

Heavenly Matter in Aristotle, *Metaphysics Lambda* 2

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Abstract

This paper emphasizes an unnoticed connection between two lines in Aristotle, *Metaphysics* Λ .1, 1069a32, and Λ .2, 1069b26. It argues that the Greek text of the former has been obscured in standard editions by unnecessary emendation: if the reading of the mss. is preserved, the text here sets out a programme for research into the elements of heavenly bodies which is taken up in the second part of Λ .2. There, Aristotle distinguishes the matter of heavenly substance as if it were matter in a certain sense only, and not *sensu stricto*: the only change it underlies is coming-to-be $\pi\omicron\theta\acute{\epsilon}\nu\ \pi\omicron\iota$, ‘from one place to another’ (not from privation to form, the standard case). In Θ .8 as well, this is what allows Aristotle to deny that eternal things can have matter (strictly speaking) as an element of their substance. The reading argued for here may also explain how Aristotle can claim, by the end of *Lambda*, that he has succeeded in responding to an important *aporia* which (he says) was neglected by predecessors, namely ‘why some things are corruptible and other incorruptible’ (*Metaphysics* B, Aporia 10).

Keywords

Aristotle, *Metaphysics*, matter, eternal substance, heavenly bodies

1. Introduction

Metaphysics Λ .2, on matter, rarely stirs the enthusiasm of its readers. The chapter is typically taken to lack order, originality or unity,¹ as if it were

¹ E.g. H. Bonitz (*Aristotelis Metaphysica*, Bonn, 1848–1849 [Bonitz], ii. 472): *Quae de materia ad explicandam mutationem necessaria et de diversis mutationis generibus hoc capite significat, eadem multo uberius et diligentius exposita legimus Phys. I 6–9. V.1.2. de gen. et corr. I 2–5; hoc enim loco quaestionem, adeo primis modo lineis adumbravit, ut singulas partes neque*

little more than a sketchy outline whose actual meaning can be better grasped from Aristotle's physical work.² Its scope remains unclear, and so does its role in the book.

In this paper, I intend to argue that the chapter does make a distinctive and interesting point – one which will help us to appreciate the coherence of *Lambda* as a whole. What distinguishes $\Lambda.2$ is its theory of a local or 'topical' matter (ὕλην... οὐ γεννητὴν ἀλλὰ ποθὲν ποι, 1069b26) which is proper to unchanging, heavenly substance. I shall argue that this theory answers a problem picked up in $\Lambda.1$ (at 1069a32-3) from the first part of the tenth *aporia* (Aporia 10) in B.4, 'whether the principles of perishable and those of imperishable things are the same or different' (1000a6-7, cf. B1, 996a 2-4; B4, 1000a20-b21, 1001a1-3). I suggest, in fact, that this is the *aporia* that Aristotle has in mind when he lists his theory of the matter of incorruptible substances as one of his distinctive achievements in $\Lambda.10$ (1075a27-34).³

The connection to Aporia 10 helps us to understand the role of $\Lambda.2$ as a preliminary to Aristotle's focus on wider issues concerning the principles of sensible substances in $\Lambda.3-5$, and especially the transition from $\Lambda.2$ to 3. This latter looks *prima facie* very abrupt because of the peculiar syntax of the first sentence of $\Lambda.3$, 1069b35-1070a4; but that very sentence in $\Lambda.3$

ipsas elaboraverit, neque inter se coniunxerit. (Bonitz seems to believe that the treatise is earlier and less advanced than *Physics* 1; this fits with his denial, at 24-5, that Λ might offer a solution for *aporiai* of B.) See also the introductory remarks of S. D. V. Elders to $\Lambda.2$ (*Aristotle's Theology. A Commentary on Book Λ of the Metaphysics*, Assen, 1972, 88): chapters 2-5 'do not fulfil' the expectations raised by the introduction and do not discuss the οὐσία of the celestial bodies; from this and similar failings, 'we can infer that Book XII was not composed as one unit but consists of summaries of lectures.'

² See the commentary of Georgios Pachymeres (= ps.-Philoponus) on 1069b26: 'In the present book, Aristotle says everything in a confused and disordered way, because it is a summary of the things he said' (πάντα τὰ ἐν τῷ παρόντι βιβλίῳ τεταραγμένως λέγει καὶ φύρδην διὰ τὸ εἶναι ἐπανακεφαλαίωσιν ὧν εἶπε, ms. Ambr. F 113 Sup. f. 190v). Pachymeres partly follows Michael of Ephesus (= ps.-Alexander) *ad loc.*: 'The things Aristotle says in this book are produced confusedly and at random, not in an ordered or in a sequential way' (πάνυ τεταραγμένως καὶ φύρδην καὶ οὐ τεταγμένως οὐδ' ἀκολούθως ἐπάγει τὰ ἐν τῷ βιβλίῳ τοῦτοφ λεγόμενα, ps.-Alexander, in *Met.* i. 673.34 Hayduck). Both comments are unfair. It is clear that Aristotle does give his material some kind of order. He considers carefully the best possible place for every piece. This appears even from the unpolished μετὰ ταῦτα clauses further on in $\Lambda.3$: see below.

³ For a programmatic reading of the *aporiai* in B, see Stephen Menn's forthcoming major work, *The Aim and the Argument of Aristotle's Metaphysics*.

addresses the *second* part of Aporia 10, whose first part is addressed and solved in Λ .1-2 (on my account). In other words: Λ .1-3, up to 1070a4 at least, operate after all as a coherent unity, in this regard at least. We can see therefore how Aristotle is able to claim at the end of the book that he has successfully dealt with this fundamental difficulty.⁴

2. A Puzzle in *Metaphysics* Λ .1

2.1. *Status Quaestionis*

The web of cross-connections I am tracing has been overlooked by commentators in large part because of what I shall argue is a misconstrual of the text of Λ .1, 1069a32, where Aristotle sets up a programme of inquiry. As we have it in our mss., the text runs as follows:⁵

οὐσίαι δὲ τρεῖς, μία μὲν αἰσθητή – ἣς ἡ μὲν αἰδῖος ἡ δὲ φθαρτή, ἣν πάντες ὁμολογοῦσιν, οἷον τὰ φυτὰ καὶ τὰ ζῷα, ἡ δ' αἰδῖος, ἣς ἀνάγκη τὰ στοιχεῖα λαβεῖν, εἴτε ἓν εἴτε πολλά.

There are three [kinds of] substance: one is perceptible, of which a part is eternal and a part, which everyone agrees on, perishable, including such things as plants and animals; the other <kind of> sensible substance is eternal: its elements must be grasped, whether one or many.

⁴ This all has an impact on the argument about eternal movement in Λ .6, one to which the 'ποθέν ποι' theory in Λ .2 helps pave the way; and this in turn leads (via the central section of the book, Λ .6 and 7 up to 1072a26) to an unmoved, nonsensible substance. Thus, the present point is not without relevance to the theory of an unmoved eternal mover. See my 'Fra atto e potenza: l'eternità del cielo nel libro *Lambda* della *Metafisica*' in M. Migliori and A. Fermani (eds.), *Attività e virtù: Anima e corpo in Aristotele* (Milan, 2009), 113-46.

⁵ The text is clearest in mss. M and C, whose independent authority was not recognised until recently, and which were not used in the preparation of modern editions. Their independence for Books M and N and the final section of Λ (from 1073a1) was proved by D. Harlfinger, 'Zur Überlieferungsgeschichte der "Metaphysik"' in P. Aubenque (ed.), *Études sur la Métaphysique d'Aristote* (Paris, 1979), 7-36; and for the whole of Λ and the final section of K (from 1056a25) in my 'Lo stemma codicum dei libri *Kappa* e *Lambda* della *Metafisica*: una revisione necessaria', *Aevum* 2 (2010), 339-59. For the remaining books of the *Metaphysics* the value of M and C largely depends on their agreement with A^b, which, from Book A to the first part of K, belongs to the same family (β).

The ‘elements’ which we are told it is necessary to grasp are those of eternal sensible substance. Yet modern editors excise the words ἡ δ’ αἰδίοϛ, and assume that the elements we need to grasp are those of sensible substance in general. In doing this, they follow an ancient tradition: Alexander of Aphrodisias, although aware of a reading with the words ἡ δ’ αἰδίοϛ included,⁶ prefers to follow a manuscript tradition known to him which omits them.⁷ This leads him to see the passage as the announcement of a programme of research on the principles of sensible substance as a whole (*On the Metaphysics* fr. 4b Freudenthal [1421 Bouyges]):⁸

For Aristotle’s aim is to discuss the elements of sensible substance, and also includes the things which are subject to generation as well.⁹

⁶ Averroes, in what are usually regarded as quotations from Alexander’s notes, says this (*Tafsir ma ba’d at-tabi’at* 1421 Bouyges = Alexander, *On the Metaphysics* fr. 4b Freudenthal): ‘What [Aristotle] says here according to this manuscript is that we must discern the principles of the elements of the eternal substance; namely, the first cause, which is what the present treatise is concerned with, is the cause and the principle of the divine body’. (I revise here, with Mauro Zonta, the translation by C. Genequand in, *Ibn Rushd’s Metaphysics: A Translation, with introduction, of Ibn Rushd’s commentary on Aristotle’s Metaphysics, Book Lambda*, Leiden, 1986, at 72. For the text, see M. Bouyges, ed., *Avverroès, Tafsir ma ba’d at-tabi’at*, vol. 3, Beirut, 1948. The fragments are still identified and numbered according to Jacob Freudenthal’s collection, *Die durch Averroes erhaltenen Fragmente Alexanders zur Metaphysik des Aristoteles untersucht und übersetzt = Abh. der königlichen Akademie des Wiss. zu Berlin, phil.-hist. Kl. no. 1*, Berlin, 1885.) Alexander could, indeed, have explained this reading though favouring the other, but I do not understand how could he count the first principle of the heavens, namely the first mover, among the heavens’ στοιχεῖα, as he would be doing if the relevant words are his. It would be more likely for this confusion to have arisen in Averroes’ commentary if στοιχεῖα in the text referred to was preceded by ‘principles of’, or the like, as in Alexander above in this note. On the difference between a moving, external cause, and a στοιχεῖον (i.e., elementary, internal principle), see A.4, 1070b22-3.

⁷ This reading is apparently followed by Averroes’ paraphrase in his Middle Commentary (see n. 8 below), and by Abu Bishr Mattā’s translation transmitted with Averroes’ Long Commentary on book Λ. Unlike Alexander, however, Averroes refers the ἡ δ’ ἀνάγκη . . . clause to the corruptible sensible substance, which seems a more natural understanding of the resulting text.

⁸ See moreover Averroes’ Middle Commentary as preserved in Hebrew, edited by Mauro Zonta, *La tradizione ebraica del Commento medio di Averroè alla Metafisica di Aristotele nelle versioni di Zerabyah Hen e Qalonymos ben Qalonymos*, 2 vols. (Pavia, 2011).

⁹ I revise here a few points of Genequand’s translation (details in n. 6 above). Genequand takes *allatī fi al-kawn* (here, literally, ‘things subject to generation’) to signify ‘things which

It is worth saying at the outset that this statement is odd. Once ἡ δ' αἰδίοις is removed, the obvious remaining reference for the relative clause (ἧς ἀνάγκη τὰ στοιχεῖα λαβεῖν) is the substance previous mentioned, namely the corruptible one (ἡ δὲ φθαρτή), the one that includes such things as animals and plants. This, then, would be the substance whose 'elements' are to be grasped. Nonetheless, Alexander is clear that he understands the relative clause to be referring not to the corruptible, but to the whole sensible substance (αἰσθητή) (*On the Metaphysics* fr. 4a [1420 Bouyges]):

One must not understand by that [i.e. the reading under consideration] the substance subject to generation and corruption, but the two substances: the sensible and that which is subject to generation and not to subject to generation.

Modern editors and commentators have followed suit. Bonitz, Christ, Ross and Jaeger take it for granted that 'the reading of all the manuscripts cannot stand'.¹⁰ They athetise ἡ δ' αἰδίοις, and labour to establish Alexander's preferred interpretation in the resulting text.¹¹ Thus, in the view of Ross and Bonitz, Aristotle here sets out a schedule of inquiry into physical substances (presumably applying to Λ.1-5). The sentence at issue ('its elements

are in the universe'. This is lexically possible, but probably not at issue now; cf. a few lines above where Alexander (fr. 4a [1420 Bouyges]) says: 'One must not understand by that (sc. ἧς ἀνάγκη τὰ στοιχεῖα λαβεῖν) the substance subject to generation and corruption, but the two substances: sensible and subject to generation, and not subject to generation.' A similar understanding, without reference to variant readings, is found in Michael of Ephesus, in *Metaph.* i. 670.31-4 Hayduck.

¹⁰ See W. D. Ross (*Aristotle's Metaphysics*, Oxford, 1924) [Ross] ad loc., following Bonitz whose own comment is: *Quae vulgo exhibentur magnopere videntur depravata esse per errorem librariorum*; W. Christ, *Aristotelis Metaphysica* (Leipzig, 1895); W. Jaeger, *Aristotelis Metaphysica* (Oxford 1957); more cautiously, A. Schwegler, *Die Metaphysik des Aristoteles*, Tübingen 1847-1848, i.237.

¹¹ Ross (ad loc.), followed by Jaeger (ad loc.), includes the previous sentence in a double hyphen in order to connect ἧς back to αἰσθητή (οὐσία) and so to obtain the meaning suggested by Alexander. Ross's text is criticized by M. Frede, 'Metaphysics Λ.1' in M. Frede and D. Charles (eds.), *Aristotle's Metaphysics Lambda* (= *Symposium Aristotelicum* 10) (Oxford, 2000), 53-80 at 79-80. Frede's alternative agrees with Bonitz' insofar as they both try to improve the transmitted text on the basis of the relevant paraphrases found in Michael of Ephesus' commentary (i. 670.26-33 Hayduck). They suggest no explanation for how one text could be corrupted into the other. Frede too introduces artificial punctuation at 1069a32, in order to avoid a direct connection of ἧς to αἰδίοις, i.e., to avoid our being asked to look for the στοιχεῖα of eternal substance.

must be grasped, whether one or many') amounts to a kind of programme for 'a general discussion of *perceptible substance*'.¹² Bonitz supports this view by comparing the discussion in $\Lambda.2$ on elementary principles with discussions in Aristotle's physical works, especially *Physics* 1.6-9 and 5.1-2, and *De generatione et corruptione* 1.2 and 2.1. Such parallels with Aristotle's physics are often repeated in subsequent literature, although no attempt is made to establish a direct connection with other discussions of matter in the *Metaphysics*.

It is true that the first of Bonitz' alleged parallels, with *Phys.* 1.6-9, is very helpful if we wonder, for example, about what Aristotle means here when he talks about 'elements' of substances which need to be grasped. Such 'elements', as we may infer from what follows, would be the kind of *elementary principles* by which change is explained: i.e., matter and the two contraries (form and privation); or, more precisely, the two contraries and matter as a third (1069b3-9; cf. *Phys.* 1.7-9). By contrast, the four causes of *Phys.* 2 and *Metaphysics* A are conspicuously absent here, and this seemingly archaizing feature has encouraged scholars to disregard this section of Λ , as not really pertaining to metaphysics at all.

A different approach is taken by David Charles in his recent commentary.¹³ Charles argues that the distinctiveness of the chapter rests in its discussion of what he calls the 'topical matter' of heavenly bodies – borrowing the phrase ὅλη τοπική from H.1, 1042b6-8; he stresses that the theory of topical, i.e. local matter, is established more clearly in Λ than anywhere else in the corpus: see $\Lambda.2$. 1069b24-6 (discussed further below):

Every being that changes has matter, but a different one, even the eternal ones which are not generable but can be moved in space: they have a matter which can come to be but from one place to another (οὐ γενητὴν ἀλλὰ ποθέν ποι).

This does not lead yet to a reappraisal of the chapter as a whole: in Charles' judgement, the uniqueness of this doctrine of matter makes $\Lambda.2$ much more interesting, but not without its problems. There is a whole series of important perplexities which, in his view, the chapter generates. Charles tries to work out how such a doctrine fits with, for example, statements in

¹² Ross, ii. 350.

¹³ D. Charles, 'Metaphysics $\Lambda.2$ ' in *Aristotle's Metaphysics Lambda* (n. 11 above), 81-110.

the physical works (like *De gen. et corr.* 1.4. 320a2-4) about the primacy of *corruptible* matter as the principal (κυρίως) sense of ‘matter’. The chief question is: How exactly can we conceive ‘topical matter’ as something analogous to the matter of corruptible substances? If we cannot, then the very notion of matter would turn out to be equivocal.

The force of these difficulties should not be underestimated. There must be a reason for the move that Aristotle subsequently makes when he distinguishes sensible substance into two separate types, corruptible and eternal, with two different epistemic statuses (Λ.1, 1069a30-3). He does not do this elsewhere, even in the closest parallel text, which is probably H.1.¹⁴ What is more, he establishes the principles of sensible substance as substrate, form and privation from the outset of the chapter (1069b3-9; cf. *Phys.* 1.6-8); yet his theory of topical matter does not, as Charles has shown, obviously fit this theory. It would be nice to think that this eternal matter has a function in the argument of the book which depends on its peculiar nature as ποθέν ποι. And indeed, as I have shown above, Aristotle may have focussed on this question rather more than current editions make it seem.

2.2. *In Defence of the Manuscripts*

There are exegetical problems in the ‘traditional’ interpretation of Λ.1, then. In this section, I want to argue in addition that the reading of the text on which it is based cannot be sustained either.

The key editorial move, as we saw above, has been to athetise the phrase ἡ δ’ αἰδῖος, which appears in our mss. This give us the following text:

οὐσίαι δὲ τρεῖς, μία μὲν αἰσθητή – ἥς ἡ μὲν αἰδῖος ἡ δὲ φθαρτή, ἣν πάντες ὁμολογοῦσιν, οἷον τὰ φυτὰ καὶ τὰ ζῷα, [ἡ δ’ αἰδῖος] ἥς ἀνάγκη τὰ στοιχεῖα λαβεῖν, εἴτε ἐν εἴτε πολλά.

There are three [kinds of] substance: one is perceptible, of which a part is eternal and a part, which everyone agrees on, perishable, including such things as plants and animals: its elements must be grasped, whether one or many.

¹⁴) Compare H.1, 1042a32-b3 with Λ.2, 1069b3-15; H.1, 1042b3-6 with Λ.2, 1069b24-6. H.1, 1042b7-8 and Λ.2, 1069b18-20 touch on the different meanings of γίνεσθαι; H.1, 1042b11-15, on Democritus’ view on matter, is relevant for the understanding of Λ.2, 1069b20-3 (see my ‘Fra atto e Potenza’, n. 4 above). Compare also, e.g., H.1, 1042a26-31 with Z.3, 1029b2 ff.

Instead of asking about the principles of eternal substance, Aristotle on this reading is asking about the principles of *sensible substance as a whole*. But it turns out that this reading is made highly problematic by a phrase we have not given much attention to so far: the question with which the passage ends: whether the principles are ‘one or many’.

It is, to begin with, unclear how the alternative here relates to the necessity of grasping the principles. Is it the case (1) that we have to grasp (i.e. understand) them – and we have to do so however many they turn out to be?¹⁵ Or is the case (2) that we have to grasp (i.e. establish) *whether* they are one or many?¹⁶

Case (1) (we have to grasp the principles however many there are) is grammatically plausible, but it is disappointingly weak in meaning. In the main clause, Aristotle says that an inquiry into principles is necessary. Why does he need to specify that it is necessary however many principles there are? The specification adds nothing. All it does is to warn us that there may be some uncertainty on this – strictly incidental – question.

Case (2) avoids this difficulty by shifting the question of whether the principles are one or many to centre-stage.¹⁷ But this turns out to be a question that is very easily answered – in the sense, anyway, that it is easy to *count* the principles involved.¹⁸ It is a task already accomplished six Bekker lines into $\Lambda 2$. The answer is three (or at least three: ‘besides the

¹⁵ Cf. R. Kühner, *Ausführliche Grammatik der griechischen Sprache* (Hannover 1976–1978), ii.2, 535–6. I am grateful to André Laks for discussion on this and several other related points.

¹⁶ This option is stronger in character, though a less frequent use of $\epsilon\iota\tau\epsilon \dots \epsilon\iota\tau\epsilon$ (Kühner, *ibid.*, esp. n. 17).

¹⁷ M. Burnyeat (one of the few modern scholars whose opinion on this regard can be clearly detected) favours this second option: ‘1069a32–33: Are they one or many?’ (*A Map of Metaphysics Zeta*, Pittsburgh 2001, 132–3).

¹⁸ The fact that Aristotle insists that the answer is three itself indicates how we are supposed to count the principles here. (As will become clear, I take it that the question is whether the three, form, privation, matter, apply to eternal sensible substances as well as to perishable substance.) However, as Menn points out in his forthcoming study (n. 3 above), there could be a different way of counting principles, one which works better with the printed text. It is based on the difference between being one in species and one in number: so the question is, given the basic principles, would they be numerically different or identical in different individual beings? (Cf. e.g. *Phys.* 1.9, 192a345 on the formal cause.) But it is difficult to see this sense in play here: the difference between numerical and formal identity is not at issue in context, and will not be raised at least until $\Lambda.5$ (see 1071a17–24, 26–9).

contraries there is a third one: matter', 1069b8).¹⁹ In fact, Aristotle *always* assumes that elements of sensible substance, insofar as it is subject to change, are more than one. He does so in *Phys.* 1 as well: for example, he says at 189a12 that there can not be just one principle for coming to be; and there must be at least two since contraries are principles: 188b29-30. Those who deny that there is more than one principle, as the monists do, deny coming-to-be altogether (*Phys.* 1.8).²⁰

If, then, one assumes that the principles we are searching for are principles of sensible matter, the clause 'whether one or many' either makes a trivial qualification or raises a trivial question. In either case, it is unclear why Aristotle puts it in. But we *can* see the point of it (so I shall argue) if we follow the reading of the mss. and suppose that the principles we are interested in are those of eternal substance.²¹ And we shall see that this reading has other advantages too.

3. *Metaphysics* Λ.2 and Eternal Sensible Substance

3.1. *Counting the Elements*

As we have seen, Aristotle is very clear about the 'elements' or principles of perishable sensible substance; but in the case of eternal substance, the question whether the elements are one or more than one is a real question. Recall Aristotle's view in the *Physics*: those who deny that a substance has more than one element, he says, deny its coming to be altogether. One might think that the converse consideration would apply to eternal substance. These do *not* come to be: so do they allow for more than one element?

¹⁹ Cf. 1069b32-4: τρία δὲ τὰ αἵτια καὶ τρεῖς αἱ ἀρχαί, δύο μὲν ἢ ἐναντίωσις, ἥς τὸ μὲν λόγος καὶ εἶδος τὸ δὲ στέρησις, τὸ δὲ τρίτον ἡ ὕλη.

²⁰ This view can be gathered from the doxography in *Phys.* 1.8, where Aristotle contrasts the monists' opinion (an excess of ἀπειρία in his view: 191a26), with that of the pluralists.

²¹ The later Aristotelian school definitely regarded the question at issue as an *aporia*; see Alexander of Aphrodisias, *Quaestiones* 1.10, 15, with my *Aporia e Sistema. La Materia, la Forma, il Divino nelle Quaestiones di Alessandro di Afrodisia* (Pavia, 2002), 113-45. But the alleged answer somewhat diverges from the one which emerges from the present inquiry in the *Lambda* passages. This difference is highly significant and will be taken into account below.

The solution rests on the answer to another, more specific question: What counts as an element for eternal substance? Consider Aristotle's exact wording in his account of the matter of the heavens. In *Λ.2*, he says that eternal sensible beings have matter only *in a sense*, namely ποθέν ποι (ὑλην ἔχει... οὐ γενητήν ἀλλὰ ποθέν ποι, 1069b24-6). But do ποθέν and ποι ('from somewhere', 'to somewhere') – that is, the local opposites which identify the relevant substrate for eternal substance – count as 'contraries'? And if they do, do they thereby count as elements? In this case, matter would be a 'third' element for eternal substance as well. But it is more likely that they do not count as contraries in the relevant sense, and certainly not as 'elements' at all. The strongest evidence for this is a parallel text in *Metaphysics* *Θ.8*. The ποθέν ποι formula appears here as well, but it is used precisely to distinguish corruptible from eternal substances. Aristotle claims that the pairing of ποθέν and ποι is analogous to the pairing of contraries, but only insofar as it identifies a matter which, as subject, has the capacity for both. But, he says, the capacity for ποθέν and ποι is different from a 'capacity for contradictories' (δύναμις ἀντιφάσεως). In this sense, it is not properly speaking 'matter'.²²

Other hints in the corpus point in the same direction. The idea that eternal substance *is* affected by contraries is dismissed by *De caelo* 1.3-4. *Phys.* 8.7 (at 261a31-b2), although not entirely clear on this very point, can also be read in this direction, insofar as it argues (as I take it) that any other change *except* change of place is a change from one opposite to another. This seems to imply that a body which is unaffected by those (other, non-local) kinds of changes, is unaffected by contraries altogether.²³

Finally, neither of the indefinite adverbs – that is, neither ποθέν nor ποι – can fulfil the role of *form* and *privation*.²⁴ Yet *Λ.2* identifies these

²² See *Θ.8*, 1050b24-8, where Aristotle focuses on the δυνάμις / ἐνέργεια polarity and uses 'matter' in the sense of δύναμις, as if the two were somehow the same: οὐ γὰρ περὶ τὴν δυνάμιν τῆς ἀντιφάσεως αὐτοῖς, οἷον τοῖς φθαρτοῖς, ἢ κίνησις, ὥστε ἐπίπονον εἶναι τὴν συνέχειαν τῆς κινήσεως· ἡ γὰρ οὐσία ὕλη καὶ δύναμις οὐσα, οὐκ ἐνέργεια, αἰτία τούτου.

²³ This is the way Simplicius took the passage too, although I admit that the point is not so clearly spelled out as one might wish it to be (Simplicius, in *Phys.* x. 1273.34-1274.6 Diels).

²⁴ I take both ποθέν and ποι to be enclitic, as they are in the oldest manuscript, J (although ποθέν becomes oxytone when isolated and when followed by ποι), but unlike editors from Bekker to Christ. They apparently take both as interrogative (πόθεν ποῖ, as in mss. A^b and M), but this does not make any satisfactory sense. Ross, followed by Jaeger, is the first to

as the contrary elementary principles for sensible substance in general (1069b33-4).

3.2. *Coming to be* 'ποθέν ποι'

It seems, then, that ποθέν and ποι do not fulfil the role of principles for eternal substance. But what, then, is their role? And why does Aristotle say that the eternal substance is 'not generated *but* ποθέν ποι' (οὐ γενητήν ἀλλὰ ποθέν ποι)?

Most translators take ἀλλά to be simply adversative, and understand something like κινήτην to connect ποθέν ποι to ὕλην in 1069b24. Ross does so in his Oxford Translation: eternal things, he translates, 'have matter, not for generation, but <for motion> from one place to another'. But it is possible to avoid this expedient, and assume, simply, that ποθέν ποι is dependent on ὕλην...γενητήν.²⁵ Compare the formula at *De caelo* 3.4, 311b33, where the heavens' local movement is said to be a γένεσις...ποθέν ποι.²⁶ The ποθέν ποι specifies 'coming to be' in the sense of 'coming to be' in one place from another (γένεσις here clearly does not mean generation, or 'coming-to-be' in an absolute sense). In this case, the force of ἀλλά, 'but', would be 'except' (compare ἀλλὰ ἢ in the parallel passage in *Θ.8*):²⁷ eternal substance has a different matter, which is not subject to γένεσις, *except* from one place to another. (Note by the way, that this qualification relies on the fact that there are different senses in which a thing can 'come to be'. This is precisely an issue which Aristotle raises in the sentences which follow immediately: ἀπορήσειε δ' ἂν τις ἐκ ποίου μὴ ὄντος ἢ γένεσις

my knowledge to print ποθέν ποι, both here and at 1050b21. He presumably aims for a stronger emphasis on both terms (as he does, e.g., at *Λ.7*, 1072b2 as well). However, I could not find any parallel for this accent on ποί, either in manuscripts (E has ποθέν ποι), or in the texts included in the TLG, in any other occurrences of ΠΟΘΕΝ ΠΟΙ in Aristotle.

²⁵ Another interesting option is very similar in meaning to Ross's: here in *Λ.2*, 'matter' is chiefly thought of as δύναμις; ποθέν ποι could depend on it, as if there were a connecting article in the genitive case: ὕλη ποθέν ποι sc. δύναμις / ὕλη τοῦ ποθέν ποι. Compare *Θ.8*, 1050b20-2: there, moreover, the ποθέν ποι formula is also introduced by ἀλλά (in fact ἀλλὰ ἢ), i.e. 'except'. This option fully justifies the adoption of the ποθέν ποι formula as a kind of *Funktionbegriff*: there is a dedicated matter for any particular kind of change, whatever this may be.

²⁶ *De cael.* 3.4, 311b33: ἡ δὲ φορὰ γένεσις ποθέν ποι.

²⁷ ἀλλά in the sense of ἀλλὰ ἢ can arguably be found elsewhere in this book, e.g. *Λ.6*, 1071b11; 1075a16, 19.

κ.τ.λ., 1069b26-8. Jaeger, then, was quite wrong to bracket them: on my reading, they belong very naturally just where they are.)²⁸

3.3. *Matter the Only Element?*

I have shown that my reading of Λ.1 motivates the question Aristotle raises of whether the principles (that is, of eternal matter) are one or many. This is an issue obscure enough to merit further inquiry. It may be worth adding that my reading would also allow the alternative construal of the εἴτε...εἴτε clause there: not as asking whether the principles are one or many, but as stating that inquiry into principles is necessary however many they are. The point in this case would be that we need to grasp *matter*, at least, as one element of eternal substance, even if there turn out to be other elements as well.

But can we, in either case, make any headway on the question of whether there are any principles of eternal sensible substance in addition to matter? Perhaps. One thing we know about our matter is that it is not 'generable': οὐ γενητήν. This cannot mean 'not generable' in an absolute sense, since we know that matter is in itself not generated (Aristotle says this just below, at Λ.3, 1069b35). So it must mean 'not capable of coming-to-be one contrary to another'. (As we have seen above, the ποθέν / ποι pair does not count as a pair of contraries in the proper sense.) That is probably why this kind of 'matter' is really different from the other kind (ἐτέρα, 1069b25). But this means that we can exclude the possibility that the principles of eternal substance are three (namely two contraries and matter as a third), as they are for corruptible substances (Λ.2-3). There must, then, either be just one principle, matter; or else two, namely matter and some kind of form that has no contrary or privation. But Aristotle gives us no clear indication that such a form is possible.²⁹ It does not seem unlikely, then, that

²⁸) Jaeger ad loc. Indeed, the position of these lines is confirmed by the parallel in H.1: there as well, Aristotle, having introduced the idea of a 'topical matter', raises this point – even more directly than he does here: τίς μὲν οὖν διαφορὰ τοῦ ἀπλῶς γίνεσθαι καὶ μὴ ἀπλῶς, ἐν τοῖς φυσικοῖς εἴρηται (1042b7-8). At any rate, I do not exactly understand the weight of Jaeger's option for double brackets here. They are in principle devoted to *Aristotelis additamenta* ('Praefatio', p. xviii). Is the idea that these words, added by Aristotle in the margins, would have been misplaced by the scribe?

²⁹) There is a suggestion of this in the later school, though. Alexander of Aphrodisias understands the composite that is the heavens as one made out of a matter which is matter only in a certain sense, and a form which is the very nature of heavens, identical with its soul.

matter is the only element or principle of eternal substance: the only one, at least, which Aristotle is in a position to identify as such.

This conclusion would make a major difference in a context such as the present one, since the notion of matter thus far has been premised on the need to posit a substrate for two contraries, something to switch from one to the other. If matter is the sole elementary principle, the substance would remain unaffected, eternally the same. But that, of course, is an advantage. Eternal sensible substance precisely cannot change, but only moves. Or, as Aristotle puts it here: it cannot change *except that* (ἀλλὰ) it moves.

4. *Metaphysics* Λ.2 and Θ.8

If I am right, Aristotle turns out to be perfectly able to say both that the matter of eternal bodies is susceptible to change only in the sense of moving or coming to be ‘from one place to another’ (ποθέν ποι, Λ.2, 1069b26), and also that eternal substance has no matter *stricto sensu* at all.³⁰ But this puts the Λ.2 passage in a very close and interesting relationship with what Aristotle says earlier, in Θ.8, at 1050b6-28.

In Θ.8, Aristotle treats ‘δύναμις and matter’ (which should probably be taken as a hendiadys, i.e., ‘matter in the sense of potentiality’) as belonging to corruptible substances. Eternal sensible substance, he says, has no matter, *except* in the sense that it has a substrate capable of switching (μεταβάλλειν) ‘from one place to another’ (ποθέν ποι). Unlike corruptible beings, whose substance *is* matter, sc. δύναμις, heavenly beings do not have ‘matter, sc. δύναμις’ as their own substance. That is why there is no effort in eternal heavenly movement, and no reason to be afraid that it will ever cease (Θ.8, 1050b21-9).

In Θ.8, however, Aristotle does not distinguish between matter *stricto sensu* and matter in a wider or different sense. It looks, in fact, as if he here

This soul is the subject, for Alexander, of that famous desire which (although Aristotle himself does not spell this out) sets the heavens in motion, and thereby the entire universe. Once more, Alexander’s interpretation seems to have determined the traditional interpretation of Aristotle’s theory. One can guess that this is one reason why the theory of Λ.2 that there is a unique element for the substance of heavenly bodies (as I at least argue) has escaped the attention of commentators.

³⁰ The latter statement is in accordance with *De gen. et corr.* 1.4: see above. On the Θ.8 passage, see n. 25 above.

denies that eternal substances have matter in any sense at all. So we can view what he does in Λ as a refinement, which will enable him to be clear about the sense in which eternal sensible substances do, in fact, have matter – a refinement consistent with the aim of Λ to investigate unmoved, non-sensible substance. He will of course go on, later in Λ , to introduce the idea of an eternal, *non*-sensible and *non*-moving substance. A clarification of the status of eternal substance which is both sensible and moving is a natural step towards this. It turns out, in fact, that the question about the elements of eternal substance, as answered by the ‘ $\pi\omicron\theta\acute{\epsilon}\nu\ \pi\omicron\iota$ ’ theory in Λ .2, plays a substantial part in Aristotle’s overall account of the principles of eternal beings, as further discussed in Λ .10.

5. The Solution to Aporia 10

In Λ .10, Aristotle summarises what he views as his achievements. Among them, he emphasizes his theory of contraries and matter. He begins with matter and remarks, in this context, on a major failure in the views of his predecessors (1075b13-14):³¹

Why some things are corruptible and other incorruptible, nobody says. For they make all beings out of the same principles.

This corresponds to Aporia 10, introduced in B as ‘inferior to none’, a problem neglected by Platonists as well as by Presocratics (1000a4-5). Aristotle now talks as if he had been able to solve it.³² How is this claim justified? Commentators adopt different paths and remedies, but none is as direct as a reference to a theory of what the ‘elements’ of an incorruptible substance would be; and as far as I can see, the best available candidate is the theory in Λ .2 of a matter $\omicron\upsilon\ \gamma\epsilon\nu\eta\tau\eta\nu\ \acute{\alpha}\lambda\lambda\acute{\alpha}\ \pi\omicron\theta\acute{\epsilon}\nu\ \pi\omicron\iota$: a different kind of matter, which does not underlie contraries but is subject to local movement

³¹) The understanding of this section is controversial: see Ross, ii. 350-1, Charles, ‘*Metaphysics* Λ .2’ (n. 13 above), 106-10. Unlike them, I take the Presocratics involved in this section as a positive source of truth. This seems to be the case in Λ .2 (with the transmitted text), as it is in Λ .1, 1069a25 (notwithstanding their inadequacies in language, vocabulary and theoretical tools): see my ‘*Fra atto e potenza*’ (n. 4 above), 134-7.

³²) See Bonitz, 160 (ad 1075b13): *Solvisse sibi videtur hanc quaestionem Aristoteles ea disputatione quae continetur libro Λ .*

only. This is certainly how Aristotle thinks he has solved the problem as set out in *Λ.1* (at 1069b32) (and this web of cross-references support the idea that Aristotle pays special attention to the substrate of eternal substances).

Once this connection has been made, it becomes possible to see a further connection between *Λ.2* and 3, which together answer the *two* parts into which *Aporia 10* falls. For *B.1*, 996a2-4 actually asks two questions: (a) 'whether there are or not the same principles for corruptible and incorruptible beings' (996a2-3), and (b) 'if they are not the same, whether the principles of corruptible things are incorruptible or not' (996a3-4).

The relevant discussion in *B.4* clearly emphasizes that principles as such cannot be corruptible, otherwise they would also have their own elements, the same ones into which they would dissolve, and this would imply an infinite regress.³³ But this is exactly the point made at the beginning of *Λ.3*. Aristotle's solution is that it is only the composite that is generated; form and matter are not generated.³⁴

So *Aporia 10* explains the connection between *Λ.2* and *Λ.3*, and of both to *Λ.10*. It was a failure to spot this which has led to exceedingly – and unfairly – negative assessments about the structure of the early chapters of *Metaphysics Λ*.

6. Postscript: How Many Matters?

Finally, one may wonder what notion of matter is involved in the 'ποθὲν ποί' theory. If we conceive of it as part of Aristotle's framework for physics, the implications are not clear. Is local movement the only kind of change requiring a specific matter as its subject? We are not told that it is; but the alternative might be that we would have to postulate as many types of matter as there are kinds of change – one each for generation, alteration and growing as well. But this would raise a number of difficulties. For example,

³³ *B.4*, 1000b21-8: 'For if they are perishable, evidently these also must consist of certain elements (for all things that perish, perish by being resolved into the elements of which they consist); so it follows that prior to these principles there are other principles. However, this is impossible whether the process has a limit or proceeds to infinity.'

³⁴ *Λ.3*, 1069b35-1070a4: 'Neither matter nor form (in the sense of the last matter and form) are generated... It goes *ad infinitum*, if it is not only the bronze sphere to be generated, but the sphere or the bronze. It is, indeed, necessary to stop.'

it would require a single sensible substance undergoing different changes to have as many material substrates as the changes it undergoes.

In fact, the word ἐτέρον at 1069b25 might help here. Aristotle tells us that the matter of eternal sensible substances is 'other than' that of perishable substances, and the phrasing is most likely to suggest that it is one of *two* kinds of matter. Moreover, these two kinds of matter differ not so much insofar as they allow for different kinds of change, but insofar as the one is a substrate for contraries, whereas the other is not. Since this substrate, local matter, does not undergo change from one contrary to another, we can understand how it is that the element, aether, remains unchanged.³⁵

³⁵) I am grateful to E. Berti, A. Borsatti, G. Boys-Stones, C. Brittain, M. Crubellier, A. Laks, C. M. Mazzuchi, S. Menn, F. Trabattoni, W. Wians and M. Zonta for discussions and comments, either on this paper, or on the relevant parts of my volumes: *Il libro Lambda della Metafisica di Aristotele* (Naples, 2012), and *Commento al libro Lambda della Metafisica di Aristotele* (Naples, forthcoming).