

Physics I.2

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The second and third chapters of *Physics I* contain an extensive critique of Eleatic monism, the theory of Parmenides and Melissus that ‘what is is one’. In the second chapter Aristotle argues that this theory is impossible, and in the third chapter he explains why the Eleatics’ arguments do not succeed.¹

The second chapter can be divided into five sections:

1. An initial classification of the different theories of principles (184b15-25).
2. Prefatory remarks on the status of an examination of the Eleatics (184b25-185a20).
3. First sequence of criticisms of the Eleatics’ monistic position, based on the claim that ‘being is said in many ways’ (185a20-b5).
4. Second sequence of criticisms of the Eleatics’ monistic position, based on the claim that ‘one is said in many ways’ (185b5-25).
5. An excursus on some problems of one and many (185b25-186a3).

In what follows I shall discuss each of these sections in order, but my primary focus will be Aristotle’s criticisms of the Eleatic position in the third and fourth sections. How exactly should we understand these criticisms, and what interpretation

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¹ For convenience I shall refer to Parmenides and Melissus together as ‘the Eleatics’.

of the Eleatic position do they presuppose? I shall argue that we can make good sense of the criticisms when we see them as targeting two radical forms of monism: entity monism (the view that reality consists of just a single entity) and essence monism (the view that reality is all of the same essence).

I. The Initial Classification of Theories (184b15-25)

Following the methodological preliminaries of *Physics* I.1, the second chapter begins with a general classification of the different theories of principles:

There must either be one principle or more than one. If there is one, it must either be unchanging, as Parmenides and Melissus say, or changing, as the natural philosophers say, some saying that the first principle is air, others that it is water. And if there is more than one, there must either be a limited or an unlimited number. If a limited number greater than one, there must either be two or three or four or some other number. And if there are an unlimited number, then either, as Democritus says, the genus is one and they are distinguished by shape or by species,² or they are also opposites. (184b15-22)

This classification serves to provide the framework for the book's subsequent investigation of principles. Aristotle first argues against the two most extreme positions mentioned here: the monistic theory of the Eleatics (I.2-3), and then the Anaxagorean theory that there are an unlimited number of principles, some of which are opposites (I.4). Once these two extreme positions have been refuted, he goes on to

² Reading σχήματι δὲ ἢ εἶδει διαφορούσας at 184b21-2 with E, I, Simplicius and Themistius. Cf. Crubellier forthcoming.

develop his own positive account of the number and nature of the principles, in *Physics* I.5-7.

This sort of classificatory schema is not unique to Aristotle.³ Something similar to it appears in Plato's *Sophist*, where the Eleatic Visitor describes various earlier theories of 'how many beings there are and what they are like' (242c4-243a1). Another related classification is given by Isocrates at *Antidosis* 268. One difference between Aristotle's classification and these others is that Aristotle's is a classification of theories of *principles*, whereas they are classifications of theories of *beings* or of *things that are* (τὰ ὄντα). In the next lines Aristotle suggests that this difference is merely terminological:

And those who inquire into the number of things that are are also inquiring in a similar way. For they inquire primarily⁴ into what the things that are are from, asking whether these things are one or many, and if they are many, whether there are a limited or unlimited number, so that they are inquiring into whether the principles and the elements are one or many. (184b22-5)

The philosophers presented by Plato and Isocrates as inquiring into the number of 'things that are' are primarily inquiring into the number of *fundamental* entities, 'what the things that are are from'. So they are effectively inquiring into the number of principles. Aristotle does not say why he prefers to speak in terms of 'principles' rather than in terms of 'things that are', but this is presumably because the latter way of speaking is misleading, given that 'things that are' could easily be taken to refer to beings in general, rather than specifically to those that are fundamental.

³ Mansfeld 1986 gives an account of its origins.

⁴ Reading ζητοῦσι πρῶτον at 184b23 with F, I and J.

It is worth noting that the classification at 184b15-22 does not represent Aristotle's final view of how best to catalogue the positions of his predecessors. He suggests revisions as the book goes on. For example, he will shortly argue that Parmenides and Melissus should not be seen as offering a theory of principles at all (I.2, 185a3-5). And later on he will propose alternative ways of thinking of the theories of the material monists and of Democritus.⁵

II. Introduction to the Critique of the Eleatics (184b25-185a20)

The first of the various theories to be examined is the Eleatic theory that 'what is is one and unchanging' (184b26). In *Physics* I.2-3 Aristotle concentrates almost exclusively on the first aspect of this theory, the claim that what is is one. He returns to the Eleatics' claim that what is is unchanging in I.8, when he addresses their argument against the possibility of coming to be. There is a good strategic reason for him to split up his treatment of the Eleatics in this way. His criticisms of their monism do not rely on his own theory of principles. By contrast, it is only when that theory of principles is on the table that we are able to see why a key Eleatic argument against change does not succeed.⁶

Before beginning his refutation of the Eleatics' monistic position, Aristotle makes some important prefatory remarks about the *status* of his critique of the Eleatics. The task of examining their theory is not, in fact, a task for the natural philosopher. This is because the Eleatics effectively deny one of the basic

⁵ See *Phys.* I.5, 188a19-27, where he suggests that both the material monists and Democritus effectively make certain opposites principles—in the case of the material monists, the rare and the dense; in the case of Democritus, the full and the empty, as well as the various opposed forms of position, shape and arrangement.

⁶ For the latter point see I.8, 191a23-4 and 191b33-4. In Clarke 2015 I explain how Aristotle's theory of principles allows him to answer the Eleatic argument against change.

presuppositions of the inquiry into the principles of nature—namely, *that there are principles*. (So their theory is not really a theory of principles at all, notwithstanding its inclusion in the initial classification.) The existence of a principle requires there to be some further entity (or entities) of which that principle is the principle; and yet this is excluded by the Eleatics' monism: 'For there is no longer any principle if it [sc. what is] is only one, and one in this way; for a principle is a principle *of* some thing or things' (185a3-5). This argument indicates that Aristotle takes Parmenides and Melissus to be claiming that there is only one (token) entity. This is the only form of monism that would rule out the existence of principles for the reason given here. I shall call this extreme form of monism 'entity monism'. It should be distinguished from other, less radical forms of monism such as 'substance monism', the view that there is only one (token) substance.⁷

If the task of examining the Eleatic theory does not fall to the natural philosopher, then whose task is it? Aristotle's language suggests that he thinks the task belongs to the dialectician.⁸ Investigating the Eleatic position is not part of natural philosophy, but instead 'is like arguing dialectically [διαλέγεσθαι] against any other thesis put forward for the sake of argument ... or like solving an eristic argument' (185a5-8).⁹ Another possibility, favoured by some commentators, is that

⁷ It is sometimes thought that Aristotle takes Parmenides' monism to be less extreme than Melissus'. For example, Palmer (2009) suggests that Aristotle interprets Melissus as an entity monist (in Palmer's terminology, a 'strict' monist), and Parmenides as a substance monist who allows for the existence of a plurality of non-substantial entities in addition to his one substance (a 'generous' monist). A disadvantage of Palmer's view is that it means that the present argument is a failure: if Parmenides allows for the existence of a plurality of entities, then his theory does not rule out the existence of principles, and accordingly Aristotle's argument fails to establish that an engagement with the Eleatic position falls beyond the scope of natural philosophy. A further difficulty is that Aristotle's subsequent criticisms of the Eleatic position do not target 'generous' substance monism, as we shall see below.

⁸ Cf. also Irwin 1988: 67; Bolton 1991: 14-15; Falcon 2005: 28.

⁹ Cf. also 185a19-20: 'it is a good idea to have a little dialectical discussion [διαλεχθῆναι] about them [sc. the Eleatics]'.

the task belongs to the higher science of metaphysics.¹⁰ But the argument at 185a1-3 seems completely general: it does not fall to *the person investigating principles* (τῷ περὶ ἀρχῶν) to answer an opponent who denies the existence of principles. There is no indication that this is true only for some investigations of principles but not for others. And metaphysics, like natural philosophy, studies principles—the principles of being *qua* being. So it would seem that if it is not the natural philosopher’s job to answer the Eleatics, then nor is it the job of the metaphysician, for the same reason.¹¹

Despite the fact that an examination of the Eleatic theory lies outside the scope of natural philosophy, Aristotle spends a lot of time on the Eleatics in *Physics* I. His justification is that ‘although [the Eleatics do] not [speak] about nature [περὶ φύσεως], they nonetheless happen to state physical difficulties [φυσικὰς ἀπορίας]’ (185a18-19).¹² The Eleatics do not speak about nature:¹³ in rejecting the existence of plurality and change they are rejecting the existence of the natural world. Nevertheless, they do raise ‘physical difficulties’, that is, difficulties *relevant* to natural philosophy. The difficulties in question are presumably the puzzles about plurality and change that Aristotle will go on to address in the remainder of *Physics* I.2-3 and in I.8. One way in which these Eleatic puzzles are relevant to natural philosophy is precisely that they call into question the most fundamental assumptions

¹⁰ For this view see e.g. Wicksteed and Cornford 1934: 12; Mansion 1953: 172-3; Berti 1969.

¹¹ I take this to be consistent with the fact that Aristotle’s subsequent refutation of the Eleatics is ‘metaphysical’ in the sense that it relies on various metaphysical claims, such as the claims that being and one are said in many ways.

¹² Following Ross’s punctuation: περὶ φύσεως μὲν οὐ, φυσικὰς δὲ ἀπορίας. Alternatively, one could place the comma after μὲν, in which case Aristotle would be justifying his discussion of the Eleatics on the grounds that ‘they happen to speak about nature, although they state difficulties that are not physical’. See Simplicius, *in Phys.* 70.5-17. The latter reading is preferred by A. Mansion (1945: 66 n. 48) and Pellegrin (1994: 126-8), among others.

¹³ It is plausible that Aristotle is here taking issue with the standard titles (or descriptions) of the works of Parmenides and Melissus. While Parmenides’ poem is unlikely to have had a title originally, at some point it came to be known as a work *On Nature* (Περὶ φύσεως). The disjunctive title ascribed to Melissus’ book by Simplicius—*On Nature, or On What Is* (Περὶ φύσεως ἢ περὶ τοῦ ὄντος)—was probably Melissus’ own: see Palmer 2009: 205-6 n. 25, and Harriman 2015: 19-20.

of this enterprise. There can be no science of nature if there are no principles, and there can be no nature if there is no change. Thus the Eleatics pose a major challenge to natural philosophy, and in Aristotle's view this challenge has yet to be properly answered.

Another, related, reason why the Eleatic puzzles are relevant to the inquiry into the principles of nature is that these puzzles greatly influenced post-Eleatic physics.¹⁴ For example, Aristotle tells us that the atomic theory of Leucippus and Democritus arose out of reflection on Eleatic arguments (see *GC* I.8, 324b35-325b5; *Phys.* I.3, 187a1-3). The atomists posited atoms and void in an attempt to show how, contrary to the Eleatics, the world can be plural and changing. This means that our evaluation of atomism as a theory of the principles of nature—our stance on whether or not it is well founded—will depend in part on our own view of how best to resolve the Eleatic puzzles that motivate it.

For at least these reasons, then, the Eleatic challenge is highly relevant to natural philosophy, and in particular to the inquiry into the principles of natural beings. This accounts for Aristotle's decision to include a critique of the Eleatics in the opening book of the *Physics*, even though the critique falls beyond the scope of natural philosophy itself.

III. The First Sequence of Criticisms (185a20-b5)

Aristotle now begins his refutation of the Eleatic doctrine that 'what is is one'.¹⁵ The first sequence of criticisms consists of two arguments. In the first Aristotle uses the

¹⁴ Cf. also Laura Castelli's contribution to this volume.

¹⁵ Alternative formulations of the doctrine are: 'the universe is one' (εἶναι ἓν τὸ πᾶν, 185b7); 'all things are one' (εἶναι ἓν τὰ πάντα, 185a22); 'the beings are one' or 'the things that are are

theory of categories to construct a dilemma for the Eleatics (185a20-32). In the second he raises a problem for Melissus' claim that what is is unlimited (185a32-b5).

III.1 Being Is Said in Many Ways

The first argument runs as follows:

Since being (τὸ ὄν) is said in many ways, the most appropriate starting-point (ἀρχή) of all is to ask in what way those who say that 'all things are one' speak [of being]—whether all things are substance, or quantities, or qualities, and again whether all things are one substance, like one human being, or one horse, or one soul, or whether all things are quality, and this is one, like pale or hot or one of the other things of this sort. For all these differ a great deal, and all are impossible to maintain. For if, on the one hand, there is substance and quality and quantity, then whether these things are detached from one another or not, the things that are will be many. But if, on the other hand, all things are quality or quantity, then whether substance is or is not, this is absurd, if one should call the impossible absurd. For none of the others is separable apart from substance. For all [the others] are said of substance as an underlying thing. (185a20-32)

According to a common reading of this passage, Aristotle starts from the claim that the word 'being' is ambiguous ('being is said in many ways'). There are many different senses of 'being', one for each of the different categories: substance, quantity, quality, and so on. And so there are different things that the Eleatics might

one' (ἐν εἶναι τὰ ὄντα, 185b24); and 'all beings are one' or 'everything that is is one' (ἐν τὰ ὄντα πάντα, 185b19-20). Aristotle evidently regards these different formulations as equivalent, and moves freely between them.

mean when they say that ‘*what is* is one’ or that ‘all *beings* are one’. Aristotle uses the doctrine of the categories to disambiguate the Eleatic thesis, and argues that on each of the possible disambiguations the Eleatics are committed to absurdity.¹⁶

This reading of the passage is tempting, but it faces a serious difficulty. If it were correct, Aristotle ought to consider the following as possible disambiguations of ‘all beings are one’: (A) all *substances* are one; (B) all *qualities* are one; (C) all *quantities* are one, and so on. However, he does not engage with any of these positions. His subsequent argument rests on what I shall call the ‘interdependence thesis’:

Substances depend for their existence on the existence of non-substances, while non-substances depend for their existence on the existence of substances.¹⁷

It is hard to see how this thesis could be thought to undermine any of the monistic positions just mentioned. Take claim (A), ‘all substances are one’. This presumably means either (A1) that there is just one (token) substance, or (A2) that all substances are of a single type. But both of these positions are consistent with the above thesis. Even if substances cannot exist without non-substances, and vice versa, it might still be the case that there is only one token substance, or only one type of substance.

An alternative reading is therefore required—a reading which can accommodate the fact that the argument proceeds by appeal to the interdependence

¹⁶ For this interpretation see e.g. Ross 1936: 338, 467; S. Mansion 1953: 173; Gershenson and Greenberg 1962: 139-40; Palmer 2004: 49.

¹⁷ When I say that ‘*X* depends for its existence on the existence of *Y*’, I mean that *X* cannot exist unless *Y* also exists.

thesis. I suggest that it is a mistake to take Aristotle to be claiming that ‘being’ is ambiguous. As others have noted, when he says that *F* ‘is said in many ways’ (πολλαχῶς λέγεται), it is sometimes best to interpret him as meaning not that the word ‘*F*’ has many senses, but instead that there are many kinds of *F*-ness, or many ways of being *F*.¹⁸ His claim at 185a21 that ‘being is said in many ways’ is a case in point. We should take him to mean that there are many different ways of being:¹⁹ substances have a different way of being from qualities; qualities have a different way of being from quantities, and so on.²⁰ His question, then, is about the way of being that the Eleatics want to attribute to what is. He uses the doctrine of the categories to distinguish various possible answers that they might give to this question, and then argues that each of these answers has absurd consequences. As we shall see, this reading fits much better with the fact that the argument relies on the interdependence thesis.

III.2 *The Argument’s Targets*

I have denied that at 185a20-32 Aristotle is using the doctrine of the categories to disambiguate the Eleatics’ claim that ‘what is is one’. But then how exactly does he

¹⁸ See e.g. Barnes 1995: 73-5. As Barnes notes, it is possible for two things to be *F* in different ways without its being the case that ‘*F*’ has different senses as applied to each of them: ‘it is one thing for an argument to be good and quite another for, say, a dinner to be good; and yet the word “good” is not ambiguous between cases of this sort’ (75 n. 7). On the philosophical importance of distinguishing between senses of ‘*F*’ and ways of being *F* (or kinds of *F*-ness), see Matthews 1972.

¹⁹ My use of the terminology of ‘ways of being’ follows that of Frede (1987: 85).

²⁰ One might worry that Aristotle is begging the question against the Eleatics in claiming that *there are many* categories and that *there are many* ways of being. These claims might seem to presuppose the falsity of the Eleatics’ radical monism. But, in response to this, Aristotle’s position can be understood as being that (1) for any entity, *X*, *X* is either a substance, or a quantity, or a quality (and so on), and that (2) anything that is a member of one category has a different way of being from anything that is a member of another category. Both of these claims are free of any existential commitments, and so neither presupposes the falsity of the Eleatics’ monism.

understand their position? What kind, or kinds, of monism is he arguing against in this passage? When earlier he argued that the Eleatics' theory is incompatible with the existence of principles, his reason was that there cannot be any principles at all if, as the Eleatics claim, there is only one entity (185a3-5). We should therefore expect entity monism to be a target of the present argument. And I think it is; but it does not seem to be the only target.

After saying that we must ask 'in what way those who say that "all things are one" speak [of being]', Aristotle then raises two more specific sub-questions. First: do they hold that all things are substance, or quantities, or qualities, and so on? Second: do they hold that all things are one substance, or one quality, and so on?

How should we understand the first sub-question? I think that we can set aside Ross's interpretation, according to which the question concerns the meaning of 'all things' (or 'all beings') as it occurs in the Eleatic claim: does it mean 'all substances', or 'all quantities', or 'all qualities'?²¹ It is unlikely that this is Aristotle's question, for he does not go on to argue against the claims that 'all substances are one', 'all quantities are one', and so on.

But if we do not read the question as a question about the meaning of 'all things', then how should we read it? It asks whether, according to the Eleatics, all things are substance or *quantities* (ποσά) or *qualities* (ποιά). The plurals apparently indicate that Aristotle has in his sights a version of monism that allows for the existence of a plurality of entities of a single kind. Thus, the first sub-question suggests that entity monism is not his sole target. If it were, the question would make little sense. Entity monism is obviously incompatible with the existence of multiple quantities or of multiple qualities. The *second* sub-question would still of course be a

²¹ Ross 1936: 467.

relevant question (are all things one substance, or one quality...?), but the first would not.

I therefore want to suggest that Aristotle also means to argue against ‘essence monism’, the view that all of reality (‘what is’) is of the same essence, or the same nature. This is a view which, considered by itself, allows for the existence of a plurality of entities.²² That Aristotle considers essence monism an authentically Eleatic doctrine is suggested by another of his criticisms later in the chapter, where he argues, against the Eleatics, that essence monism leads to unacceptable ‘Heraclitean’ consequences (see 185b19-25, to be discussed below). His attribution of essence monism to Parmenides is confirmed by an argument in I.3, where he criticizes Parmenides for failing to see that he is unable to establish essence monism (186a31-2). This criticism presupposes that Parmenides was *trying* to establish essence monism. There is also a passage in Aristotle’s examination of Melissus’ argument which suggests that he attributes an equivalent position to Melissus (namely, that what is is one ‘in form’: see 186a19-22). So, I suggest that the first sub-question is asked with essence monism in mind. If all of reality is of the same essence, then what way of being do things have? Are they substances, or quantities, or qualities (and so on)? An essence monist must choose one of these options. There cannot be substances *and* quantities, for instance, because then it would not be the case that all of reality is of the same essence. (If item *X* belongs to one category and item *Y* to another, then *X* and *Y* have different essences.)

²² This is not to say that a *proponent* of essence monism will necessarily allow for the existence of plurality of entities. It is possible that someone might claim both that (1) reality consists of just a single entity (entity monism) and that (2) reality is all of the same essence (essence monism). In my view, Aristotle attributes this conjunctive position both to Parmenides and to Melissus.

The second sub-question, by contrast, is asked with *entity* monism in mind. If reality consists just of one token entity, what way of being does it have? Is it one substance (like a single human being), or one quality (like paleness), or a single item in one of the other non-substance categories?

My suggestion, then, is that Aristotle is arguing in the present passage against both of these varieties of monism, entity monism and essence monism. This explains the two sub-questions at 185a22-6—a detail that we could not adequately explain if he were targeting entity monism alone.

III.3 The Consequences of Interdependence

We now come to Aristotle's use of the interdependence thesis. As we have just seen, an essence monist is committed to saying that either

(i) reality consists only of substances;

or

(ii) reality consists only of entities of a single non-substance kind (either qualities, or quantities, or relatives, and so on).

An entity monist, on the other hand, is committed to saying that either

(iii) reality consists only of a single substance;

or

(iv) reality consists only of a single non-substantial entity (either a quantity, or a quality, or some other non-substantial entity).

None of these options is possible—or as Aristotle puts it at 185a26-7, ‘all are impossible to maintain’. The reason is that they all conflict with the interdependence thesis.

Aristotle first argues that it cannot be the case either that (i) reality consists only of substances, or that (iii) it consists only of a single substance.²³ At any rate, I take this to be the point of the following sentence:

For if, on the one hand, there is substance and quality and quantity, then whether these things are detached from one another or not, the things that are will be many.
(185a27-9)

It is not immediately obvious, of course, that this sentence is meant to explain why reality cannot consist only of substances or only of a single substance. After all, the claim here is that if there is substance *and* quality *and* quantity, then the things that are will be many, and not, as the Eleatics claim, only one. Nevertheless, it seems to me likely that Aristotle’s intention here is to argue against claims (i) and (iii). I suggest that he is effectively relying on the first part of the interdependence thesis: substances depend for their existence on the existence of non-substances. Any substance will need to possess at least *some* non-substantial attributes; for example, if

²³ It is not that he gives two separate arguments, first an argument for why (i) is impossible, and then an argument for why (iii) is impossible. Rather, the same argument is intended to rule out both (i) and (iii) at the same time.

there is a human being, this human being must have certain features: it must have various qualities, be of a certain size, and so on. Since there can be no substances that are completely bereft of non-substantial attributes, to commit oneself to the existence of a substance is thereby to commit oneself to the existence of other, non-substantial entities as well. The fact that these non-substantial entities are not ‘detached’ from (but rather are inherent in) the substance is irrelevant: they are additional entities all the same. It follows that reality cannot consist only of substances, or only of a single substance.

According to this reading, the point being made at 185a27-9 is really this: if the Eleatics accept the existence of substance, then—because there can be no substances without non-substantial attributes—there will be substance *and* quality *and* quantity (for example). And if substance, quality and quantity all exist, then what is will be many: reality will consist of many entities (*contra* entity monism), and of many kinds of entity (*contra* essence monism). And this will be so even if these entities are not ‘detached’ from one another.

This is admittedly reading quite a bit into the text at 185a27-9, but doing so seems warranted for the following reason. If Aristotle were not here arguing against the possibility that reality consists only of substances or only of a single substance, we would be given no argument against these claims. Given that they were among the options mentioned earlier on (at 185a22-4) and said to be impossible (at 185a26-7), there would then be a puzzling lacuna in Aristotle’s case against the Eleatics. This seems to be a strong consideration in favour of the proposed reading of the present sentence.

He next argues that it cannot be the case either that (ii) reality consists only of entities of a single non-substantial kind, or that (iv) it consists only of a single (token) non-substantial entity:

But if, on the other hand, all things are quality or quantity, then whether substance is or is not, this is absurd, if one should call the impossible absurd. For none of the others is separable apart from substance. For all [the others] are said of substance as an underlying thing. (185a29-32)

This is the second part of the interdependence thesis: non-substances depend for their existence on the existence of substances. Quantities and qualities cannot exist on their own, without anything of which they are the quantities and qualities. Thus reality cannot consist only of quantities or of a single quantity (for example). Aristotle says that the claim that all things are quantity or quality is absurd ‘whether substance is or is not’ (185a29-30). The idea is that if the Eleatics hold that all things are quantities or a single quantity, and yet admit the existence of substance, then they are contradicting themselves (because if substances exist, then it is not the case that all things are quantities or a single quantity). If, on the other hand, they deny that substances exist, then they are committed to the existence of free-floating attributes, which is absurd.

It follows that neither essence monism nor entity monism can be true. By the interdependence thesis, if the world contains anything at all, it must contain both substances and non-substantial attributes. So it cannot be the case that there is only one entity, or that all of reality is of the same essence. Whatever way of being the Eleatics want to attribute to what is, both of these varieties of monism are impossible.

III.4 *Against Melissus' Unlimited One*

The second argument of the first sequence is directed against Melissus, and focuses on his claim that what is is unlimited (a claim Melissus argues for in B 2-4). Melissus takes the unlimitedness of what is to entail entity monism, the thought being that if anything that exists is unlimited in extent, there can be no room for more than one thing (B 6). In response, Aristotle argues that the unlimitedness of what is actually entails entity *pluralism*:

And Melissus says that what is is unlimited. Therefore what is is a quantity (ποσόν). For the unlimited is in the [category of] quantity, and it is not possible for a substance or a quality or an affection to be unlimited, except incidentally, if they are at the same time also certain quantities. For the account of the unlimited employs quantity, but not substance or quality. If, therefore, it is both a substance and a quantity, what is is two and not one. But if it is substance alone, then it is not unlimited, nor even will it have any magnitude at all. For then it will be a quantity. (185a32-b5)

Aristotle's first move is to argue that Melissus' claim that what is is unlimited entails that what is is a quantity (ποσόν), that is, the bearer of a quantitative property.²⁴ This is not absurd in itself, of course; the problem arises from the fact that Melissus also claims to be a monist. If what is is unlimited, and so the bearer of a quantitative property, then it cannot be that there is just one entity. There will be at least two entities: the quantitative property, unlimitedness, and the thing that has it, a

²⁴ The word ποσόν, which I am translating as 'quantity', is ambiguous between a quantitative *property* (e.g. the property of being six feet tall) and the *bearer* of such a property (e.g. a person six feet tall). I take it that the latter is what is intended here. Cf. also *Categories* 6 for these two uses of ποσόν.

substance. If, on the other hand, only the substance were to exist, bereft of any quantitative properties, the Melissan One would not have any size at all.

It seems reasonable to think that Aristotle intends this argument against Melissus to serve as a specific instance of a more general objection, namely, that the Eleatics' attribution of various properties to their one being is incompatible with their monism. We might speculate that Aristotle singles out the Melissan property of unlimitedness because he likes the particular irony of the example. This is a property which Melissus explicitly says entails monism, but which in fact entails its negation.

The Eleatics themselves apparently saw no tension between their monism, on the one hand, and their attribution of many different properties to what is, on the other. A plausible explanation of this is that they considered only the *underlying bearers* of properties to be beings, and not the properties themselves. Aristotle can thus be seen as highlighting (what he sees as) the Eleatics' naive and overly restrictive conception of what counts as a being. In his view properties are beings too. The significance of this fact extends beyond the critique of Eleatic monism, for later in *Physics* I he will develop a theory of principles—the theory of substratum, form and privation—which requires that we recognize properties as well as property-bearers as entities within our ontology. (The underlying substratum is a property-bearer; the form and the privation are properties predicated of the substratum.) Aristotle's critique of monism takes the Eleatics to task for overlooking the existence of properties, and in doing so prepares the way for the positive account of principles that is to follow.

IV. The Second Sequence of Criticisms (185b5-25)

Aristotle's second sequence of criticisms begins from the claim that one, like being, is said in many ways:

Further, since the one itself is also said in many ways, just as being is, it is necessary to investigate in what way they say that the universe is one. And we call one either the continuous, or the indivisible, or those things of which the account of their essence is one and the same, such as μέθυ and οἶνος.²⁵ (185b5-9)

I argued above that the claim that 'being is said in many ways' at 185a21 should be understood as a claim about ways of being, and not about senses of the word 'being'. Similarly for the claim that 'the one itself is also said in many ways': we should take Aristotle to be distinguishing three different ways of being one, rather than three different senses of the word 'one'.²⁶

To see this, consider the first item on the list: *continuous*. If Aristotle were suggesting that this is a possible sense of 'one', he would effectively be suggesting that the Eleatics' claim that 'what is is one' might be interpreted as the claim that 'what is is continuous'. But in that case the objection that follows would fail. The objection is that if what is is continuous, then 'the one is many': the Eleatics' one being will consist of infinitely many parts (185b9-11). But if the Eleatics' monistic thesis *just is* the thesis that 'what is is continuous', this consequence is hardly problematic. A thing's having infinitely many parts is obviously consistent with its

²⁵ These are two words for wine.

²⁶ *Pace* e.g. Wicksteed and Cornford (1934: 23-5); Cherniss (1935: 63-4); Ross (1936: 338); Gershenson and Greenberg (1962: 140); Stokes (1971: 1); Palmer (2004: 49); Bostock (2006: 103); Coxon (2009: 33).

being continuous. So if ‘continuous’ is intended to be a candidate for what the Eleatics *mean* by ‘one’, Aristotle has failed to come up with a good objection to their position.

In order to rescue the argument we should take Aristotle to be suggesting that continuity is a *way* in which what is might be one. Some objects are one by being continuous: what makes them one object, rather than many, is that each of their parts shares a boundary or a limit with some other part.²⁷ But suppose that the Eleatics are entity monists. Then we can easily understand why (in Aristotle’s view) they cannot consistently say that what is is one in this way. If the Eleatics’ one entity is continuous, then it is divisible into infinitely many parts, in which case there are many entities, not one. The ‘way of being one’ reading therefore gives Aristotle a good objection, whereas the ‘sense of “one”’ reading does not.

It is best, then, to take Aristotle to be distinguishing three different options about the way in which what is is one: (1) what is is one by being continuous, (2) what is is one by being indivisible, and (3) what is is one in account. This is not an exhaustive list of ways of being one; further ways are distinguished in the discussions of oneness in *Metaphysics* Δ.6 and I.1. Rather, the three options are selected for their relevance to the discussion of the Eleatics. Each is a plausible candidate for what the Eleatics might have had in mind as to the way (or *a way*) in which what is is one.

IV.1 Continuity

We can now look more closely at Aristotle’s arguments against each of the three options. The first option, as we have seen, is that what is is one by being continuous.

²⁷ For this understanding of continuity, see *Phys.* V.3, 227a10-12.

Parmenides explicitly claims that what is is continuous at B 8.6,²⁸ and he argues for this claim at B 8.22-5:

Nor is it divided, since it is all alike;
nor is it any more here, which would prevent it from holding together,
nor any less, but it is all full of being;
thus it is all continuous, for being draws near to being.²⁹

On what I take to be the most straightforward interpretation of this passage, it argues that what is is a spatially continuous object (among other things). There are no gaps between regions of being ('it is all full of being'); therefore what is is spatially continuous.³⁰ It is plausible that this is at least part of Parmenides' reason for claiming that what is is 'one' (B 8.6), given that anything continuous is thereby a unity.³¹

Aristotle's objection to the claim that what is is one by being continuous is based on the principle that 'the continuous is divisible to infinity' (εἰς ἄπειρον γὰρ διαιρετὸν τὸ συνεχές).³² It may be worth clarifying his notion of divisibility here. I take it that he does not mean that continuous things are *physically* divisible to infinity, where 'physical division' refers to a process whereby formerly adjoining parts of a

²⁸ Assuming that the orthodox reading of the start of the line—ἐν, συνεχές ('one, continuous')—is correct.

²⁹ οὐδὲ διαιρετὸν ἐστίν, ἐπεὶ πᾶν ἐστίν ὁμοῖον· | οὐδέ τι τῆ μᾶλλον, τό κεν εἴργοι μιν συνέχεσθαι, | οὐδέ τι χειρότερον, πᾶν δ' ἔμπλεόν ἐστίν ἐόντος. | τῷ ζυνεχὲς πᾶν ἐστίν· ἐὸν γὰρ ἐόντι πελάζει.

³⁰ Some think that Parmenides intends a temporal rather than a spatial sense of 'continuous' (see e.g. Owen 1960: 97). However, the spatial interpretation is strongly suggested by the use of the spatial adverb 'here' (τῆ) at line 23, and by the verb 'draws near' (πελάζει) at line 25.

³¹ Cf. also Barnes 1979: 11: 'When Parmenides juxtaposes "ἐν" ["one"] and "συνεχές" ["continuous"], it is only reasonable to suppose that the second word is intended to explicate the first'.

³² Aristotle sometimes treats this as a *definition* of 'continuous': see e.g. *Phys.* VI.2, 232b24-5 and *Cael.* I.1, 268a7-8; cf. also *Phys.* III.1, 200b16-20.

thing come to be separated by a spatial interval.³³ This does not seem to be what he intends, since he is making a general claim about continuous things, and in his view there are continuous things that are not subject to physical division, such as periods of time. I suggest that for something to be ‘divisible’ in the relevant sense it is enough if different parts of it can be distinguished from one another, regardless of whether they can be physically separated. The claim, then, is that for any continuous thing, *C*, it is possible to distinguish different parts of *C*, and of each of these different parts it is possible to distinguish further sub-parts, and so on *ad infinitum*.³⁴

Must an Eleatic agree that it is possible to distinguish multiple parts of any continuous being? Parmenides may be thought to deny this when he says, at the beginning of the passage quoted above, that ‘Nor is it [sc. what is] divided [διαϊπετόν], since it is all alike’ (B 8.22). The argument appears to be that, because what is is uniform, it is not divided into parts. But to this Aristotle might reasonably reply that if something is continuous then it *must* contain parts, even if it is perfectly uniform. Something continuous (συνεχές) is literally something that ‘holds together’ (συνέχεται). But it is hard to know what it could mean for a thing to ‘hold together’ if not that it has *parts* that ‘hold together’ *with one another*. And once the Eleatics have conceded this, they are in trouble. Or rather, they are in trouble if their position is that reality consists of only one entity.³⁵

³³ I take this definition of ‘physical division’ from Furley 1967: 4.

³⁴ This allows us to respond on Aristotle’s behalf to a problem raised by Bostock (2006: 104). Bostock worries that Aristotle’s own doctrine of parts is that the parts of a whole exist only in so far as they are capable of being separated from that whole. Since the Eleatics will claim that the putative parts of their one entity are *incapable* of being separated, they therefore have Aristotelian grounds on which to resist the present objection. In response to this worry, Aristotle can say that even if the Eleatic One lacks separable parts, it is nonetheless the case that different parts of it can be distinguished from one another.

³⁵ Immediately after arguing that the continuity of what is would contravene the Eleatics’ (entity) monism, Aristotle mentions a difficulty about parts and wholes (185b11-16). The basic difficulty is that of the relation between a whole and one of its parts, a pen and its nib, say: are they one thing or two? He does not explain why he mentions this difficulty here, but I

IV.2 Indivisibility

What is cannot be one by being continuous, at least not if the Eleatics are to be consistent entity monists. The second option that Aristotle considers is that what is is one by being indivisible. I take him to be putting this forward as a second way in which the Eleatic entity monist's one entity might be one. The previous criticism was that anything that is one by being continuous must be divisible into parts, and the existence of multiple parts is incompatible with entity monism. So it would seem that a better option for the Eleatic entity monist is to abandon the claim that what is is one by being continuous, and to say instead that it is one simply by virtue of its being indivisible into parts.

As before, the relevant notion of divisibility here is not physical divisibility. If the Eleatics are to avoid the problem raised against the first option, it is not enough for them to say that what is is physically indivisible, because physical indivisibility is compatible with having multiple parts. Rather, to avoid the objection they must say that what is is indivisible in the sense of being absolutely partless: a mereological atom. As noted above, Parmenides may claim that what is is indivisible in this

suggest that the point is that if the whole and the part were simply identical, his foregoing objection would not succeed. The divisibility of what is into parts would not add to the total number of entities in existence, and so would not threaten entity monism. Now, Aristotle also says that this difficulty is not *πρὸς τὸν λόγον* but is rather *αὐτὴν καθ' αὐτήν* (185b12). But I take it that he is not saying that the difficulty is *irrelevant* to his argument against the Eleatics, contrary to the usual view of interpreters. (If so, why mention it?) Rather, he is saying that this difficulty is not a difficulty *for his argument*, even though it nonetheless is a difficulty *in its own right*. The reason why the difficulty is not a difficulty for Aristotle's argument is that, however it is to be resolved, it is obvious that the correct answer will *not* be to say that the relation between a whole and one of its parts is that of identity. That answer is an obvious non-starter, and yet it is the only possible answer that could threaten Aristotle's foregoing argument against the Eleatics.

sense at B 8.22. Melissus also appears to have rejected the existence of parts, although this is controversial.³⁶

Aristotle's objection to this second option, unlike his objection to the first, is not that it contravenes entity monism. The objection this time is that the view conflicts with other Eleatic commitments: 'But if it is one by being indivisible, then nothing will be a quantity or a quality, nor then will what is be unlimited, as Melissus says, nor limited, as Parmenides says. For the limit is indivisible, but not the limited thing' (185b16-19).

The underlying assumption here is evidently that a thing can be extended only if it has parts. Given this assumption, an indivisible or partless Eleatic One must be unextended, like a geometrical point. It will therefore lack any quantity or size. Yet on Aristotle's interpretation both Parmenides and Melissus hold that their One has size.³⁷ So if they want to claim that what is is indivisible in the sense of being absolutely partless, they will be forced to abandon this view.

A little strangely, Aristotle also suggests that if what is is indivisible then it will lack any qualitative properties. This is odd because it does not in general seem true that indivisible things lack qualities.³⁸ The probable explanation is that he is thinking of the kinds of qualities that the Eleatics want to attribute to their One, such

³⁶ See Simplicius, *in Phys.* 87.6-7 (= the second half of B 9): 'being one, he [sc. Melissus] says, it must not have body; but if it had thickness, it would have parts, and no longer be one'. The attribution of this argument to Melissus has been questioned on the grounds that he should not want to claim that his infinitely large, plenistic One lacks 'body' and 'thickness'. For discussion see Palmer 2003.

³⁷ See the objection to Melissus at 185a32-185b5, and the objection to Parmenides at I.3, 186b12-14.

³⁸ Consider the first mover as described in *Metaphysics* A.7. It is indivisible in the sense of being partless (1073a5-7), and yet is it also supremely good (1072b29), a quality.

as, in Parmenides' case, its sphericity.³⁹ If the One is indivisible, then it will lack size, and if it lacks size, it will lack the sorts of qualities the Eleatics want.

The claim that what is is indivisible (in the sense of being partless) is also inconsistent with Melissus' claim that it is unlimited, and with Parmenides' claim that that it is limited. This is again for the reason that a thing cannot have such properties unless it is extended, and it cannot be extended unless it has parts.

IV.3 One in Account

The third and last option is that what is is one in account. For *X* and *Y* to be 'one in account' (in the relevant sense) is for the account (or definition) of the essence of *X* to be the same as the account (or definition) of the essence of *Y*. In other words, *X* and *Y* are one in account just in case they have the same essence. So, to say that 'what is is one in account' is to say that *everything that is* has the same account and the same essence. This is the position I earlier called 'essence monism', the position that all of reality is of the same essence.

As with the preceding two options, this third option too has a basis in the Eleatic texts. While there are variant readings, scholars now generally agree that at B 8.4 Parmenides claims that what is is *μουνογενές*.⁴⁰ One natural way (if not the only way) of interpreting him here is as claiming that what is is 'of one kind'.⁴¹ And a plausible restatement of this, in Aristotelian terminology, is that all of reality is of the same essence, or (equivalently) that everything that is is one in account. We might see

³⁹ Aristotle nowhere explicitly says that the Parmenidean One is spherical, but it seems likely that this is his interpretation of B 8.42-4 given that he seems to take literally Parmenides' description of what is as a spatially finite object 'equally balanced from the middle' (*μεσσόθεν ἰσοπαλές*): see *Phys.* III.6, 207a15-17.

⁴⁰ In favour of this reading, see the arguments of Tarán 1965: 88-93.

⁴¹ For this translation of *μουνογενές*, cf. Mourelatos 2008: 113-14; Palmer 2009: 140 n. 7.

further evidence of the Eleatics' commitment to essence monism in their claim that what is is all alike (see Parmenides B 8.22, Melissus B 7.1 and *MXG* 1, 974a12-14).

The objection to this final option runs as follows:

But if everything that is is one in account, as are mantle and cloak, then it follows that they are affirming the account of Heraclitus. For being good and being bad will be the same, and being good and being not-good, so that the same thing will be good and not-good, and a human and a horse, and their account will not be about the fact that the things that are are one, but about the fact that they are nothing. And being this quality and being this quantity will be the same.⁴² (185b19-25)

On the face of it, this objection is puzzling. The objection appears to assume that the claim that 'everything that is is one in account' entails, for example, that the properties good and bad have the same essence. But surely this is not a consequence of that claim. Of course, if one agrees that there *are* such properties as good and bad, the claim that 'everything that is is one in account' entails that they have the same essence. But why think that an Eleatic will agree to the existence of such things?

My suggestion is that Aristotle is implicitly attributing to the Eleatics the view that *it is impossible to speak or think of what is not*.⁴³ This view commits one to saying that, when we speak of the properties of good and bad, the referents of our terms 'good' and 'bad' exist (because one cannot speak of what is not). Hence, if everything that is is one in account, it follows that the referents of 'good' and 'bad'

⁴² I repunctuate Ross's text as follows: ταὐτὸν γὰρ ἔσται ἀγαθῶ καὶ κακῶ εἶναι, καὶ ἀγαθῶ καὶ μὴ ἀγαθῶ εἶναι, ὥστε ταὐτὸν ἔσται ἀγαθὸν καὶ οὐκ ἀγαθόν, καὶ ἄνθρωπος καὶ ἵππος, καὶ οὐ περὶ τοῦ ἔν εἶναι τὰ ὄντα ὁ λόγος ἔσται ἀλλὰ περὶ τοῦ μηδέν. καὶ τὸ τοιῶδι εἶναι καὶ τοσῶδι ταὐτόν.

⁴³ Many commentators take this view to be expressed in Parmenides B 2.7-8: 'For you could not apprehend what is not, for that is impossible, | nor indicate it' (οὔτε γὰρ ἂν γνοίης τό γε μὴ ἔδον, οὐ γὰρ ἀνυστόν, | οὔτε φράσαις).

are one in account. Similarly, the view commits one to saying that when we *think* of good and bad, we are thinking, in each case, of something that is (because one cannot think of what is not). Hence, if everything that is is one in account, it follows that the properties we are thinking of have the same essence.

Aristotle's criticism of the third option now becomes rather more intelligible. If an essence monist accepts that it is impossible to speak or think of what is not, then it seems that they must agree that the essence of the property we call or think of as 'good' is the same as the essence of the property we call or think of as 'bad'. And this seems to entail that the properties good and bad are identical. Thus there is reason to think that essence monism commits the Eleatics to the 'Heraclitean' consequence that supposedly opposite properties are identical, with the result that anything that has the property *F* also has the property not-*F*.

This is obviously a deeply problematic result for the Eleatics—especially given how adamant they are that nothing is both *F* and not-*F*.⁴⁴ If nothing is both *F* and not-*F*, and anything *F* is also not-*F*, then it follows that nothing at all exists. (At least, this follows given the uncontroversial assumption that a thing cannot exist without some predicate, *F*, belonging to it.) This, I propose, is why Aristotle claims that, if everything that is is one in account, the Eleatics' account 'will not be about the fact that the things that are are one, but about the fact that they are nothing' (185b23-5). It turns out that the Eleatics are committed not to monism but to nihilism, the (by their own lights) unthinkable and unspeakable thesis that nothing exists at all.

⁴⁴ See especially Parmenides B 7.1: 'For never shall this prevail, that things that are not are'.

V. Problems of One and Many (185b25-186a3)

We have now considered each of Aristotle's criticisms of Eleatic monism in *Physics* I.2. I have suggested that he attributes two kinds of monism to the Eleatics, entity monism and essence monism, and that he argues in this chapter against both kinds. His next main task, taken up in I.3, is to explain why the Eleatics' arguments for their theory are unsuccessful. But first, in the final section of the present chapter, he includes a brief excursus on some later philosophers and their struggles with some problems of one and many:

And the more recent of the early thinkers were also troubled lest the same thing should turn out for them to be at the same time both one and many. This is why some took away the 'is', like Lycophron, while others refashioned their speech, saying not that the human 'is pale', but that he 'has-paled', and not that he 'is walking', but that he 'walks', so that they would never make the one be many by adding the 'is', supposing that the one or being is said in only one way. But the things that are many, either in account⁴⁵ (for example, being pale and being educated are different, yet the same thing is both; therefore the one is many), or by division (as with the whole and the parts). But here they were already in difficulty, and they conceded that the one is many, as though it were not possible for the same thing to be both one and many—although not those that are opposed. For the one is both potentially and actually. (185b25-186a3)

⁴⁵ A thing is 'many in account' (πολλὰ λόγῳ) in this sense just in case it has many properties (pale, educated, and so on) the accounts of which are non-identical. This use of 'in account' should be distinguished from the use we just met at *Phys.* I.2, 185b19-20.

The opening sentence of this passage (‘the more recent of the early thinkers were *also* troubled...’) implies that the Eleatics were themselves troubled by the possibility that the same thing might be both one and many. Aristotle would seem to be thinking here primarily of Melissus, who argues that since what is has been shown to be one, it cannot have any feature that would cause it to be many, apparently assuming that it is impossible for a thing (in this case, what is itself) to be one and many at the same time.⁴⁶

The more recent thinkers mentioned at 185b25-186a3 are not Eleatic monists, but they share the Eleatic concern about the possibility of the same thing’s being both one and many. This concern motivates their proposed linguistic reforms: ‘some people took away the “is” ... while others refashioned their speech’. These reforms are intended to avoid a problem that arises when we say that one thing, such as Socrates, is human, is pale, is educated, and so on. This ordinary way of speaking has the supposedly paradoxical consequence that *one thing, Socrates, is many different things* (human, pale, educated).⁴⁷ In an effort to avoid this problem, the more recent thinkers proscribed the use of the verb ‘is’ in sentences such as ‘Socrates is pale’. Some of them, like the sophist Lycophron, proposed dropping the ‘is’ and using instead the verb-free formulation ‘Socrates pale’. Others, whom Aristotle does not name, ‘refashioned their speech’, replacing the copula-plus-predicate phrase ‘is pale’ with the single verb ‘has-paled’. These two reforms have a similar effect: they allow

⁴⁶ See e.g. the argument for uniformity reported at *MXG* 1, 974a12-14: ‘And being one, it is in every way alike; for if it were unlike, then, being more, it would no longer be one, but many’. Similar reasoning appears in B 7.2 (what is cannot perish, grow, be rearranged, or suffer pain or grief) and the controversial B 9 (what is cannot have parts). The idea that it is problematic for the same thing to be both one and many may go back to Zeno: see Eudemus *apud* Simplicius, in *Phys.* 97.11-21 (= fr. 37a Wehrli; partially repeated at 138.31-139.3).

⁴⁷ Cf. also Plato, *Soph.* 251a5-c6, where the Eleatic Visitor discusses the Late-learners’ enthusiastic encounters with the same problem. Note, however, that the Late-learners should be distinguished from the ‘more recent’ thinkers of *Physics* I.2. The problem is the same, but the response is different. The Late-learners ‘delight in not letting us call a human good, but [only] the good good, and the human human’ (251b9-c2).

us to escape the seemingly contradictory conclusion that the one is many, by giving us alternative ways of saying that Socrates has the properties of paleness, educatedness, and so on. If we can express these claims without actually saying that Socrates ‘*is pale*’ and ‘*is educated*’, then it seems that we can avoid the problematic result that one thing *is* many different things.

The same thinkers were also troubled by a second one–many problem: that wholes of parts appear to be both one and many at the same time. Take Socrates again: he appears to be both one thing (a single human being) and also many different things (his head, torso, arms and legs).⁴⁸ Aristotle suggests that the more recent thinkers were unable to find a solution to this second problem, and so were here forced to accept the (to them) unwelcome conclusion that the one is many.

Both of these problems can be addressed by distinguishing different ways of being one and many. For example, the second problem—the whole–parts problem—might be addressed by appealing to the distinction between being one (or many) *actually* and being one (or many) *potentially* (186a1-3). In general, a thing can be actually *F* and potentially un-*F* at the same time. A cup of tea may simultaneously be actually hot and potentially cold. Similarly with regard to one and many: a thing may simultaneously be actually one and potentially many. Socrates, for instance, is actually one in so far as he is a single human being, but he is also potentially many in so far as he has the potential to be decomposed into his various parts. Since these ways of being one and many are not opposed to one another, there is no difficulty in our saying that Socrates has both of these properties at once.

Why does Aristotle include this discussion of these problems of one and many? Certainly the discussion is prompted by his examination of the Eleatics—the

⁴⁸ For this problem see also Plato, *Parm.* 129c4-d6, and *Phil.* 14d4-e4.

worry about being one and many at the same time is Eleatic in origin. Nevertheless, the present passage does not seem to contribute directly to his refutation of Eleatic monism. Instead, it seems more likely that he is here thinking ahead to the theory of principles that he will argue for later in *Physics* I. That theory presupposes that it is possible for something to be both one and many at the same time. The underlying substratum is one in number but many in form or account,⁴⁹ and the generated natural substance is one in so far as it is a single unified object, but also many in so far as it is a composite of the substratum and the form. By taking the opportunity to address the persistent concern that being one is incompatible with being many, Aristotle is thus removing a potential obstacle to his own theory of principles.

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⁴⁹ See *Phys.* I.7, 190a14-17 and 190b23-4.

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