

no problem at all, if one absurdity is granted the rest follow – but this is no difficulty.

Two of the *Physics* texts (A2 and A3) are similar. A2 reports the view that there is a single motionless principle, and ascribes it to Parmenides and Melissus, while A3, which occurs in the same Aristotelian context only a few lines after A2, ridicules it, calling it *eristikos*, a term that describes views and arguments that are not meant seriously but are part of a competition where what counts is not the truth of one's position but the determination of its proponent to use even the most absurd debating moves in order to resist refutation. A3 describes the arguments of Parmenides and Melissus as invalid and based on false premises – which is bad enough! But then goes on to say that “the argument of Melissus is clownish (φορτικός) and contains no difficulty: if one absurdity is granted the rest follow – but this is no difficulty at all.” It is not clear which arguments A3 refers to. They are surely meant to include the arguments referred to in context (namely, Parmenides' and Melissus's arguments that what-is is one) but doubtless to include others as well, as texts A4, A5 and A6, which I will discuss next, show.

All three of these passages from the *Sophistical Refutations* complain about Melissus's argumentation in fragment B2, which goes as follows.

M1

ὄτε τοίνυν οὐκ ἐγένετο, ἔστι τε καὶ αἰεὶ ἦν καὶ αἰεὶ ἔσται καὶ ἀρχὴν οὐκ ἔχει οὐδὲ τελευτὴν, ἀλλ' ἄπειρόν ἐστιν. εἰ μὲν γὰρ ἐγένετο, ἀρχὴν ἂν εἶχεν (ἦρξάτο γὰρ ἂν ποτε γενόμενον) καὶ τελευτὴν (ἔτελεύτησε γὰρ ἂν ποτε γενόμενον). ὄτε δὲ μήτε ἦρξάτο μήτε ἐτελεύτησεν, αἰεὶ τε ἦν καὶ αἰεὶ ἔσται <καί> οὐκ ἔχει ἀρχὴν οὐδὲ τελευτὴν· οὐ γὰρ αἰεὶ εἶναι ἀνυστόν, ὅ τι μὴ πᾶν ἔστι.

Now since it did not come to be, it is and always was and always will be, and it does not have a beginning or an end, but it is unlimited. For if it had come to be it would have a beginning (for in that case it would have begun becoming at some time) and an end (for if it had come to be it would have ended at some time). But since it neither began nor ended, and always was and always will be, it does not have a beginning or end. For whatever is not entire [or, “all”] cannot always be.

Here are Aristotle's discussions.

A4

ὁμοίως δὲ καὶ ἐν τοῖς συλλογιστικοῖς, οἷον ὁ Μελίσσου λόγος ὅτι ἄπειρον τὸ ἅπαν, λαβὼν τὸ μὲν ἅπαν ἀγέννητον (ἐκ γὰρ μὴ ὄντος οὐδὲν ἂν γενέσθαι), τὸ δὲ γενόμενον ἐξ ἀρχῆς γενέσθαι· εἰ μὴ οὖν γέγονεν, ἀρχὴν οὐκ ἔχει τὸ πᾶν, ὥστ' ἄπειρον. οὐκ ἀνάγκη δὲ τοῦτο συμβαίνειν· οὐ γὰρ εἰ τὸ γενόμενον ἅπαν ἀρχὴν ἔχει, καὶ εἴ τι ἀρχὴν ἔχει, γέγονεν. (SE 5, 167b12-18)

Likewise in deductive arguments too: for example, Melissus's argument that the all is unlimited, which assumes that the all is ungenerated (because nothing can be generated² from what is not), and what has been generated was generated from a beginning, therefore if it has not been generated, the all does not have a beginning, so that it is unlimited. But this does not necessarily follow. For it is not the case that if everything that has been generated has a beginning, it is also true that if something has a beginning it has been generated.

A5

ἔστι δ' οὐ πάντως ἀληθές, οἷον ἂν ἢ κατὰ συμβεβηκός· καὶ γὰρ ἢ χιῶν καὶ ὁ κύκνος τῷ λευκῷ ταυτόν. ἢ πάλιν, ὡς ἐν τῷ Μελίσσου λόγῳ, τὸ αὐτὸ εἶναι λαμβάνει τὸ γεγονέναι καὶ ἀρχὴν ἔχειν, ἢ τὸ ἴσοις γίνεσθαι καὶ ταῦτο μέγεθος λαμβάνειν. ὅτι γὰρ τὸ γεγονὸς ἔχει ἀρχὴν, καὶ τὸ ἔχον ἀρχὴν γεγονέναι ἀξιοῖ, ὡς ἄμφω ταῦτα ὄντα τῷ ἀρχὴν ἔχειν, τὸ τε γεγονὸς καὶ τὸ πεπερασμένον. ὁμοίως δὲ καὶ ἐπὶ τῶν ἴσων γινομένων, εἰ τὰ τὸ αὐτὸ μέγεθος καὶ ἐν λαμβάνοντα ἴσα γίνεται, καὶ τὰ ἴσα γινόμενα ἐν μέγεθος λαμβάνειν. ὥστε τὸ ἐπόμενον λαμβάνει. (SE 6, 168b33-169a3)

But this is not always true, as when something holds accidentally. For (a) both snow and a swan are the same as something white, or (b) as in Melissus's argument, he assumes that to have been generated and to have a beginning are the same thing, or (c) that becoming equal and acquiring the same size are the same. For he is claiming that what has been generated has a beginning and that what has a beginning has been generated on the grounds that both of them – what has been generated and what is limited – are the same because they have a beginning. Similarly in the case of things becoming equal, if the things that are acquiring one and the same size are coming to be equal and the things coming to be equal are acquiring a single size. And so he is assuming the consequent.

A6

ἔστι δὲ διττὴ ἢ τῶν ἐπομένων ἀκολουθήσις· ἢ γὰρ ὡς τῷ ἐν μέρει τὸ καθόλου, οἷον ἀνθρώπῳ ζῶον (ἀξιοῦται γὰρ, εἰ τόδε μετὰ τοῦδε), ἢ κατὰ τὰς ἀντιθέσεις (εἰ γὰρ τόδε τῷδε ἀκολουθεῖ, τῷ ἀντικειμένῳ τὸ ἀντικείμενον)· παρ' ὃ καὶ ὁ τοῦ Μελίσσου λόγος· εἰ γὰρ τὸ γεγονὸς ἔχει ἀρχὴν, τὸ ἀγέννητον ἀξιοῖ μὴ ἔχειν, ὥστ' εἰ ἀγέννητος ὁ οὐρανός, καὶ ἄπειρος, τὸ δ' οὐκ ἔστιν· ἀνάπαλιν γὰρ ἢ ἀκολουθήσις. (SE 28, 181a23-30)

The logical sequence of consequence is double: either (a) the universal is a consequence of the less general, as animal is a consequence of human being (for it is claimed that if this is a consequence of that then the other follows the other too) or antithetically (b) (for if one thing follows another, the opposite of the one is a

² For the sake of consistency, I translate all forms of γίνεσθαι, ἀγέννητος and related words as “generate” “ungenerated” except in the few cases where forms of “become” are required for the sense of the passage.

consequence of the opposite of the other). And Melissus's argument is derived from this. For if what has been generated has a beginning, he claims that what is ungenerated does not have one, and so if the heaven is ungenerated it is unlimited too. But this is not so, since the logical sequence is backwards.

The *Sophistical Refutations* is a treatise on faulty reasoning. In A4 and A6 Aristotle locates faulty reasoning in arguing as follows: (Version 1) If that which has come to be has a beginning then that which has not come to be does not have a beginning. In A5 he describes the fallacy differently: (Version 2) What has come to be has a beginning so what has a beginning has come to be.

Note the differences in Aristotle's two versions. Version 1 is given in the form of a conditional: if A then B ("If that which has come to be has a beginning then that which has not come to be does not have a beginning," whereas Version 2 is assertoric: A therefore B ("What has come to be has a beginning, therefore what has a beginning has come to be").

Also the fallacy is different. Version 1 has the following form. "If anything that has property A has property B, then anything that does not have property A does not have property B." And even though in a particular case the conclusion may be true (something that has property A does in fact have property B), it does not follow from the premise. Consider the parallel argument, where A is "I am driving a Ferrari" and B is "I am driving a car." Version 1 says that if I am driving a Ferrari I am driving a car (which is true) then if I am not driving a Ferrari I am not driving a car (which is false; I could be driving a Jaguar instead and even if I am driving a mere Jaguar I am still driving a car). This is an instance of the logical fallacy known as denying the antecedent.

Version 2 is has a different form. "Anything that has property A has property B, therefore, anything that has property B has property A." This is fallacious too. Even though in a particular case the conclusion may be true, it does not follow from the premise any more than the argument that says that I am driving a Ferrari implies that I am driving a car (which is true), therefore I am driving a car implies that I am driving a Ferrari. This is an instance of the logical fallacy known as affirming the consequent.

Aristotle's purpose in the *Sophistical Refutations* is to discuss certain kinds of bad arguments. He noticed one in Melissus's treatise, but he is not particularly concerned to do more than say that it is fallacious. On the other hand, we might suppose that Melissus' error was not one of bad logic but simply of omitting to state a premise that he considered obviously true. For example, if I say that I am in Italy and I am very glad to be in Europe, there is a gap in the reasoning (since I have failed to note that Italy is in Europe), thinking that you will fill in the gap without help. It would take a very pedantic person or perhaps a professor of logic to point out that my argument was invalid. In the same way, if Melissus supposed that everything that has come to be had a beginning and that everything that had a beginning has come to be (which sounds reasonable, although perhaps in need

of some examples), he should not be charged with a fallacy. If Aristotle does not explain his objection any further, it is reasonable to suppose that he is simply quibbling. And in any case we may again fairly ask why Aristotle chose Melissus for his target.

A2 (quoted above, 91) reports the view, which Aristotle ascribes to both Parmenides and Melissus, that there is a single motionless principle and A3,³ (also quoted above, 91), following shortly after, ridicules the arguments of both Melissus and Parmenides as contentious.

Declaring "or rather Melissus' argument is clownish and it contains no difficulty, if one absurdity is granted the rest follow, but this is no difficulty at all" Aristotle shows himself to be more contemptuous of Melissus than he is of Parmenides. This harsh criticism is repeated in the following passage.⁴

A7

Τόν τε δὴ τρόπον τοῦτον ἐπιούσιν ἀδύνατον φαίνεται τὰ ὄντα ἐν εἶναι, καὶ ἐξ ὧν ἐπιδεικνύουσι, λύειν οὐ χαλεπὸν. ἀμφοτέροι γὰρ ἐριστικῶς συλλογίζονται, καὶ Μελίσσος καὶ Παρμενίδης [καὶ γὰρ ψευδῆ λαμβάνουσι καὶ ἀσυλλόγιστοί εἰσιν αὐτῶν οἱ λόγοι· μᾶλλον δ' ὁ Μελίσσου φορτικὸς καὶ οὐκ ἔχων ἀπορίαν, ἀλλ' ἑνὸς ἀτόπου δοθέντος τὰλλα συμβαίνει· τοῦτο δ' οὐθὲν χαλεπὸν]. ὅτι μὲν οὖν παραλογίζεται Μελίσσος, δῆλον· οἶεται γὰρ εἰληφέναι, εἰ τὸ γενόμενον ἔχει ἀρχὴν ἅπαν, ὅτι καὶ τὸ μὴ γενόμενον οὐκ ἔχει. εἶτα καὶ τοῦτο ἄτοπον, τὸ παντὸς εἶναι ἀρχὴν – τοῦ πράγματος καὶ μὴ τοῦ χρόνου, καὶ γενέσεως μὴ τῆς ἀπλῆς ἀλλὰ καὶ ἀλλοιώσεως, ὡσπερ οὐκ ἀθρόας γιγνομένης μεταβολῆς. ἔπειτα διὰ τί ἀκίνητον, εἰ ἐν; ὡσπερ γὰρ καὶ τὸ μέρος ἐν ὄν, τοδὶ τὸ ὕδωρ, κινεῖται ἐν ἑαυτῷ, διὰ τί οὐ καὶ τὸ πᾶν; ἔπειτα ἀλλοίωσις διὰ τί οὐκ ἂν εἴη; ἀλλὰ μὴν οὐδὲ τῷ εἶδει οἷόν τε ἐν εἶναι, πλὴν τῷ ἐξ οὗ (οὕτως δὲ ἐν καὶ τῶν φυσικῶν τινες λέγουσιν, ἐκείνως δ' οὐ)· ἄνθρωπος γὰρ ἵππου ἕτερον τῷ εἶδει καὶ τάναντία ἀλλήλων. (*Phys.* 1.3, 186a4-21)

If we proceed in this way it appears impossible that things-that-are are one and it is not hard to refute their arguments. Both Melissus and Parmenides argue contentiously. [Their premises are false and they are fallacious. Or rather Melissus' argument is clownish and it presents no problem, if one absurdity is granted the rest follow – but this is no difficulty.]⁵ It is clear that Melissus reasons fallaciously. He thinks that if he has assumed that if everything that has been generated has a beginning, then also what has not been generated does not have a beginning. Moreover it is absurd to think that there is a beginning of everything – [a beginning] of the thing, not of the time, and not [just] simple generation but also change in quality – as if qualitative change did not occur all at once. Moreover, why is it unmoving if it is one? Just as a part, which is one – this water, for

³ Neither of these passages presents the argument, which is discussed in A11 and A12, discussed below.

⁴ 186a7-10; this is thought by many to be a later insertion into the text, copied from A2.

⁵ The bracketed sentence repeats material in A3.

example – moves within itself, why couldn't the all move within itself too? And why shouldn't there be qualitative change? Furthermore it cannot be one in form either, except in what it is made of (this is the sense in which some natural philosophers say that it is one, but not in *that* way). For a human being is different from a horse and contraries are different from each other.

This critique evidently applies to the argument referred to in A4, A5 and A6. But the argument referred to in those passages aims to prove that what-is is unlimited, while A2 is part of Aristotle's comment on Melissus's argument that what-is is one. I take this to show that Aristotle was simply impatient with Melissus and did not think his argument deserved careful criticism.

The charge that Parmenides and especially Melissus "argue contentiously" is worth a comment. The word translated "contentiously" is ἐριστικῶς, derived from the noun ἔρις, which means "strife" or "quarrel" and also "contest" or "rivalry." It suggests competitive situations where each competitor aims to win by fair means or foul. In this case winning consists in presenting arguments (whether good or bad) against all the opponent's objections. Aristotle explains what he means in the present context: they argue illegitimately, using false premises and faulty reasoning, and in this way they argue even for the most absurd views.

The next two passages occur not far apart in the section of *Physics* 1.2 that discusses Parmenides' and Melissus's thesis that what-is is one.

A8

Μέλισσος δὲ τὸ ὄν ἄπειρον εἶναι φησιν. ποσὸν ἄρα τι τὸ ὄν· τὸ γὰρ ἄπειρον ἐν τῷ ποσῷ, οὐσίαν δὲ ἄπειρον εἶναι ἢ ποιότητα ἢ πάθος οὐκ ἐνδέχεται εἰ μὴ κατὰ συμβεβηκός, εἰ ἅμα καὶ ποσὰ ἅττα εἶεν· ὁ γὰρ τοῦ ἀπείρου λόγος τῷ ποσῷ προσχρῆται, ἀλλ' οὐκ οὐσία οὐδὲ τῷ ποιῷ. εἰ μὲν τοίνυν καὶ οὐσία ἐστὶ καὶ ποσόν, δύο καὶ οὐχ ἓν τὸ ὄν· εἰ δ' οὐσία μόνον, οὐκ ἄπειρον, οὐδὲ μέγεθος ἔξει οὐδέν· ποσὸν γὰρ τι ἐστὶ. (*Phys.* 1.2, 185a32-b5)

Melissus says that what-is is unlimited. Therefore what-is is a quantity, since the unlimited is in the [category of] quantity while a substance or quality or affection cannot be unlimited except accidentally, if at the same time they may also be some quantities. For the definition of unlimited contains a reference to quantity, but not to substance or quality. Now if what-is is both a substance and a quantity, then it is two things and not one, but if it just a substance, it is not unlimited nor will it have any size, for then it would be a quantity.

A9

ἀλλὰ μὴν εἰ ὡς ἀδιαίρετον, οὐθὲν ἐστὶ ποσὸν οὐδὲ ποιόν, οὐδὲ δὴ ἄπειρον τὸ ὄν, ὥσπερ Μέλισσός φησιν, οὐδὲ πεπερασμένον, ὥσπερ Παρμενίδης· τὸ γὰρ πέρασ ἀδιαίρετον, οὐ τὸ πεπερασμένον. (*Phys.* 1.2, 185b16-19)

But [if their one is one] as indivisible, nothing will be a quantity or a quality, so what-is will neither be unlimited as Melissus states nor limited as Parmenides does, for it is the limit, not the limited that is indivisible.

Aristotle asks in what sense is it one and approaches it from the standpoint of his doctrine of categories. As he says in the *Metaphysics*,

A10

τὸ ὄν λέγεται πολλαχῶς ... τὰ μὲν γὰρ ὅτι οὐσίαι, ὄντα λέγεται, τὰ δ' ὅτι ... ποιότητες ... οὐσίας ἢ τῶν πρὸς τὴν οὐσίαν λεγομένων ... (*Metaph.* Γ.2, 1003b6-9)

There are many senses in which a thing is said to be.... Some things are said to be because they are substances, others because they are ... qualities of substances ... or of things which are relative to substance....

Of course these concepts and distinctions were unavailable to Melissus or to anyone who lived before Aristotle, so his attempt to understand Melissus in these terms is anachronistic. But it is reasonable for Aristotle to proceed this way since his purpose is not to give a historically accurate account of Melissus's thought but to look to his predecessors for assistance in his own original thinking. He then deploys these distinctions in one of his arguments against the view that there is just one thing-that-is.

From Aristotle's point of view this is a good argument. What kind of thing are Parmenides and Melissus talking about? A substance? A quantity? A quality? They agree that what-is is one. In A8 Aristotle interprets Melissus's view that what-is is unlimited to entail that it is a quantity. It cannot be a substance too because then it would be two things (a substance and a quantity), not one. On the other hand, if it is a substance it is not a quantity and therefore is neither unlimited, nor does it have any definite size.

A9 begins with another view shared by Parmenides and Melissus: that what-is is indivisible, and infers from this that what-is is neither a quantity nor a quality, which entails that what-is is neither unlimited nor limited. Here we are concerned with the inference that it is not unlimited, which shows that Melissus' theory is inconsistent. But Aristotle's argument needs some clarification.

First, why does being indivisible imply not being a quantity or a quality? I suggest that this claim is connected with A8, that what-is cannot be both a substance and a quantity. For the same reason neither can it be both a substance and a quality. The same reasoning shows that it cannot be both a substance and a member of any other category. Given Aristotle's view that quantities and qualities do not exist in reality except as attributes of substances, what-is must be a substance that has no quantities or qualities. If it had one or more quantities or qualities Aristotle might have said that they can be divided (at least in our thought)

Eleatica 9

Richard McKirahan *et al.*

Aristotle and the Eleatics

Aristotele e gli Eleati

A cura di Massimo Pulpito e Bernardo Berruecos Frank



ACADEMIA

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Melissus on Limits and Beginnings. Reflections upon McKirahan’s Lecture on Aristotle’s Melissus

Refik Güremen

I.

I want to focus on Professor McKirahan’s comments on texts A4, A5, A6 and A7 (92-95). These texts must be treated as a group since they are closely connected in a particular way. In the first three of these texts, which come from the *Sophistical Refutations*, Aristotle identifies some logical fallacies in Melissus’ argument for the infinity of being (as it is stated in fragment B2=M1), whereas in A7, which comes from *Physics* I.3, Aristotle examines this ‘fallacious reasoning’ of Melissus with regard to some of its metaphysical implications.

As McKirahan observes, the fallacy that Aristotle identifies in A4 and A6 is different from the one in A5. However, the difference is not exactly where McKirahan marks it to be. This could have been a minor point in this otherwise very insightful lecture on Melissus, but I want to show that a clearer view of A5 will greatly contribute to our comprehension of Melissean metaphysics.

II.

In A4 and A6, Aristotle claims that Melissus commits the fallacy known as ‘denying the antecedent’. According to Aristotle, Melissus’ argument for the unlimitedness of the ‘all’¹ would go as follows:

- (1) If something is generated, then it has a beginning (from which it is generated).
From (1), it follows that
 - (2) If something is not generated, then it does not have a beginning.
 - (3) If something does not have a beginning, then it is unlimited.
 - (4) The ‘all’ is not generated (because nothing can be generated from what is not).
- From (2) and (4), it follows that

¹ Aristotle takes the fundamental Eleatic thesis to be: “all things are one being”; see *Physics* I.2 185a22 and I.3 186a5.

- (5) The 'all' does not have a beginning.
 From (3) and (5), it follows that
 (6) The 'all' is unlimited.

Aristotle does not tell us any more here about Melissus' possible background reasoning for (1) and (3); but he thinks that both are false, as is clear from other texts. *Sophistical Refutations* is a book concerned with false reasoning, and Aristotle's attention here is limited to logical issues. The problem with the above argument is the inference from (1) to (2): the former does not imply the latter. That is, 'if (1), then (2)' is false and the argument is invalid.

In their commentaries on A7, Philoponus and Simplicius defend Melissus against this criticism and they suggest a more charitable understanding of the above argument. Actually, they offer the same solution as McKirahan, namely, that instead of reproaching Melissus for an error of bad logic, we must rather suppose that he was simply omitting to explicitly state a premise that he considered obviously true (94). According to these commentators, Melissus would take 'what is generated' to be referring to the 'sensibles', and 'the ungenerated' to be referring to the 'intelligibles'. As a result, Melissus is to be understood as assuming a co-extensivity between 'being generated' and 'having a beginning'. Accordingly, in the interpretation of these commentators, (1) and (2) in the above argument are not meant, by Melissus, as the antecedent and the consequent of an if-clause but they are rather meant as two conjuncts of the same conjunction. In other words, in this reading, Melissus must be understood as saying "(1) and (2)" (and not "if (1) then (2)") which would yield the following biconditional:

If something is generated then it has a beginning *and* if it is not generated then it does not have a beginning

which is equivalent to saying:

Something is generated if and only if it has a beginning

which is still equivalent to saying:

Something is not generated if and only if it does not have a beginning.

If we allow Melissus this biconditional, we must accept the claim by the commentators that his argument is valid. It is important to appreciate that the way McKirahan makes this point proves that, on a more charitable reading of Melissus, we do not have to commit ourselves to any neo-Platonic assumption about the 'sensibles' and the 'intelligibles'. I want to show that such a reading constitutes a reasonable line of defense for Melissus against Aristotle's criticisms.

III.

When it comes to A5 (as also observed by McKirahan), Aristotle charges Melissus with a different form of fallacy: it is the fallacy known as 'affirming the consequent'. McKirahan's formulation of the fallacy is as follows: "Anything that has property A has property B, therefore, anything that has property B has property A" (94). Although this way of formulating Aristotle's charge is ultimately true, it nonetheless misses the real point of Aristotle's criticism, which is about the way in which Melissus 'affirms the consequent'. To be more precise, the problem with McKirahan's formulation is that, as he puts it, the fallacy is actually no different than the one identified in A4 and A6. That is, his formulation does not explain the difference in form between the fallacy in A5, on the one hand, and the one in A4 and A6, on the other. In his formulation, to move from "if Ax, then Bx" to "if Bx, then Ax", 'denying the antecedent' as in A4 and A6 would just be enough. Melissus would, in this case, be reasoning as follows:

- (7) if Ax, then Bx,
 then
 (8) if not-Ax, then not-Bx,
 which is nothing other than the contrapositive of
 (9) if Bx, then Ax.

Although (7)-(9) gives the main structure of the argument that Aristotle ascribes to Melissus in A5, it is not enough to represent it adequately and it needs to be formulated more precisely. McKirahan's "driving a Ford-driving a car" example only weakly captures Aristotle's criticism when he says in A5 that Melissus "is claiming that what has been generated has a beginning and that what has a beginning has been generated on the grounds that both of them – what has been generated and what is limited – are the same because they have a beginning."² Here, Aristotle takes Melissus to be holding that if something x has a property A, then whatever has the property A is (the same as) x. Consequently, according to Aristotle in A5, the initial premises of Melissus' argument are as follows:³

- (10) What is generated is what has a beginning. (= 1)
 (11) What is limited is also something which has a beginning. (=3)
 Since what is limited has the same property of 'having a beginning' as what is generated, then
 (12) What is limited is (the same as) what is generated.

² McKirahan's translation.

³ This reconstruction is a slightly modified version of Schreiber's in Schreiber 2003, 130-137.

Although this is a more adequate and precise interpretation of A5, a difficulty arises if it is true: in this case, Aristotle would be attributing to Melissus two separate arguments marked by two different fallacies: one in A4 and A6 (i.e., ‘denying the antecedent’) and another in A5 (i.e., ‘affirming the consequent’). As it is, the former is not visible in (10)-(12).

It seems possible, however, to integrate both of these fallacies into one combined argument as follows:

- (10 = 1) What is generated is what has a beginning.
- (2) Therefore, whatever has a beginning is what is generated.
- (11 = 3) What is limited is also something which has a beginning.
- (12) Therefore, what is limited is what is generated.
- (4) The ‘all’ is ungenerated.
- (6) The ‘all’ is unlimited.

This construal incorporates the fallacy of ‘denying the antecedent’ in the fallacy of ‘affirming the consequent’. More accurately, the latter turns on the former. It is worth noting that in the broader context of A6, Aristotle says that ‘denying the antecedent’ is actually a specific form of those types of refutations that draw their conclusion through the consequent. On the basis of this, we can confidently conclude that the above construal is precisely the reasoning that Aristotle ascribes to Melissus in the texts A4, A5 and A6. McKirahan’s analysis of A5 does not help us obtain this argument.

IV.

To turn this reasoning into a valid one, it is enough merely to understand it as constructed on biconditionals, as suggested by Philoponus and Simplicius. It seems, after all, perfectly reasonable to assume that Melissus could have meant the verb ‘to be’ in (10) and (11) in the same sense as in (12), namely, as an expression of co-extensivity. Accordingly, in a more charitable reading, Melissus’ original reasoning for the unlimitedness of being⁴ must be something like as follows:

- (13) Something is generated if and only if it has a beginning.
- (14) Something is limited if and only if it has a beginning.
- (15) Therefore, something is generated if and only if it is limited.
- (16) Being is ungenerated.
- (17) Therefore, being is unlimited.

This argument is valid. Now, I want to add some remarks on the metaphysical implications of seeing Melissus’ argument in this form. More specifically, I want to show

⁴ I replace Aristotle’s “the all” with “being”.

how Melissus' argument, seen in this way (i.e., as in [13]-[17]), proves to be more robust than it might appear against criticisms coming from Aristotelianism.

Aristotle claims, in A3 and A7, not only that Melissus' reasoning was fallacious, but also that his premises were false. Elaborating on this claim in his commentary on A7, Themistius sets out to show that even if we grant Melissus his fallacious inference from (1) to (2), both of these premises are false in the very sense in which Melissus needs them to be true.⁵

Following Aristotle in A7, Themistius claims that Melissus draws on an ambiguity in the term 'beginning', since "in fact one beginning is according to time (as in our saying 'an animal has beginning for its generation') another according to the object, i.e., the magnitude (as in our saying 'there is a beginning for a road and a distance')."⁶ He continues to argue that (1) and (2) are true in the former, temporal, sense of 'beginning', but both are false in the latter, spatial, sense.

I will keep the criticism about (1) until the last section of this paper. As for (2), Themistius claims that it is false, since there are counter examples to it if we take 'beginning' in the spatial sense: there are things which are not generated and yet do have a beginning in the spatial sense, namely, "the sun, the moon and the rest of the stars."⁷ (2) would be true for these entities only in the temporal sense since they do not have a temporal beginning as they have not been generated. Consequently, Melissus' argument (as in [1]-[6]) cannot be taken to prove the spatial infinity of being since it contains a false premise.

Themistius continues to claim that this objection to (2) translates into a *second* charge of invalidity. The most that Melissus can prove by using the temporal sense of 'beginning' is the eternity of being⁸ and the case of the heavenly bodies would not then constitute a counter example to the argument. This, however, would not save Melissus because he actually means to prove by this argument that being is unlimited in magnitude. As it is, Melissus' argument commits the fallacy of equivocation since it draws on an ambiguity between the temporal and the spatial senses of the term 'beginning': he starts with the temporal sense (which makes his premises true) but he wants to conclude spatial unlimitedness from this. The conclusion he wants does not follow from the truth of its premises; the argument is invalid. It should be noticed that this charge of invalidity is different than the charge of fallacious reasoning from (1) to (2). It is brought up under the assumption of granting the latter to Melissus. Discerning this point is important in order to see how this second charge of invalidity is related to the conclusion of the argument. A proof of the spatial unlimitedness of being would require true premises about the relation between the spatial sense of 'beginning', 'being limited' and 'being generated'. This,

⁵ See particularly Themistius, *in Phys.*, 7,25-8.11.

⁶ *In Phys.*, 7.26-28. Todd 2012 translation.

⁷ *In Phys.*, 8.5. A6 must be a source for Themistius to come up with these counter examples contained in his comments on A7. Otherwise, this line of objection is not really apparent in A7. Themistius considerably extends it by observing the implications of A7.

⁸ See also Philoponus, *in Phys.*, 16.53.1-9.

however, cannot be secured because the case of the heavenly bodies would come out again as a counter example: having a spatial beginning as they do, these entities are limited in space, although they are eternal and not generated. In other words, Melissus cannot truly establish a relation of entailment (as he means to do from [4] to [6]) between ‘being limited’ and ‘being generated’ under the spatial conception of ‘beginning’.

These criticisms turn around the assumption that, in the spatial understanding of ‘beginning’, (2) is false. If so, then they must be equally pertinent for the argument as in (13)-(17), since (13) incorporates (2) as a conjunct (therefore it is false) and (15) must also be false since it claims that being limited implies generation.

V.

I want to show how Melissus could answer these criticisms and defend his argument as in (13)-(17). To do this, I will use Simplicius’ commentary on A7. Mathilde Brémond elegantly and perspicaciously analyzes Simplicius’ remarks on A7.⁹ However, following McKirahan’s approach in his lecture, I want to show how Melissus could be seen to procure himself with a genuine dialectical defense against these Aristotelian criticisms without appealing to any Neoplatonist assumptions on our part.

Simplicius’ comments demonstrate that Melissus can answer these criticisms in two ways:

a. Melissus can reject the case of heavenly bodies as a counter example. He can claim that they must, in fact, be generated if (as believed by the Aristotelians) they exist and are eternal.

b. He can also defend (15) since he can claim that having a beginning in space and being thus limited would imply generation.

Consequently, if Melissus can be shown to be able to make these two points, then he can defend (2) as true both in the spatial and the temporal senses of ‘beginning’.

a. Simplicius thinks that the counterexample of the heavenly bodies can itself be countered if he can show that, according to Melissus, things which have a beginning and an end in size have these things also in time, and vice versa.¹⁰ If this can be shown, then we can legitimately conceive of things like heavenly bodies as being generated, even though they persist eternally. This is the conclusion Simplicius aims at by the following reasoning:

⁹ See particularly Brémond 2017, 113-119.

¹⁰ Simplicius, *in Phys.*, 9.109.13-14.

[Melissus] donne l'impression d'avoir bien remarqué, avant même Aristote, que tout corps, même éternel, s'il est limité à une puissance limitée et pour ce qui dépend de lui est toujours à une fin temporelle ; et en raison de la domination incessante du producteur, il est à la fois toujours à un commencement et éternel.¹¹

As Brémond puts it, Simplicius “cherche à montrer que même les êtres limités par un corps mais qui sont éternels ont un commencement et une fin dans le temps.”¹² Corporeal things, having a limited power of existence, are actually always at the end of their existence; that is, they cannot maintain themselves, by themselves, in perpetual existence. But they are incessantly being held back from arriving at this end by an incessant movement perpetually conferred on them by the Creator. They are thus always kept at a starting-point in existence, which means that they are being perpetually generated by the *paragon* and this is how they persist eternally.¹³ Consequently, the heavenly bodies, having a spatial beginning because they have a body, also have a beginning in the temporal sense, which amounts to saying that they are, after all, generated.

This is ingenious, but this is also helping Melissus too much. Cannot Melissus make the same point using his own resources? I think he can, and we can see that he actually does, if we consider, once again, why he believes that being *has to be* sempiternal, i.e., existing at all times. Assuming that Melissus conceives time (like Zeno)¹⁴ as being composed of indivisible instants, we can reasonably assume that he thinks that every ‘now’ must be a limit to the existence of things which have a body: no such thing continues to exist in the past; nor does it exist already in the future. Such things exist *only now*; and this must be true even if they are eternal. Even if we allow their eternity to be secured by divine intervention or by some other means, the temporality of the existence of corporeal things implies that the *actual* existence of such things is limited to ‘now’. However, this would mean (as also observed by Simplicius) that every ‘now’ is actually an end for the existence of such things. Considered in this way, if we want to assign to corporeal things a continuous existence in time (whether this be for a limited amount of time or for eternity) we have to assume that each thing has to be *regenerated* from one instant to the other throughout its persistence in time. In other words, each thing, coming to an end in t_1 , has to be regenerated into t_2 if it is to continue its existence in time. It follows that every ‘now’ in the existence of a corporeal thing would be for it both a beginning and an end. This must have seemed impossible to Melissus because such an intermittent temporality would imply intermittent existence, which would, in turn, imply *ex nihilo* generation from one instant to the other.

¹¹ Simplicius, *in Phys.*, 9.109.9-14. This is Brémond 2017 translation, which I find preferable to Huby and Taylor 2011 translation.

¹² Brémond 2017, 117.

¹³ I follow Brémond 2017, 117 here.

¹⁴ Simplicius also seems to make the same assumption about Melissus' notion of time in the above quoted passage.

Once the assumption of a perpetual generation by a Creator is taken out of the picture, we can see how a Melissean dialectical move against Aristotelian criticism could go: either the Aristotelians have to accept that the heavenly bodies are actually generated and that *ex nihilo* generation must, after all, be possible, or they have to accept that the heavenly bodies do not truly exist (as Melissus would himself say about them on the basis of fragments B2=M1 and B8).

The role that the idea captured in (14) plays in this defense must be clear: if something is temporally limited from the end, this also implies a beginning for it; and if it has such a beginning, then it is also limited from the beginning. But this notion of beginning implies generation as stated in (13); and the heavenly bodies do not fall out of the scope of these two premises. Hence, (15) must also be true about them.

We have to note, however, that this line of defense comes at a price for Melissus. One major difference between Parmenides and Melissus is the latter's explicit insistence on talking about the sempiternity of being in terms of three-dimensional temporality. David Sedley thinks that "this need not be a significant philosophical disagreement" since "Melissus may simply see himself as presenting Parmenidean thought in the philosophical idiom which his audience understands."¹⁵ This, I think, has to be accepted as a more reasonable understanding of Melissus, otherwise he faces a serious problem: if Melissus literally means that being exists at all times and if he also has to avoid the above consequences arising from the limitations of 'now', then he has to assume that his 'being' must *still* exist in the past, exist right now, and *already* exist in the future. This hardly makes sense.

However, showing that corporeal things like the heavenly bodies are actually generated would not be enough for Melissus. He also has to show that this follows from their being limited in the spatial sense.

b. I think that Melissus can claim that if something has a beginning in the spatial sense (like the heavenly bodies) then we can conceive of it as a generated thing. I want to show how this sense of generation is relevant to his notion of being: that being is ungenerated implies, for Melissus, not only that it does not have a beginning in time, but also that it cannot be conceived as having any spatial beginnings either.

To see this point, we can start by reconsidering the examples that Themistius uses to distinguish between the temporal and the spatial senses of 'beginning'. For the former sense, he gives the generation of an animal as the example; and, for the latter sense, he gives the example of the beginning of a road or a distance. How are these two really different? The spatial beginning of the generation of a substance must be *at the same time as* its temporal beginning.¹⁶ I do not mean to say that the temporal beginning, *qua* temporal, is identical to the spatial beginning *qua* spatial.

¹⁵ David Sedley 2006, 126.

¹⁶ It is worth noting that in *Metaphysics* V, 1013a4-7, Aristotle uses the generation of an animal as an example for "beginning" in the object.

It is not. I rather mean to say that the spatial beginning of an emerging substance always has its own temporality. The same is true for the road example. The beginning of a road, *qua* beginning, can be conceived as being a *beginning* only in a temporal sense. Starting to cross a road is necessarily starting it at a certain point in time. In other words, a spatial point on a road can be conceived to be a *beginning* for this road, but only if we take it to come *before* the other parts of the road. Therefore, 'beginning' in the spatial sense cannot be conceived independently of time: spatial 'beginning' is necessarily temporal. The same must also be true about spatial 'endings'. Imagine a thing which has come into being at a certain point in time and is destined to continue to grow infinitely. Every 'now' in time would mark both a temporal and a spatial limit for such a thing, if it will not continue its growth ahead of itself, which seems impossible.

Simplicius seems to have a strong grasp of this point in Melissus' thought, when he says:

So when Melissus adds: 'What has not come to be does not have a starting point' he then says that what truly exists is without parts and has neither starting-point nor end: hence it is also infinite. [...] And that which does not come to be in this sense of the term has truly been said not to have a starting-point, being without dimension and without parts. [A thing which has a body] has parts, and a starting-point and an end.¹⁷

Simplicius' reading is that, according to Melissus, having parts *is* having a beginning and end, and vice versa. The focus, however, in Simplicius' remarks is on the relation between having parts *as* having a beginning and an end, on the one hand, and being generated, on the other. As Brémond puts it, Simplicius claims that being a 'generated thing' has to be understood as being a thing with parts:¹⁸ a generated thing would have parts and a thing with parts would be a generated thing. In Simplicius' interpretation, we can safely replace 'having parts' with 'having a beginning and an end'. The relation between 'having parts' and 'having a beginning and an end' is not difficult to make sense of. But the same is not true about the relation between 'having parts *as* having a beginning and an end' and 'generation'. The difficulty obviously lies in conceiving 'having parts' *as* 'having a beginning and an end' *in a way to* imply generation. This is why the case of heavenly bodies is a reasonable objection to Melissus, although the nature of this relation is not clear in Simplicius' comments either. He seems rather to assume that the things that Melissus calls 'generated' all have parts, and vice versa; that is, these two features are co-extensive. Should not there be a metaphysical ground for this co-extensivity?

A solution to this difficulty can be found if we can conceive of a temporal sense for 'having parts'. But such a sense is already available if 'beginning' in the spatial sense is necessarily temporal, as I claimed above. This temporality is a function of a

¹⁷ *In Phys.*, 9.108.13-24. Huby and Taylor 2011 translation.

¹⁸ Brémond 2017, 114.

certain relation between parts: a part can only be conceived of as the spatial *beginning* of a thing if it is conceived to come *before* the other parts.

To see how this is related to generation, we need to see that the temporal relation between the parts of a bodily whole can be viewed in two ways, which are also reflected in the relation of the same parts to the whole itself. Parts of a whole can be viewed either as synchronically or diachronically related to each other. The parts of a completed whole are synchronous with each other in the sense that they can be viewed as existing at the same time as each other. In this sense, none of the parts can be said to exist before or later than any other. This would be, more or less, the same thing as viewing the whole in its completeness. In this sense, the whole itself and the parts are also synchronous with each other: you have the whole when you have all the parts at the same time, and you have all the parts at the same time only when you have the complete whole. But parts of a whole can also be viewed in a non-synchronic (i.e., in a diachronic) relation to each other *and* to the whole. You can begin from one of the parts and then, moving from one to the other, keep adding one to the other until you finally arrive at the last piece, completing the whole. In this case, you will not have the whole until you complete going over each existing part, one after the other, in an accumulative way. Some of Zeno's paradoxes are built on the possibility of these two different temporalities between parts and wholes. When the parts are viewed in a diachronic relation to each other, the whole will appear only as emerging out of its parts: it will appear as coming into existence out of its parts. Therefore, any whole, of which any part can be taken as a spatial beginning, can be conceived as having come into existence out of its parts. This is what we actually mean when we call an animal a generated thing: we do not only mean that it started its development at a certain point in time; we also mean that it has grown into being the whole that it is, through a successive development of its parts.

We still need to see if Melissus himself would endorse this conception of 'being generated'.¹⁹ We can appreciate that he does, if we see that his notion of 'unlimitedness' is specifically designed to mean that there exists no spatial point from which you can possibly start being. I have elsewhere argued at length that, according to Melissus, 'limits' are not so much the diachronically emerged beginning and ending

¹⁹ The ultimate evidence for the relevance of this notion of generation for Eleatism is to be found in the *Parmenides*. The following passage shows that this notion of generation has its own place in an Eleatic's dialectical toolkit. Parmenides, having argued for the thesis that the one must have parts, now argues that if it has parts, then it must also partake of time: 'Could the one have come to be in a way contrary to its own nature, or is that impossible? – Impossible. – Yet the one was shown to have parts, and if parts, a beginning, an end, and a middle. – Yes. – Well, in the case of all things – the one itself and each of the others – doesn't a beginning come to be first, and after the beginning all the others up to the end? – To be sure. – Furthermore, we shall say that all these others are parts of some one whole, but that it itself has come to be one and whole at the same time as the end. – Yes, we shall. – An end, I take it, comes to be last, and the one naturally comes to be at the same time as it. And so if in fact the one itself must not come to be contrary to nature, it would naturally come to be later than the others, since it has come to be at the same time as the end. – Apparently. – Therefore, the one is younger than the others, and the others are older than it. – That, in turn, appears to me to be so.' (153b8 – d5; trans. M.L. Gill and P. Ryan in Cooper 1997).

points of a generated thing, but are the boundaries of a thing at any and every point of its magnitude.²⁰ Fragment B3 puts the temporal and spatial infinity of being in an isomorphous relation: "But just as it always is, in the same way it is necessary that it also always be unlimited in magnitude."²¹ The second use of 'always' in this fragment has also been noticed by other scholars.²² By putting the emphasis on a temporal aspect of spatial unlimitedness, Melissus seems to be saying that being has *never* grown into having the magnitude it has now, which is unlimited: since being has never undergone any temporal process of growth, it wouldn't have any temporally grown limits, even though it exists. To this first point about the second use of 'always' in B3, I want to add that Melissus' use of such a temporal qualifier for a spatial feature of being, also means to say that since it is ungenerated, being would, not only *never* but also *nowhere*, have any temporally grown limits. Consequently, according to Melissus, being unlimited is to be understood as not having *any* extremities at which being can be said to start or end. In other words, since being is ungenerated, it does not have any parts which can be taken as its beginning and be viewed as coming *before* the other parts. Being does not have such parts and it has never had them.

This entire idea is captured in the premises as expressed in (13) and (14). (14) has to be read as stating that something has boundaries if it has parts that can be conceived of as coming *before* its other parts, and vice versa. This mode of understanding (14) is necessary if we want to see how 'beginning' in the spatial sense can imply 'generation' in (13). Once this is secured, Melissus' argument would avoid the fallacy of equivocation and (15) would follow from these premises.

VI.

If this (i.e., *a* and *b*) is Melissus' line of defense, then there is an obvious objection to it: *a* and *b* do not turn on the same notion of generation. 'Being generated' in *a* is coming into existence at a certain point in time (generation_t) whereas according to *b*, something can be said to be generated if it can be conceived of as having emerged out of its parts (generation_p). Moreover, generation_p does not even imply generation_t. Something can be conceived of as having emerged out of its parts and yet can still be ungenerated_t. The Aristotelian counterexample of the heavenly bodies would be such a case (if they can defend it against the Melissian argument in *a*, i.e., that they are in fact generated_t).

This objection obviously has weight; but I think we should benefit from it in order to have a clearer grasp of the positions of both parties in the debate. According to the picture which comes out of *a* and *b*, Melissus endorses the claim that every corporeal thing is generated in both senses:

²⁰ See Güremen 2021.

²¹ Simplicius, *in Phys.*, 9.109.31-32.

²² Cardini 1967.

G= For all x, if x is a corporeal thing, then it is generated_p and generated_t.

Consequently, Melissus' thesis about 'being' would consist in saying that none of these senses can truly be said of 'being': being has never come into existence at a certain point in time; and it is not something which can possibly be conceived of as having emerged out of its parts. That being is ungenerated_t according to Melissus, can be easily seen from the fragments, but that he also conceives of it as ungenerated_p can be seen if we understand (as I claimed above) his notion of 'limits', not only as a temporally grown beginning and ending of a thing, but also as boundaries, i.e., extremities of a thing at any and every point of its magnitude. Denying generation to 'being' in both its senses, Melissus will conclude that 'being' cannot be limited in any sense that generation_t and generation_p could possibly entail.

Having clarified Melissus' thesis in this way, we can better appreciate the overall point in the Aristotelian criticism of Melissus. The example of the heavenly bodies is articulated by Themistius on the basis of some well-known Aristotelian ideas about the nature of the universe. There is, however, another objection explicitly raised by Aristotle himself in A7. This is the counterexample of 'instantaneous generation'. Aristotle claims that there are cases of generation (such as freezing and the illumination of air, to use Simplicius' examples) in which there is no spatial *beginning*, since in such cases "it is not true that everything that comes to be has a starting-point with regard to the thing, but some things all together and their parts as a whole begin to change, as do the things that freeze, in which it is not in any particular part that the change with regard to freezing begins, but as a whole and at once."²³ In short, there are certain cases of generation which do not occur in a successive way from one part to the other in a way that has a relation of *before-and-after* between the parts, but they occur all at once, in all parts, as a whole. This example might strike one as being too 'tortuous' to worry about, but I think we can now appreciate the real force of it. If the case of the heavenly bodies and the instantaneous generation example are taken together, the overall Aristotelian criticism of Melissus amounts to claiming that G is false: there are things (such as the heavenly bodies) which can be conceived of as being generated_p while they are ungenerated_t; and there are also things (such as the instantaneously generated things) which are generated_t but are not generated_p.²⁴ That Aristotle addresses the issue of generation_p can be taken as further evidence that Melissus held such a notion of generation.

²³ Simplicius, in *Phys.*, 9.106.29-32. Huby and Taylor 2011 translation.

²⁴ But see Gershenson and Greenberg 1961 who think that space does not enter into the argument in *Physics* I.3 186a10-16 at all.

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