees no contradiction in this passage, arguing that Aristotle's claim is not that substances are not predicted of anything, but that they are not predicated of anything *of which they are substances* (115). I see no grounds for this reading in the text, and we would expect something to clarify this point, given how important it is to the topic at hand. Owens, on the other hand, takes 'substance is predicated of matter' to be Aristotle's 'express statement' (Owens 1963, 102). For further problems with this line of text, see Frede & Patzig 1988 *ad loc.*

readings are unfounded: this passage says nothing, one way or the other, about prime matter.¹⁵

The main reason for rejecting a prime-matter reading of 1029a20-6 is that the passage lacks two of the central features of Aristotle's typical conception of prime matter. First, prime matter is bereft of all actuality, and is instead wholly potential (e.g. *Meteor.* 340b14-19). But in this passage the process of stripping off predicates removes not only attributes (πάθη) but also products and potentialities (ποιήματα καὶ δυνάμεις). If the conception of matter at issue lacks potentialities, then it cannot be prime matter.¹⁶ Secondly, prime matter is postulated to serve as the locus for elemental change, i.e. change from one of the basic elements to another (e.g. *De Caelo* 4.6, 305a14-35). But there is no mention of the basic elements in this passage, and indeed no mention of surviving change of any kind.¹⁷ Since potentiality and elemental change are the hallmarks of prime matter, and these properties are either excluded or absent from the discussion, we should not suppose that prime matter is at issue here. And, I should stress, this is true even if Aristotle did in fact believe in prime matter.

This brings us to a second reason why we should not use this passage as evidence in the debate over prime matter: the concept under discussion is not one which Aristotle endorses. Rather, Aristotle says λέγω δέ . . . to highlight that he is using a non-standard definition, one which follows from the central working-assumption of Z.3.¹⁸ If we start with the assumption that substance is subject, and we then unpack the notion of subject in terms of asymmetrical predication, it will turn out that we are led to a very specific conception of matter.¹⁹ We were led to think about it being matter at all because the subject cannot be form or compound, but before 1029a20 the only thing we were told about matter was that it is something like the bronze of a statue. Having now discussed in more detail what exactly it means to be a subject, we get a more specific conception of matter based on this information, something which is not particularly similar to bronze. This definition of matter need not be Aristotle's definition—it simply follows from considerations of subjecthood.

15 To be clear, I am not taking a stand about prime matter in Aristotle generally, only claiming that Z.3 is neutral on the topic.

16 Cf. Schofield 1972, 98-100—although as noted above I do not agree with his inference from 'whatever survives the removal of the relevant properties has none of the relevant predicates' to 'whatever survives the removal of the relevant properties is nothing at all'.

17 Cf. Gill 1989, 23-6; Loux 1991, 57.

18 Cf. Charlton 1970, 138; 1983, 205; Gill 1989, 29; Owens 1963, 116; *pace* Frede & Patzig 1988 *ad loc.* and Schofield 1972, 100.

19 Cf. Wedin 2000, 185.

We can tell that this is the case by noting the clues left in the text.²⁰ At 1029a9, Aristotle says that ‘matter becomes substance’ (ἔτι ἢ ὕλη οὐσία γίγνεται) if substance is defined as underlying asymmetrical predication, and claims at 1029a19 that matter is the only substance ‘to those who investigate things this way’ (οὕτω σκοποῦμένοις), viz. those who say that substance is subject. And the conclusion at 1029a26 is that ‘it turns out from investigating these things’ (ἐκ μὲν οὖν τούτων θεωροῦσι συμβαίνει) that matter is substance. Each of these claims reveals the conditional nature of the first part of Z.3’s investigation: *if* we first stipulate that substance is subject, and *if* we then define subjecthood in terms of asymmetrical predication, *then* only matter turns out to be substance. Or, to make the point from the other direction, when the first part of Z.3 argues that matter is substance, what that really means is that matter is subject. And so the definition of matter at 1029a20-6 would only be Aristotle’s definition of matter if Aristotle accepted the starting assumption that substance is subject. If Aristotle rejects that assumption (which, as I shall argue below, he does), then he will also reject the definition of matter that stems from it.

Moreover, some of the features of matter here contradict what Aristotle says about matter elsewhere. To take just one example to which we shall later return, the present conception of matter is ‘in no way a something’ (μητέ τί, 1029a20; οὔτε τί, 1029a24). But we are told later, in H.1, that matter is a this, at least in potentiality (δυνάμει ἐστὶ τόδε τι, 1042a27-8). If the concept of matter used in this argument is not Aristotle’s own, then it is immaterial whether or not it entails prime matter. And of course, the fact that this conception of matter does not match what Aristotle says of matter elsewhere is more evidence that the target of his argument is not the claim that matter is substance.

But an even stronger case against reading [B] as expressing Aristotle’s own view is that this section of Z.3 also shows that neither form nor compound is substance. The argument starts with the working assumption already discussed, that the nature of substance is to be a subject, that is, to be the underlying object of asymmetrical predication. The first line of the paragraph outlining the case that matter is subject begins: ‘If it [matter] is not substance, whatever else it is escapes us’ (εἰ γὰρ μὴ αὕτη οὐσία, τίς ἐστὶν ἄλλη διαφεύγει, 1029a10). Aristotle goes on to explain how matter provides the foundation for all other predications, as we have seen. But this argument also entails that neither form nor compound is a substance, when we assume that substancehood is subjecthood.²¹ This is because form, at least, is predicated of matter, but matter is not predicated of form. Form, it appears, is understood via the category of

20 Cf. Gill 1989, 26.

21 Cf. Lewis 1991, 275-7.

quantity, specifically, length, breadth and depth (1029a14-17). But Aristotle goes on to say that these predicates 'are not substances (for quantity is not substance), but rather substance is that to which these things primarily belong' (τὰ μὲν γὰρ ἄλλα τῶν σωμάτων . . . ἀλλ' οὐκ οὐσίαι—τὸ γὰρ ποσὸν οὐκ οὐσία—ἀλλὰ μάλλον ᾧ ὑπάρχει ταῦτα πρώτῳ, ἐκεῖνό ἐστιν οὐσία, 1029a14-16). To give an example, the form of a bronze sphere would be an entity constituted by various quantities which determine the limit of its extension in space, perhaps corresponding to our formula for the surface area of a sphere, $4\pi r^2$. This quantity, Aristotle explicitly states, is not a substance, at least not if we understand substancehood in terms of subjecthood. Furthermore, we are told repeatedly elsewhere that form is predicated of matter (e.g. 1038b4-6, 1043a5-6, 1043b30-2, 1049a34-6), and the same position is entailed, although not explicitly asserted, in Z.3.²² It is true that form can underlie some predicates (e.g. 'musical' is said of the man, not the matter), but form is not the primary subject, because something else, matter, underlies the predication of form. In other words, when we start with the hypothesis that subject is substance, and allow that to constrain our search for what kinds of things are substances, we see that form cannot qualify.

The compound cannot be a substance by the lights of Z.3's argument either, although for different reasons. Since predication is an asymmetrical relation, it is difficult to see how a compound could be predicated of one of its members; in other words, '(A ∧ B) is predicated of C' makes sense, but '(A ∧ B) is predicated of B' does not. The compound is ruled out on the independent grounds of the priority of substance, not because of the specifics of predication or subjecthood (1029a5-7, 1029a30-2). Nevertheless, Z.3 makes clear that neither form nor compound can be a primary subject, and so only matter is a viable candidate for substance in [B].

3.3 [C] Critique of Subject as Substance (1029a27-33)

Based on what we have seen so far, matter is the only viable candidate for asymmetrical predication, and hence the only viable candidate for substancehood. But Aristotle claims, somewhat abruptly, that this is impossible (ἀδύνατον, 1029a27). Why? We know, independently of our investigation of subjecthood, that substances have three essential features. Whatever else substance is, substance must be a separate thing (τὸ χωριστόν), must be 'a this' (τόδε τι) and must have a kind of priority. Priority was introduced in Z.1, and we are told in Z.3

22 The one exception is line 1029a23-4, which claims that substance is predicated of matter. I argued in n. 14 above that this line is an inept interpolation, but presumably the author meant to say that form, not substance, is predicated of matter.

that compounds are posterior to the form and matter which constitutes them (1029a30-2; cf. 1029a5-7). This suggests that the conception of matter discussed in Z.3 meets the criterion of priority, but fails to meet the criteria of thisness and separability.

Aristotle's objection that matter is neither separable nor a this is abrupt and somewhat mysterious, and not only because of the obscurity of these technical terms. We can nevertheless at least begin to see the problem. When Aristotle clarifies the conception of matter he is working with in his explication of subjecthood, he notes at 1029a20 that matter is 'not a something' (μήτε τι). Presumably, being a something is a broader category than being a this; the τὸδε in τὸδε τι suggests the more specific 'a this' rather than the more generic 'a something' (τι). And we are told several times elsewhere that separability and thisness share a tight conceptual connection (e.g. Δ.8, 1017b23-6; K.2, 1060b22), such that in Aristotle's mind separability and thisness often go together. In any case, Aristotle is clear that matter as conceived in Z.3 does not instantiate these properties, and so cannot be substance.²³

At first glance, the conclusion of Aristotle's argument in Z.3 is obvious, even if the details of the argument for it are not. Matter, Aristotle seems to claim, is not a substance. And it is not just false that matter is substance, but impossible. However, a closer reading shows that this cannot be Aristotle's final say on the issue. For in the next few lines, after his objection to matter being substance, Aristotle makes two important claims. First, he says that the compound is clear (δῆλη) and that 'matter is also somehow evident' (φανερὰ δέ πως καὶ ἡ ὕλη, 1029a32). Secondly, he says in the same line that we must go on to investigate the third kind of substance, form. Both of these claims count against taking Aristotle to have just argued that matter is not substance. If form is the third kind of substance, then matter and compound must be the other two. And Aristotle's claim that matter is evident suggests that he is not questioning its status as substance any more than he is questioning the status of the compound, even if precisely what he means by 'evident' is itself anything but clear. It could mean that it is 'evident' what matter is like, contrary to the conception of matter we have just read. Or, it could mean that matter is 'evident' to the senses or to experience, in which case it also contradicts the description of matter that subjecthood entails. Either way, Aristotle's comment suggests that in the last few lines of his argument he is conceiving of matter differently from the way in which it was described previously. In other words, from roughly lines 1029a27 to 33 Aristotle reveals that he has his own conception of matter,

23 Actually, things are slightly more complicated than this, because the Greek is potentially ambiguous. I will address this point in Section 4 below.

one which is distinct from the conception entailed by assuming that substances are subjects, and which does in fact qualify as a subject.

If it is correct that Aristotle in fact uses two distinct conceptions of matter in Z.3, then the thesis 'It is impossible for matter to be substance' is too simple to capture accurately the project of this chapter.²⁴ Rather, the argument of Z.3 is as follows: one of the obvious candidates for substance is what underlies, where this is understood in terms of being the primary subject of asymmetrical predication; the only entity which fits the bill for the primary subject is matter (form and compound do not underlie in the relevant way); but subjecthood entails a very specific conception of matter, on which matter has no intrinsic properties, not even potentialities; this conception of matter, however, fails to meet the other criteria for substance, in particular separability and thisness; hence we have a contradiction, for we have argued that only matter could be substance if substancehood is subjecthood, and that matter cannot be substance if substancehood is subjecthood; but this contradiction shows that an earlier premise must be rejected. In other words, Z.3 gives us a *reductio*; the claim that matter could not be substance is not the conclusion of the chapter's argument, but an intermediate position drawn in order to show problems with a prior premise.

This reading of Z.3 has the distinct advantage of resolving an apparent contradiction in Aristotle's writing on matter and substance. For, as we have seen, Aristotle appears to claim that matter *is* substance in Z.3, and he is unambiguous that it is a substance in later chapters, to which we shall soon turn. This tension dissolves if Aristotle does not in fact endorse the claim that matter is not substance in Z.3 but, rather, only infers the claim from other premises which he shows to be false. All things considered, if we have the option of reading Aristotle without committing him to a contradiction, we should do so.

4 Z.3 in Context

Even if we grant that Aristotle is not endorsing the conclusion that matter is not a substance, but is instead only using this conclusion to generate a *reductio* on a prior premise, it still remains to determine which premise should be jettisoned to avoid the contradiction. The argument, as I analyze it, runs as follows:

- (1) Substances underlie.
- (2) To underlie is to be the primary subject of asymmetrical predication.

²⁴ Cf. Charlton 1970, 138.

- (3) Substances are primary subjects. (1,2)
- (4) Primary subjects lack intrinsic predicates.
- (5) Only matter can be a primary subject.
- (6) Matter *qua* primary subject cannot be substance.
- (7) Substances are not primary subjects. (5, 6)
- (8) Contradiction. (3, 7)

In order to avoid the contradiction, we need to reject one of premises. We have two plausible options for which premise to reject: (1) and (2). The correct option, I submit, is to retain (1) and reject (2). It is clear that Aristotle continues to utilize the notion that substances underlie. When he does so, however, he understands what it means to underlie in a different way. This is evident from two later passages which purport to summarize the preceding discussion, including the discussion in Z.3.

The first such passage occurs at the beginning of Z.13. Here (1038b1-6) Aristotle provides a summary of what has been discussed to that point in Z.3-6:

Ἐπεὶ δὲ περὶ τῆς οὐσίας ἡ σκέψις ἐστί, πάλιν ἐπανέλθωμεν. λέγεται δ' ὥσπερ τὸ ὑποκείμενον οὐσία εἶναι καὶ τὸ τί ἦν εἶναι καὶ τὸ ἐκ τούτων, καὶ τὸ καθόλου. περὶ μὲν οὖν τοῖν δυοῖν εἴρηται (καὶ γὰρ περὶ τοῦ τί ἦν εἶναι καὶ τοῦ ὑποκειμένου, ὅτι διχῶς ὑπόκειται, ἢ τόδε τι ὄν, ὥσπερ τὸ ζῶον τοῖς πάθεσιν, ἢ ὡς ἡ ὕλη τῇ ἐντελεχείᾳ.

Let us return again to our investigation about what substance is. It is said that what underlies is substance, and essence, and the compound of these, and the universal. Two of these were already spoken about: essence, and what underlies, saying that things underlie in two ways, either by being a this (as an animal to its attributes), or as matter to actuality.

This passage gives us an explicit statement that there are two ways in which an object can underlie. What is odd is that neither way corresponds to the extant text of Z.3. The compound, apparently, underlies its attributes (assuming that 'an animal' is meant to pick out the compound), but every time the compound was considered in Z.3 it was quickly dismissed. Moreover, Part [B] in the argument showed that the compound did not underlie predicates; only matter does that (and so reading 'animal' as 'form' does not help). And, as we have seen, there is no mention of potentiality or actuality in the discussion of subjecthood. This might lead one to think that Z.13 is not relevant to understanding Z.3, but I think this would be too hasty. What this passage reveals is that

τὸ ὑποκείμενον, just like 'substance' and 'priority', is said in many ways. But τὸ ὑποκείμενον in particular has a use which is problematic when discussing substance, namely the conception of subjecthood which got us into trouble in Z.3. Aristotle continues to make use of other conceptions of the term throughout his discussion of substance. This suggests that premise (2) above is the faulty premise, rather than premise (1).

This point is corroborated by a passage in H.1. As in Z.13, H.1 begins by summarizing what has come before. But after the summary, which only mentions that he has already discussed substance *qua* what underlies (1042a12-13),²⁵ Aristotle gives us an important clarification (1042a26-31):

ἔστι δ' οὐσία τὸ ὑποκείμενον, ἄλλως μὲν ἢ ὕλην (ὕλην δὲ λέγω ἢ μὴ τόδε τι οὐσία ἐνεργείᾳ δυνάμει ἐστὶ τόδε τι), ἄλλως δ' ὁ λόγος καὶ ἡ μορφή, ὃ τόδε τι ὄν τῷ λόγῳ χωριστόν ἐστιν· τρίτον δὲ τὸ ἐκ τούτων, οὗ γένεσις μόνου καὶ φθορά ἐστὶ, καὶ χωριστόν ἀπλῶς.

What underlies is substance; in one way this is matter (by 'matter', I mean that which, while not being a this in actuality, is a this in potentiality), and in other way it is the formula and the form, which being a this is separable in definition. And the compound of these is a third [underlying thing], which alone is capable of generation and destruction, and is separable absolutely.

This point is reiterated at the start of H.2 (1042b9-10). This passage has several notable features. First, what underlies is expressly declared to be substance, which corroborates our suspicion that it is a particular understanding of what it means to underlie that causes problems in Z.3, not the more general premise that substances underlie. Secondly, the explication of what underlying amounts to is different from what we saw in Z.3. Rather than being the subject of asymmetrical predication, underlying is explained in terms of the very criteria for substancehood that primary subjects lack, separability and thisness.

25 Pace Devereux 2003, 196, who appears to miss the importance of Aristotle's mentioning what underlies in his summary. The structure of the summary appears to be as follows: 1042a4-12 is a summary of Z.1-2; 1042a12-15 repeats the list of four candidates for substance from the beginning of Z.3; the rest of the paragraph, 1042a15-26, is not quite a summary of what preceded, but a justification of why the discussion of the four candidates for substance took in so many other topics along the way. When Aristotle returns to discuss what underlies at 1042a26, he presents the material as if it has already been discussed. It is stated matter-of-factly, with no hint of an awareness that the reader would be confused as to why the text at H.1 does not match (what we have of) Z.3.

These two claims show that Aristotle preserves the view that substance underlies and rejects only that underlying means being a primary subject, i.e. that premise (2) should be rejected but (1) retained. Thirdly, matter is explicitly claimed to be substance in this passage, and is moreover awarded at least one of the criteria for substancehood, thisness.²⁶

Aristotle expands on the idea that matter is substance in the lines immediately following the passage above (1042a32-b3):

ὅτι δ' ἐστὶν οὐσία καὶ ἡ ὕλη, δῆλον· ἐν πάσαις γὰρ ταῖς ἀντικειμέναις μεταβολαῖς ἐστὶ τι τὸ ὑποκείμενον ταῖς μεταβολαῖς, οἷον κατὰ τόπον τὸ νῦν μὲν ἐνταῦθα πάλιν δ' ἄλλοθι, καὶ κατ' αὐξήσιν ὁ νῦν μὲν τηλικόνδε πάλιν δ' ἔλαττον ἢ μείζον, καὶ κατ' ἀλλοίωσιν ὁ νῦν μὲν ὑγιὲς πάλιν δὲ κάμνον· ὁμοίως δὲ καὶ κατ' οὐσίαν ὁ νῦν μὲν ἐν γενέσει πάλιν δ' ἐν φθορᾷ, καὶ νῦν μὲν ὑποκείμενον ὡς τότε τι πάλιν δ' ὑποκείμενον ὡς κατὰ στέρησιν.

That matter is substance is clear. For in all changes to an opposite there is an underlying thing somehow in the change, for instance, with [change in] place, that which is now here but was elsewhere, and with increase that which is now of a certain size but was lesser or greater, and with alteration what which is now healthy but was weary. Likewise regarding substance, that which now is coming into being and later into destruction, now there is an underlying thing as a this, and then an underlying thing as with respect to a privation.

This statement that matter is substance is unequivocal. Moreover, as in the preceding passage, it is clear here that the conception of matter in use is not the conception discussed in Z.3. Matter does underlie, but not in the sense of being the primary subject of predicates. Rather, matter underlies by being a substrate for change (by surviving though it) and for actuality (by being the potentiality which gets actualized by form).

These later remarks in Z.13 and H.1 show that Aristotle is committed to the claim that substances underlie, and to the claim that matter is substance. Where these chapters differ from Z.3 is that what it means to underlie changes. In other words, Aristotle's various remarks on matter and substance can be made to cohere if we recognize the *reductio* of Z.3, and in particular if we recognize which premise leads to the contradiction. But there is still a puzzle

²⁶ While Aristotle does not mention the separability of matter in this passage, one might reasonably suppose that it at least has a kind of derivative separability insofar as it contributes to the separability of the compound it partially constitutes.

remaining: why does Aristotle purport to have discussed matter and substance in a way that does not match our text of Z.3?

The answer, I contend, is to take Aristotle at his word here. He did discuss more the one notion of what it means to underlie in Z.3, but this portion of the text is, alas, lost. This is, I admit, a somewhat controversial claim to make, but it is not as bad as it sounds. I am not postulating a missing text to fill a hole in or solve a problem with my argument. Rather, I am simply reading Aristotle literally. The object of his back-reference must have been written somewhere, and Z.3 is as good a place as any to locate it.²⁷ And since we are told what the contents of our missing text are there is no need to worry about cheating by supposing that, by wonderful coincidence, the missing text says exactly what I would need to make my case. Rather, Aristotle himself makes explicit what the missing text says, and this content very naturally fits the context of Z.3. This puts us in the fortunate position of being able to simultaneously grant that Aristotle meant what he said at Z.13 and H.1, and that this is consistent with a proper reading of Z.3.

Is there any other evidence that our text is incomplete? I think so. For one, we should notice that the discussion of what underlies is significantly shorter than the discussion of the other three options presented at the outset of Z.3 and reiterated in Z.13. That is, what underlies is given only one chapter, about fifty Bekker-lines of text, while the other three options get multiple chapters, viz. Z.4-6 and 10-11 for essence, and Z.13-16 for the universal and genus. This is especially odd given that Aristotle will continue to make important use of substance *qua* what underlies in later chapters. We should also notice that Z.4 starts with the prefatory remarks 'In the beginning we distinguished in how many ways we determine substance' (1029b1-3)—as if this distinction was much earlier in the text. But the beginning here refers to the first lines of Z.3, at 1028b33-6, barely one full Bekker-page away. This manner of introducing Z.4 suggests, albeit weakly, that the discussion of Z.3 was long enough to warrant a reminder of its first lines.

So we have not only back-references to a missing text, but a relatively short chapter where the missing text should be. There is one more piece of textual evidence for a missing discussion of what underlies. Part [C] of the argument of Z.3 points us to a discussion of form. One might think that Aristotle means

27 I should note that some of the content suggested in Z.13 and H.1 can be found in Z.7-9. But the match is not perfect and, since there are very good reasons to take Z.7-9 to be a later, displaced section, it is not likely that they are the subject of the back-reference. See Bostock 1994, 119-120 and Burnyeat 2001, 29-38 for discussion of Z.7-9 and its relation to the rest of the text.

a discussion of form in general, but that would be odd given the context. Aristotle has just argued that substances are not primary subjects, but he has not abandoned the position that substances underlie. Moreover, he has suggested that form, matter and compound all underlie in one way or another (1029a1-5). And it is relatively easy to see that matter and the compound are good candidates for underlying *somehow*, even if it is not yet clear exactly how (this is yet another option for what Aristotle means when he says that the compound is clear and that matter is evident). All this suggests that when Aristotle says form must be investigated, one thing he might mean is that it must be investigated how exactly form could be an underlying thing. Once this task is accomplished, it would be easy enough to extend the discussion to matter and compound. But we do not get a discussion of how form underlies until the position is hinted at in Z.13 and asserted at H.1. Z.4-6 make a fresh start, seemingly ignoring the preceding chapter with its call for an investigation of form.²⁸ Now, strictly speaking Aristotle's claim that form must be investigated does not entail that we actually get such an investigation. But since we have back-references to the same discussion, it is quite natural to take the last lines of Z.3 as announcing that investigation is about to occur. If this is so, then the missing discussion is sandwiched by allusions to it both before and after.

To sum up: despite appearances to the contrary, the target of Z.3 is neither the claim that substances underlie, nor that matter is (or is the only) substance. Rather, Aristotle gives us a *reductio* premised on a particular faulty understanding of what it means to underlie, viz. to be the primary subject of asymmetrical predication. When Aristotle asserts later, at Z.13 and H.1, that matter is substance and that substances underlie, he is not contradicting his discussion of Z.3. Instead, he is reporting the results of an inquiry which has been lost from the text as we have it. Luckily, there is enough direct and indirect evidence to infer the location and contents of this missing text.

This interpretation of Z.3 has significant advantages over its rivals. There are, broadly speaking, two ways in which Z.3 is standardly read. Both these readings are an attempt to avoid the contradiction that matter both is and is not a substance. One, which we can call the *minimalist reading*, argues that all that Z.3 is meant to show is that matter could not be the only substance.²⁹ This reading holds that Aristotle is claiming $(p \wedge \neg p^*)$ rather than $(p \wedge \neg p)$. The other option, which we can call the *revisionist reading*, argues that Aristotle did mean to argue that matter is not a substance, but that he did not hold this posi-

²⁸ Cf. Burnyeat 2001, 19.

²⁹ See Burnyeat 2001, 16, 65; Irwin 1988, 206-10; Kung 1978, 149.

tion at the same time as he made other claims present in ZH.³⁰ In other words, the revisionist reading takes Aristotle to be saying *p* at *t*₁ and $\neg p$ at *t*₂, hence avoiding a direct contradiction.

Let us start with the minimalist reading, that Z.3 only argues that matter is not the only substance. The main argument for this interpretation relies on a particular reading of an ambiguous line of Greek (τὸ εἶδος καὶ τὸ ἐξ ἀμφοῖν οὐσία δόξειεν ἂν εἶναι μᾶλλον τῆς ὕλης, 1029a29-30), which can be taken either to mean 'form and compound appear to be substance more than matter does', or 'form and compound appear to be more of a substance than matter is'. The former reading suggests that matter is not substance, the latter only that it is less of a substance. To my eye the word-order supports the former reading. But even if we take the latter option, the problem with Z.3's *reductio* is not merely that it gives us two candidates too few for substance. Rather, the argument of Z.3 concludes that there are *no* substances at all. Roughly speaking, the argument of Z.3 is that substances have four properties: substances are prior, separable, thises and primary subjects. And according to Z.3 nothing satisfies all four: primary subjecthood rules out form and compound because they are not asymmetrically predicated (1029a10-11, 18-19), and it rules out matter because subjecthood is incompatible with separability and thisness. Moreover, Aristotle is explicit at 1029a27 that it is impossible (ἀδύνατον) that matter is substance, not merely that it is impossible that matter is the *only* substance. Hence the text does not support the minimalist reading.

There are also problems with the revisionist reading.³¹ Both Bostock and Devereux suggest that Z.3 was a later addition to ZH, written after H.1 and meant to at least partially replace it.³² This helps explain why the exposition of

30 See Bostock 1994, 80-1, 248-50; Devereux 2003, 195-210.

31 Let me also note in passing a concern with revisionist interpretations in general. I worry that, lacking some firm points on which we may anchor our reading, positing an in-progress revision to deal with contradictions is in principle unfalsifiable. Suppose we think that Aristotle really believed *p*, having changed his mind from $\neg p$. Suppose further that *p* and $\neg p$ both have textual support. In such a situation, we have a simply remedy for excising parts of the text that claim $\neg p$: these must be earlier passages. But this maneuver has the unfortunate consequence of making it very difficult to see how to argue against this interpretation of the text, for every bit of possible evidence against it can be easily explained away as vestigial. And this is especially problematic when dealing with works like ZH, where it is equally viable to argue for both directions of the proposed revision. So we should at the very least be hesitant about the revisionist interpretation, perhaps saving it for a last resort. If my proposed alternative reading of Z.3 is acceptable, then we need not resort to revisionism.

32 Bostock 1994, 80-1; Devereux 2001, 195-202.

what underlies mentioned in Z.13 and H.1 is missing: it was replaced by Z.3. However, there is a serious problem with this proposal: Λ .1-3 agrees with Z.13 and H.1 on the role of matter *vis-à-vis* substantiality, potentiality and change. Λ .3 not only calls matter a kind of substance, it even calls matter a this, and not just potentially (1070a10).³³ It is, I suppose, possible that Aristotle wrote Z.3 after writing Λ , but I find this very unlikely. Although there are frustratingly few certainties regarding the chronology of the Aristotelian corpus, it is exceedingly likely that Λ was written very close to the end of Aristotle's life.³⁴ And if Λ does postdate ZH, then it would be very odd for it to agree with the purportedly early chapters Z.13 and H.1 rather than the supposedly later Z.3. Aristotle would have changed his mind not once, but twice, with no explanation of why he changed his mind, or of how to avoid the problem he originally saw.³⁵

Because of these problems, the reading I have argued for above is preferable to the minimalist and revisionist readings. In addition to their own individual problems, both of these alternative readings are motivated primarily by the desire to explain away the self-contradiction which Aristotle appears to commit. But if Aristotle does not endorse one of the conflicting statements, then there is no contradiction to explain away. In other words, the minimalist and revisionist readings would only be needed if the argument I have defended fails. But given that it closely adheres to the text and to Aristotle's commitments elsewhere, the *reductio* reading I have proposed is at least worth further investigation before resorting to these alternative readings.

5 Conclusion

In this paper I have offered a reading of *Metaphysics* Z.3 in which Aristotle attacks the notion that substances are the subjects of asymmetrical predica-

33 Cf. Θ .7, 1149a34-6.

34 On which see Burnyeat 2001, 140-9.

35 Another relevant consideration is how far the revisionist thesis should extend. Both Bostock 1994 and Burnyeat 2001 argue that revisions can explain many of the mysteries of ZH, and one might worry, if we have already conceded that revision occurred in one part of the text, whether it would be more parsimonious to apply the same principle throughout. My own view is that many of the oddities of ZH, and indeed of the *Metaphysics* in general, should be blamed on later unhelpful editors rather than a conscious plan by Aristotle, but I nevertheless confess that some aspects of the revisionist story are plausible (e.g. Burnyeat's discussion of Λ). And since it is outside the scope of this paper to discuss the other possible cases of revision, I will simply concede that my proposal here may be less parsimonious than relying on a revisionist interpretation throughout.

tion. This understanding of subjecthood leads to two problems: (i) the specific conception of matter which follows from this definition counts as a subject, but fails to meet independent criteria for substance, and (ii) form and compound do not count as subjects on this definition, but do meet independent criteria for substance. Rather than the broad claims that matter is not substance, or that substances do not underlie, Aristotle rejects a specific conception of 'underlie', asymmetrical predication. Other senses of 'underlie' remain viable contenders for capturing what it means to be a substance, as indicated in Z.13 and H.1: substances do underlie, and matter, form and compound all count as substances for this reason. These chapters also imply that our text of Z.3 is missing the explicit discussion of better alternatives for what it is to underlie, namely to underlie actuality and change.

I submit that this reading of Z.3 has several virtues. It allows us to make sense of Aristotle's discussion of matter while avoiding contradictions with other claims Aristotle makes. It carefully attends to the nuances of Z.3's argument. It connects Z.3 to Z.13 and H.1 without the need to posit complicated stories of incomplete revision between various chapters. And it does not require us to ignore any of Aristotle's claims, or to accuse him of infelicitous or misleading phrasing. I posit missing parts of the text and the occasional interpolation, but these can be defended independently of their utility in defending the reading proposed here. Although the *Metaphysics* remains a daunting text, our reading of the text can help make it slightly less so.³⁶

Bibliography

- Bostock, D. (1994), *Aristotle: Metaphysics Books Z and H*. Oxford.
- Burnyeat, M. (2001), *A Map of Metaphysics Zeta*. Pittsburgh.
- Charlton, W. (1983), 'Prime Matter: A Rejoinder', *Phronesis* 28: 197-211.
- . (1970), *Aristotle: Physics Books I and II*. Oxford.
- Dancy, R. (1978), 'On Some of Aristotle's Second Thoughts about Substances: Matter', *The Philosophical Review* 87: 372-413.
- Devereux, D. (2003), 'The Relationship between Books Zeta and Eta of Aristotle's *Metaphysics*', *Oxford Studies in Ancient Philosophy* 15: 159-211.
- Frede, M. and Patzig, G. (1988), *Aristoteles, Metaphysik Z: Text, Übersetzung und Kommentar*. Munich.

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- Gill, M. L. (2000), 'Commentary on Lewis', *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 15: 129-35.
- . (1989), *Aristotle on Substance: The Paradox of Unity*. Princeton.
- Graham, D. W. (1985), *Aristotle's Two Systems*. Oxford.
- Irwin, T. (1988), *Aristotle's First Principles*. Oxford.
- King, H. R. (1956), 'Aristotle without Prima Materia', *Journal of the History of Ideas* 17: 370-89.
- Kung, J. (1978), 'Can Substance be Predicated of Matter?', *Archiv für Geschichte der Philosophie* 60: 140-59.
- Lacey, A. R. (1965), 'Οὐσία and Form in Aristotle', *Phronesis* 10: 54-69.
- Lewis, F. (1991), *Substance and Predication in Aristotle*. Cambridge.
- . (1994), 'Aristotle on the Relation between a Thing and its Matter' in T. Scaltsas and D. Charles (eds.), *Unity, Identity, and Explanation in Aristotle's Metaphysics* (Oxford), 247-77.
- . (2000), 'The Hitchhiker's Guide to Metaphysics Zeta', *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 15: 101-28.
- Loux, M. (1991), *Primary Ousia: An Essay on Aristotle's Metaphysics Z and H*. Ithaca, NY.
- Owens, J. (1963), 'Matter and Predication in Aristotle' in E. McCullen (ed.), *The Concept of Matter* (Notre Dame), 99-115.
- Page, C. (1985), 'Predicating Forms of Matter in Aristotle's *Metaphysics*', *The Review of Metaphysics* 39: 57-82.
- Robinson, H. M. (1974), 'Prime Matter in Aristotle', *Phronesis* 19: 168-88.
- Ross, D. (1924), *Aristotle's Metaphysics*. Oxford.
- Schofield, M. (1972), 'Metaph. Z 3: Some Suggestions', *Phronesis* 62: 97-101.
- Stahl, D. (1981), 'Stripped Away: Some contemporary obscurities surrounding *Metaphysics Z 3* (1029a10-26)', *Phronesis* 26: 177-80.
- Wedin, M. (2000), *Aristotle's Theory of Substance: The Categories and Metaphysics Zeta*. Oxford.