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EVERYTHING IN ITS RIGHT PLACE:
ZENO'S PARADOX OF PLACE IN PART 2 OF THE *PARMENIDES**

Abstract. Part 2 of the *Parmenides* is an obvious place to examine Plato's reception of Zeno; after all, it is a demonstration apparently based on Zeno's method and one of the main characters of the dialogue is Zeno. Nevertheless, it has received little attention as a source for understanding Plato's engagement with the historical Zeno. Here, I show that Plato engages with Zeno's paradox of place in the first deduction of Part 2 of the *Parmenides*—and in sophisticated and interesting ways.

I begin by addressing some methodological issues. I then examine Eudemos' account of Zeno's paradox of place as reported by Simplicius and Aristotle's account in his *Physics* 4.3 in order to reconstruct it. I proceed to examine the arguments for the one's being nowhere, if it is, in the first deduction of the *Parmenides*. I argue that there are good reasons to suppose that Zeno's paradox of place is at issue there. Finally, I reflect on what these arguments reveal about Plato's engagement with Zeno's paradox of place.

Keywords: infinite regress, paradox, place, space, reception.

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1. Accuracy and Assumptions

Examining Plato's engagement with Zeno's paradox of place (henceforth PP) in Part 2 of the *Parmenides* is hardly straightforward. First, PP may have been performed aloud rather than written down.¹ If so, subsequent records may be more unreliable than those based on an original text, especially if transmitted through multiple people; orally transmitted records, I take it, tend to be more vulnerable to change along the way than written ones. Second, one of the two best sources for PP is Aristotle's *Physics* 4.3. We do not know how Aristotle came by the paradox—and even if he had access to a reliable record, he may have adjusted it to suit his own philosophical agenda (an account of place).² Furthermore, Aristotle only gives one full description of the paradox and it is very brief indeed. Thus, it is hard to extract the paradox as Zeno himself presented it from *Physics* 4.

Third, the other best source for PP is Simplicius' *In Aristotelii physico rum ...* 4, in which Simplicius reports Eudemus' account of the paradox. Again, it is very brief and, like Aristotle, we do not know what sources Eudemus relied on or whether he adjusted the paradox in order to suit his own philosophical ends. In fact, we might even think that he simply repeats Aristotle's version of the paradox. If so, we effectively have only one account and no second version to compare it to. In addition, whilst it appears that Simplicius had access to parts of Zeno's written work,³ he does not appeal to any such texts for PP (perhaps because it was orally transmitted)—and we do not know what sources for the paradox he had, other than Eudemus and Aristotle. Moreover, we might think that any third-hand report is more susceptible to error than a first- or second-hand one.

Fourth, although I focus on a small passage of Part 2, there are some thorny disagreements about the text that are relevant for my project in this paper. One such disagreement is about whether Part 2 is connected to Part 1 such that the *Parmenides* is a single, unified dialogue and how, if at all, it is related to other dialogues.⁴ Another is over the purpose of the demonstration (which is presented as a kind of gymnastics), and, relatedly, whether or not we should take the arguments we find in Part 2 seriously.⁵ Understanding the key terms—

¹ See D. Sedley, *Zenonian Strategies*, pp. 21–22.

² See Simplicius, *In Aristotelii physico rum ...* 562.35–573, expresses doubt that the wording of Zeno's paradox matched Aristotle's, suggesting that at one point Aristotle likely substituted Zeno's being *somewhere* with being in a *place*.

³ See Simplicius, *In Aristotelii physico rum ...* 140.27–29.

⁴ See e.g. G. Ledger, *Re-Counting Plato ...*, M. M. McCabe, *Unity in the Parmenides ...*, G. Ryle, *Plato's Progress*, pp. 288–289 & K. Sayre, *Parmenides' Lesson ...*, p. ix.

⁵ For example, H. Cherniss, *Aristotle's Criticism of Plato ...*, R. Robinson, *Plato's Parmenides. II*, p. 176 & P. Shorey, *The Unity of Plato's Thought*, take the view that it is merely a training exercise. Some think of it as a joke of some kind—see e.g. P. Frye *Plato*, p. 28, M. Tabak *Plato's Parmenides Reconsidered*, A. Taylor, *Plato: The Man and His Work*, p. 351 & A. Taylor [in: Plato, *Parmenides*, tr. A Taylor, pp. 10–12]. Others, however, have taken it to be more philosophically substantive, e.g. Proclus, *On Plato's Parmenides*, F. M. Cornford, *Plato and Parmenides ...*, M. M. McCabe, *Plato's Individuals*, pp. 97–132, M. M. McCabe, *Unity in the Parmenides ...*, C. Meinwald, *Plato's Parmenides*, R. Robinson, *Plato's Parmenides. II* & J. Wahl, *Étude sur le Parménide de Platon*.

including what its main subject, τὸ ἓν (the one), is¹—and its structure is also controversial. It is usually agreed to be divided into two hypotheses, the first with four deductions and an appendix, the second with four deductions; there follows an overall conclusion.² However, we can interpret the first hypothesis, εἰ ἓν ἔστιν either as if the one is or if (the one) is one. We might take the deductions conjunctively or disjunctively and the overall conclusion can be read as the conjunction of the first and second hypotheses or as the disjunction of the first and second hypotheses. It is not clear what the one is supposed to be, for example, a Form, Parmenides' one, anything that is one.³

I cannot hope to resolve these issues here. Hence, I make several assumptions about Part 2. I assume that it is possible to reconstruct a plausible version of PP using Aristotle's descriptions in his *Physics* 4 and Simplicius' description of Eudemus' report⁴ and I set out strict criteria for a reliable reconstruction. I take it that Parts 1 and 2 comprise a single, unified dialogue, that whatever the purpose of Part 2 is more precisely, the arguments it contains are to be taken seriously, and that Part 2 is a demonstration of a training method that is not merely a diagnostic exercise but one that yields interesting and important ideas. I maintain that the first hypothesis under consideration is: if the one is, where the focus is on *one* in the first deduction.⁵ I read the deductions conjunctively and remain agnostic as to what the one is. I do not look to other dialogues to inform my reading of the *Parmenides*.

2. Same Arguments, Different Places

In this section, I reconstruct a plausible version of PP using Simplicius' report of Eudemus' description of PP in *In Aristotelii physicorum ...* and Aristotle's account of PP in *Physics* 4.3.

Before I begin, I set out some criteria for a reliable reconstruction:

ZC1. The argument should be at least apparently valid since I take it that whatever Zeno's argument was, it was a good one.

ZC2. It must take the form of a paradox. (There is disagreement about exactly how we should construe paradoxes both in general and in Zeno.⁶ I assume that paradoxes are arguments that begin with apparently acceptable premises but

¹ This is reflected in the translations. For example, whereas the majority of scholars, like me, translate τὸ ἓν *the one* (e.g. F. M. Cornford, *Plato and Parmenides*, V. Harte, *Plato on Parts and Wholes ...*, M. L. Gill & P. Ryan, *Plato's Parmenides*, K. Sayre, *Parmenides' Lesson ...* & S. Scolnicov, *Plato's Parmenides*), R. Allen, *Plato's Parmenides*, opts for the more metaphysically loaded *unity*.

² S. Scolnicov, *Plato's Parmenides*, denies that there is an appendix, seeing it instead as an extension of the second deduction.

³ See A. Hermann, D. Hedley & S. Chrysakopoulou, *Plato's Parmenides ...* for a comprehensive list of various views.

⁴ See D. Sedley, *Zenonian Strategies* for a defence of this assumption, although note that his reconstruction differs from mine.

⁵ See C. Kahn, *Plato and the Post-Socratic Dialogue ...*, pp. 23–24.

⁶ See J. Barnes, *The Presocratic Philosophers*, ch. 7–8 on this.

lead to conclusions that seem unacceptable.¹)
 ZC3. It must be compatible with both texts.

I will show that we can reconstruct an argument from Simplicius' report of Eudemus' description of Zeno's paradox of place that meets ZC1–2 before turning to do the same with Aristotle's account of it in *Physics* 4.3. Next, I demonstrate that whilst Eudemus is plausibly not merely parroting Aristotle, the arguments in both texts amount to the same paradox, so that ZC3 is met.

Consider Eudemus' account of Zeno's paradox, as reported by Simplicius:

ὁ Εὐδήμος δὲ οὕτως ἱστορεῖ τὴν Ζήνωνος δόξαν λέγων· “ἐπὶ ταὐτὸ δὲ καὶ ἡ Ζήνωνος ἀπορία φαίνεται ἄγειν· ἀξιοῖ γὰρ πᾶν τὸ ὄν πού εἶναι· εἰ δὲ ὁ τόπος τῶν ὄντων, ποῦ ἂν εἴη; οὐκοῦν ἐν ἄλλῳ τόπῳ, κάκεῖνος δὴ ἐν ἄλλῳ, καὶ οὕτως εἰς τὸ πρόσω.”

[But Eudemus gives the following account of Zeno's view: “Zeno's problem seems to lead to the same position. For he takes it to be reasonable that everything that exists should be somewhere; but if the place is among the things which exist, where will it be? Presumably in another place, and that in another, and so on.”] (*In Aristoteliiis physicorum ...* 563.17–20)

We might think that, according to Eudemus, PP runs as follows:

1. All things that exist are somewhere.
2. Places exist.
3. Therefore, each place, a, must be in² another place, b, which must itself be in another place, c, which must itself be in another place, d, and so on *ad infinitum*.³

However, as it stands, this argument is plainly invalid. Nothing in 1 and 2 precludes a place that is somewhere but not in a place. Nor are 1 and 2 incompatible with things being *their own* places, i.e. the *in* relation could be reflexive. 1 and 2 are also compatible with some a and some b such that a is the place of b and b is the place of a, i.e. the *in* relation could be symmetric. Thus, it does not meet ZC1. For validity we require two extra premises:

1. All things that exist are somewhere.
2. If something is somewhere, it is in a place.
3. Places exist.
4. The *in* relation that stands between something and its place is asymmetric and irreflexive.

¹ Following M. Sainsbury, *Paradoxes*, p. 1.

² As B. Morison, *On Location: Aristotle's Concept of Place*, notes, this *in* must be construed as a locative *in* throughout; this is the way I take *in* in this and all future candidates for PP.

³ Eudemus does not explicitly use a phrase that indicates *and so on 'ad infinitum'* (contra Aristotle): καὶ οὕτως εἰς τὸ πρόσω. Nevertheless, I take it that construing this as *and so on 'ad infinitum'* is legitimate, not least because it is difficult to see what other philosophical point could be being made here.

5. Therefore, each place, a, must be in another place, b, which must itself be in another place, c, which must itself be in another place, d, and so on *ad infinitum*.¹

It is difficult to think of anything that we would be happy to agree is somewhere and not in a place. The idea that the *in* relation that stands between something and its place is asymmetric and irreflexive is plausible. After all, we tend to think of the *in* relation here as a particular *kind* of *in* relation: an occupant is surrounded, contained and therefore *entirely* in its place. It just seems obvious that nothing can be entirely inside itself and if some x is entirely inside some y, it is impossible for y to be entirely in x. Thus, 2 and 4 seem uncontroversial enough that we can understand why Eudemus or Simplicius would not have explicitly stated them, even though they are in play. Once we make these premises explicit, we can see that since the argument is valid, it meets ZC1.

Does the argument meet ZC2? 1 just seems obvious and it is difficult to think of something that exists but is nowhere at all; indeed, as Sedley points out, Zeno seems to commit to 1: ἄξιοι.² I have already shown that 2 is plausible and 3 seems uncontroversial. As I argued above, 4 seems to be a reasonable thing to hold. Thus, the premises are acceptable. However, some might think that there is nothing troubling about the conclusion; surely, it is obvious that things are in multiple, non-identical, nested places? Suppose, for example, I am in the gym. Since the gym is in Lambeth, which is in London, which is England, which is in the United Kingdom, I am in all of these nested non-identical places.

One counter is: if this is so, there is no exact answer to the question *Where is x?* This seems to me to be unpersuasive. If someone asks *Where are you?*, I can give multiple answers that correspond to my multiple, nested places: the gym, Lambeth, London, England etc. These answers are exact, even though there are infinitely many of them.

Another defence is that 5 is incompatible with things having a precise location: if true, it is not just that there is one series of infinitely many places; rather, *everything* has infinitely many places, so that, as Palmer observes, there would be limitless places *everywhere*, which seems absurd.³ Thus, infinite chains of places overlap and many things have many places in common. Again, this does not seem to me to be worrying. If there are twenty other people in the gym, a hundred thousand in Lambeth, nine million in London etc., it is true that there are many series of multiple, non-identical, nested places that overlap—but there are still precise answers to *Where is x?* questions in every case.

Nevertheless, there are good reasons to hold that 5 is unacceptable. First, we might just think that 5 is intolerable because it is not parsimonious. This

¹ J. Barnes, *The Presocratic Philosophers*, p. 202, suggests that Zeno might have meant for a further conclusion to be drawn: there is no such thing as place. He then speculates that Zeno may have moved from this conclusion to: all existent things are not in a place. Presumably, this is because Zeno seems to have generally argued by *reductio ad absurdum*. I, however, am reluctant to assume either conclusion given that they do not feature in the argument as presented by Eudemus (or Aristotle in *Physics* 4.3).

² See D. Sedley, *Zenonian Strategies*, p. 23.

³ See J. Palmer, *Zeno of Elea*, 2.3.2.

might be for two reasons. One is just that if true, there are (actually) infinitely many places.¹ Second, it seems that according to 4, the *in* relation that holds between something and its place is such that a place is always bigger than its occupant; the gym is bigger than me, Lambeth is bigger than the gym, London is bigger than Lambeth, England is bigger than Lambeth—and so on. Grant also that everything that exists is in a place and places exist (as 1, 2 and 3 imply) and that this goes on *ad infinitum*. If we also hold that the distance between each successive place is equal to or larger than the previous one, then space will be (actually) infinitely extended.² That the issue of spatial extension is in play in the paradox as presented by Eudemus is supported by the use of καὶ οὕτως εἰς τὸ πρόσω (and so on), which has spatial connotations. Third, we might think that one of the motivations behind positing places is not just that we can give exact and precise answers to *Where is x?* questions but rather that we can give exact, precise *and complete* answers. This seems to be a reasonable demand; think, of the commonplace cases of children who, when writing a letter to Father Christmas, complain that the address is incomplete until they are presented with the last and final place: the universe. However, exact, precise and complete answers of this kind are incompatible with each and every thing's having infinitely many places. Fourth, we might, as Huggett suggests, maintain that places are *absolute* in that for each thing there is always a *unique, privileged* answer to the question *Where is it?* If so, the problem is not that things cannot have infinitely many places; rather, it is that things cannot have multiple places.³ Huggett does not explain the motivation for choosing this view, hence I provide one on his behalf. We might quite reasonably think that the motivation for positing place is not merely being able to give precise, exact and complete answers to *Where is x?* questions. We also posit place in order to answer *Why is x where it is rather than somewhere else?* questions—to explain in metaphysical terms *why* things are located where they are and not somewhere else.⁴ This demands giving an answer that points to unique places; if both the gym and Lambeth are in London, *London* is not a satisfactory answer to the question *Why is the gym where it is rather than somewhere else?* Unique, privileged places are, of course, consistent with infinitely many places. However, if places are posited in order to give answers to *Where is x?* questions that are exact, precise and complete and to give answers to *Why is x where it is rather than somewhere*

¹ See N. Huggett, *Zeno's Paradoxes*.

² I am very grateful to David Sedley for pointing out that space could still be finite if the distance between each successive place is *smaller* than the last. I nevertheless think that the view that PP leads to (actually) infinite spatial extension is worth taking seriously. After all, it isn't obvious that each successive place must be smaller than the last—and certainly when we think of familiar examples of place, this doesn't seem to always be the case. For example, the England is in the UK, which is in Europe but the distance between the UK and Europe is bigger than the distance between England and the UK.

³ See N. Huggett, *Zeno's Paradoxes*.

⁴ We might think that non-metaphysical explanations are possible if there are infinitely many, nested places. For example, if someone asks, *Why is Slothocles the sloth in the place that he is, rather than in some other place?*, we might think that the following is an explanatory answer: *Slothocles the sloth believes that being in the place that he is rather than in some other place enables him to reach the leaves he wants to eat*. However, that will not satisfy someone who is looking for a metaphysically explanatory answer.

else? questions, only unique places are required; any further places are redundant.¹ Thus, we might quite reasonably find 5 troubling. My reconstruction of Eudemus' PP meets ZC2 then; it takes the form of a paradox.

I turn now to offer a reconstruction of Aristotle's version of PP in *Physics* 4.3 and show that it also meets ZC1 and ZC2, i.e. it is at least apparently valid and takes the form of a paradox. Consider the way that Aristotle describes PP:

Ἔτι δὲ καὶ αὐτὸς εἰ ἔστι τι τῶν ὄντων, ποῦ ἔσται; ἢ γὰρ Ζήνωνος ἀπορία ζητεῖ τινα λόγον· εἰ γὰρ πᾶν τὸ ὄν ἐν τόπῳ, δῆλον ὅτι καὶ τοῦ τόπου τόπος ἔσται, καὶ τοῦτο εἰς ἄπειρον πρόεισιν.

[Furthermore, if (place) itself is one of the things that are, where is it? For Zeno's aporia demands explanation: if all things that exist are in [a] place, it is clear that there will be a place of [each] place and so on *ad infinitum*.] (209a23–25)²

As it stands, we might think that the argument that Aristotle has in mind here is straightforward:³

(I) All things that exist are in a place.

(II) Places exist.

(III) Therefore, each place, a, must be in another place, b, which must itself be in another place, c, which must itself be in another place, d, and so on *ad infinitum*.⁴

However, if this is all there is to the argument, it does not meet ZC1 since it is clearly invalid; the 'in' relation could be reflexive or symmetric. For validity, we require a further premise:

(I) All things that exist are in a place.

(II) Places exist.

(III) The *in* relation that stands between something and its place is asymmetric and irreflexive.

¹ I am grateful to Matthew Duncombe for prompting me to think about this in terms of redundancy.

² Although Aristotle does not explicitly use a word that indicates *each* and *a*, I, in line with the consensus amongst scholars, take it that this must be what he means; if not, the argument seems overtly bad and his solution to the paradox is difficult to understand.

³ A different way to think about the argument is: 1. If all things that exist are in a place, then each place, a, must be in another place, b, which must itself be in another place, c, and so on *ad infinitum*. 2. But each place, a, being in another place, b, which must itself be in another place, c, and so on *ad infinitum*, is absurd. 3. Therefore, it is not the case that all things that exist are in a place. Some might think that this is closer to the text in that it better accommodates the conditional: εἰ [if]. Nevertheless, I think my version of the argument is plausible; it is hardly a jump from what Aristotle says and, as Aristotle states it, (2) is explicitly in play. Further, as Matthew Duncombe pointed out to me, Aristotle does use εἰ to introduce a premise rather than to indicate a conditional in other places, most notably in the *Prior Analytics*; he may be doing the same here. Moreover, even if Aristotle is using εἰ as a conditional, we can explain why Aristotle uses it on this reconstruction; it indicates what it is that he finds problematic: the idea that all things that exist are in a place.

⁴ Aristotle is usually taken to think of every place in this sequence as being non-identical to every other place. See e.g. B. Morison, *On Location: Aristotle's Concept of Place*, pp. 89–92.

(IV) Therefore, each place, a, must be in another place, b, which must itself be in another place, c, which must itself be in another place, d, and so on *ad infinitum*.

There is good reason to suppose that III is implicit in Aristotle's version of the argument. Consider the way that Aristotle puts the question that he suggests that Zeno's paradox prompts us to ask: Ἐτι δὲ καὶ αὐτὸς εἰ ἔστι τι τῶν ὄντων, ποῦ ἔσται [*Furthermore, if (place) itself is one of the things that are, where is it?*]. This suggests that he takes places to exist independently of their occupants in the argument that follows, i.e. places cannot be their own places. Part of III (the relevant *in* relation is asymmetric) is what prohibits cases of a place being its own place, therefore this part of III must be in play. In addition, Aristotle dedicates a great deal of space to solving this problem, which suggests that he thought it was good enough to be worth taking seriously. Yet, if the relevant *in* relation is asymmetric (which is what the rest of III bars), the argument is manifestly problematic. Thus, III is a tacit premise. Once we recognise this, we can see that the argument that we find in the *Physics* 4.3 is valid and therefore meets ZC1.

What about ZC2? The premises seem acceptable. It is difficult to think of something that exists but is nowhere—indeed, one of the reasons that Aristotle gives for the importance of settling three questions (whether or not places exist, how they exist and what they are) for the student of nature at the beginning of the *Physics* 4 is *everyone supposes that those things that are are somewhere* (4.1.208a29). Thus, (I) is acceptable. (II) seems indisputable. (III), I take it, is acceptable on the same grounds as premise 4 of Eudemus' version of the paradox. However, since the argument shares its conclusion with Eudemus' it faces the same objection: since we can give perfectly legitimate exact answers to the *Where is x?* questions on 5, the conclusion is acceptable; we can, I take it, use the same defences. Therefore, it also meets ZC2.

Since the arguments I have found in Simplicius and Aristotle both meet ZC1 and ZC2, they are, at this stage, equally viable candidates for Zeno's PP. Here, I demonstrate that by reflecting further on *Physics* 4 and both arguments together, we see that the arguments are equivalent, although the way that they are presented is different, so that ZC3 (the reconstruction must be compatible with both texts) is also met. Ostensibly, the arguments are different—and not merely in light of the number of premises in each. 1 and 2 mention being *somewhere*, which does not feature in Aristotle's argument. However, recall that at the opening of *Physics* 4, Aristotle claims that one of the reasons why it is important for the student of nature to know about place is that: *everyone supposes that those things that are are somewhere* (*Physics* 4.1.208a29). In addition, consider *Physics* 4.5.212b27–29, which occurs in the context of Aristotle dealing with the list of *aporiai* he gave before turning to his own account of place: *And places too are somewhere, not as in a place, but as a limit is in the thing of which it is a limit. For not everything which exists is in a place, but only movable bodies.*

As Morison points out, this seems to be an implicit back-reference to PP; it solves PP because if places are not themselves in places, it is not true that all

existent things are in a place.¹ Thus, we can simply deny I and block the regress. Notice, however, that the inference that Aristotle seems to find problematic in this passage is: if places are somewhere, then they must be in a place. This suggests that seeing existing as entailing being somewhere and being somewhere as entailing being in a place was in play in his original account of PP. As such, 1 and 2 in Eudemus' account of PP effectively feature in Aristotle's too.

Once we make these premises explicit, we are left with the very same argument as Eudemus'. Thus, the reconstruction is compatible with both texts, meeting ZC3. Nevertheless, the arguments are presented differently. As I pointed out earlier, following Sedley, Eudemus suggests that Zeno is *committed* to the idea that everything that exists is somewhere (ἀξιοῖ).² In contrast Aristotle does not mention this commitment. In addition, the phrase that Eudemus' uses to express *and so on ad infinitum* has spatial connotations: οὕτως εἰς τὸ πρόσω. Aristotle's τοῦτο εἰς ἄπειρον πρόεισιν does not. Thus, whilst the reconstruction meets ZC3, there are differences way that the two accounts are presented, suggesting that Eudemus is not merely parroting Aristotle and my reconstruction is plausibly supported by two, independent accounts.

3. Paradox, Place and Part 2

The *Parmenides* opens with a complex and fairly lengthy prologue to the overtly philosophical conversation (126a1–127d5). There follows a brief discussion of Zeno's arguments and Socrates' account of the Forms (127d8–130e5). Parmenides then responds to this account with a series of objections (130e6–135b4). After it appears that Socrates is unable to adequately deal with them, Parmenides does not, as we might expect, instruct Socrates to abandon the Forms altogether—or even to go away and think more deeply about them.³ Instead, he suggests that if Socrates wants to save the Forms and the power of dialectic, he must take on a demanding training exercise (135b5–d6). After outlining the procedure for this exercise, taking care to point out the respects in which it resembles Zeno's ideas, Parmenides is persuaded to perform a demonstration of the exercise. This demonstration is Part 2 of the dialogue itself (135d6–137c3). It begins with the first deduction, which opens with an argument that concludes that if the one is, it cannot be many (since it is only one), have parts or be a whole (137c4–e3). Driven by this conclusion, Parmenides continues to show that if the one is, it has no beginning, middle or end and if the one is, it has no shape (137e 3–138 a1). At this point, we find the following passage:

καὶ μὴν τοιοῦτόν γε ὄν οὐδαμοῦ ἂν εἴη: οὔτε γὰρ
ἐν ἄλλῳ οὔτε ἐν ἑαυτῷ εἴη.
πῶς δὴ;

¹ See B. Morison, *On Location: Aristotle's Concept of Place*, p. 84.

² See D. Sedley, *Zenonian Strategies*, p. 23.

³ This, of course, is peculiar not only because of Socrates' apparent failure to deal with the objections but because it is in the mouth of *Parmenides* of all people—somebody who did not subscribe to the Forms at all.

ἐν ἄλλῳ μὲν ὄν κύκλῳ που ἂν περιέχοιτο ὑπ' ἐκεῖνου ἐν ᾧ ἐνεῖη, καὶ πολλαχοῦ ἂν αὐτοῦ ἄπτοιτο πολλοῖς: τοῦ δὲ ἐνός τε καὶ ἀμεροῦς καὶ κύκλου μὴ μετέχοντος ἀδύνατον πολλαχῆ κύκλῳ ἄπτεσθαι. ἀδύνατον.

ἀλλὰ μὴν αὐτό γε ἐν ἑαυτῷ ὄν κἂν ἑαυτῷ εἴη περιέχον οὐκ ἄλλο ἢ αὐτό, εἴπερ καὶ ἐν ἑαυτῷ εἴη: ἐν τῷ γάρ τι εἶναι μὴ περιέχοντι ἀδύνατον.

ἀδύνατον γάρ.

οὐκοῦν ἕτερον μὲν ἂν τι εἴη αὐτὸ τὸ περιέχον, ἕτερον δὲ τὸ περιεχόμενον: οὐ γὰρ ὅλον γε ἄμφω ταυτὸν ἅμα πείσεται καὶ ποιήσει: καὶ οὕτω τὸ ἐν οὐκ ἂν εἴη ἔτι ἐν ἄλλῳ δύο.

οὐ γὰρ οὖν.

οὐκ ἄρα ἐστίν που τὸ ἐν, μήτε ἐν αὐτῷ μήτε ἐν ἄλλῳ ἐνόν.

οὐκ ἔστιν.

[Moreover, being this kind of thing, (the one) would not be anywhere, for it could not be in some other thing or itself.

How so?

If something were in some other thing, it would, I take it, be encircled all around¹ by that in which it would be and would be touched at many spots by many [parts] of it² but it is impossible for that which is one and partless and which does not share in roundness to be touched at many spots all around.

That is impossible.

But being in itself, it would be encircled by nothing other than itself, if it were in itself, for it is impossible for something to be in that which does not encircle it.

It is impossible.

Furthermore, that which encircled would be non-identical to itself. For a whole cannot both suffer and bring about the very same thing; [since] in this way, the one would no longer be one but two.

¹ It is difficult to translate both κύκλῳ and περιέχοιτο. The meaning is clear enough though: immediately surrounded by something, where the shape of what surrounds it is round in some way.

² πολλαχοῦ ἂν αὐτοῦ ἄπτοιτο πολλοῖς is difficult to translate. I take it that we should translate both πολλαχοῦ πολλοῖς (contra S. Scolnicov, *Plato's Parmenides*, p. 82). In this respect, the standard translation, *it would be touched in many places by many parts* is attractive. However, Plato himself does not use τόπος. I suspect that Plato deliberately uses πολλαχοῦ instead because the argument itself only treats proper things (*itself* and *something else*) and not parts as places proper, as I explain below. In light of this and because *points* implies that they are not extended, I have opted for *spots*. Whilst Plato does not explicitly use μέρος either, inserting it is justifiable; it is difficult to see what else αὐτοῦ + πολλοῖς could mean and Plato often uses a genitive without explicitly using μέρος to indicate a part.

Therefore, the one is not somewhere, being neither in itself nor in anything else.

It is not.] (138a2–138b6)

The arguments here can be reconstructed as follows:

Argument A

1. If the one is, it is only one (implicit, from earlier argument).
2. If the one is, it cannot be many or have parts (implicit, from earlier argument).
3. That which is in something is surrounded by what it is in (implicit).¹
4. If the one were in something else, it would be surrounded by what it is in.
5. That which is surrounded by something is touched at many spots by many parts.²
6. If the one is, it does not share in roundness (from earlier argument).
7. That which is only one and without parts and does not share in roundness cannot be touched at many spots by something around it.
8. Therefore, if the one is, it is not in something else.

Argument B

1. If the one is, it is only one (implicit, from earlier argument).
2. If the one is, it cannot be many (implicit, from earlier argument).
3. It is impossible for that which is in something not to be surrounded by it (from A3).
4. So, if the one is in itself, it is surrounded by itself.
5. That which is surrounded by something has parts (tacit, from A4 and A5).
6. That which has parts is a whole (tacit).
7. That which is in something is a whole.
8. A whole cannot suffer and bring about the very same thing.
9. So, if the one were in itself, it would in fact be two non-identical things.
10. Therefore, if the one is, it is not in itself.

Argument C

1. If something is somewhere, it must be either in itself or something else.
2. If the one is, it is not in something else. (from A8)
3. If the one is, it is not in itself. (from B10)
4. Therefore, if the one is, it is nowhere.

Here, I suggest, we find Plato engaging with Zeno's PP. But why should we think that PP is in the background at all? First, we are obviously prompted to have Zeno in mind when reading the dialogue. One of the three philosophical superstars of the dialogue is Zeno and the first example that Parmenides gives of the kind of hypothesis he has in mind for the method he then demonstrates in Part 2 is Zeno's hypothesis, *if the many are* (136a4–5), the correlate of *if the one is*, the first hypothesis in Part 2.

¹ We might take this tacit premise to be: that which is in something *else* is surrounded by what it is in. If so, B3 does not follow from A3. In fact, it does not make much difference; either B3 follows straightforwardly from A3, as on my version, or it is plausible for the very same reason that A3 on the alternative is: it seems obvious from ordinary cases of location that if some x is in some y, y must surround x.

² There is an alternative version of this premise: that which is surrounded by something *else* is touched at many spots by many parts. However, Plato does not explicitly include this, hence, the more general version I have opted for is preferable.

Second, location features a great deal in the frame: Cephalus mentions travelling from his home in Clazomenae to Athens in the very first words of the dialogue (126a1). He says he met Adeimantus and Glaucon in the market-place and says that he made the journey from Clazomenae before, explicitly naming Clazomenae again (126b2–3). Cephalus then says that Antiphon has left the *agora* but lives nearby in Melite (126c8–10). Location also features in the very first words of Antiphon’s retelling of Pythodorus account of the central conversation; we are told that Zeno and Parmenides visited the Great Panathenaea (127a6–b1). Shortly afterwards, Antiphon tells us that (according to what Pythodorus), they stayed outside the city wall in Cerameicus (127b6–c1). We also learn that it was the first time Zeno’s writings had been brought to Athens (127c3–4) and that while Zeno was reading to Socrates and the others, Parmenides was not in (127c6); he enters later with Aristotle (127d1–3). Strikingly, not only does location feature through travelling and the sheer number of places mentioned, but we find *nested* and *overlapping* places—the *agora* is *in* the city, which is *inside* the city wall; (parts of) the city and (parts of) the city wall are *in* Cerameicus (an area that covered both parts of the city and outside the city) and Cerameicus is (partially) *in* the city and (partially) *inside* the city walls.¹ Overlapping and nested places are, as I have shown above, at issue in Zeno’s paradox. Interestingly, we find different kinds of places, not just extended spaces (the *agora*, the city) but also a boundary (the city wall)—something approaching a concept of place more generally that I later suggest is hinted at in Part 2.

Third, there are striking similarities between Arguments A, B, C and PP. All prompt us to reflect on where existent things are (the one in A–C, places in PP) and connect being somewhere with being in something (the one or something else in A–C, places in PP). Moreover, whilst Plato does not explicitly use τόπος, unlike Aristotle and Eudemus via Simplicius, Parmenides moves from being neither in something else nor in itself to being nowhere in C. It is hardly a jump to suppose that in these arguments, Plato is using *in* in a restricted sense such that *x* is in *y* if *y* is the place of *x*—and *something else* and *itself* are exhaustive candidates for the one’s *place*. Finally, Parmenides’ assumption that if something is somewhere, it must be in something, reminds us of the second premise of PP (if something is somewhere, it is in a place). Looking for Plato’s engagement with PP in these arguments is promising then. Below, I show that we find just this.²

4. The One

According to C4, if the one is, it is nowhere. It follows that, if the one is, 1 of PP is false. This would prevent PP from getting off the ground. Yet, as the

¹ I am grateful to James Warren for the suggestion that we have nested places here.

² Of course, these arguments are not the only places in which we find Plato dealing with place and related issues like space and the infinite. The *Timaeus* in particular is rich in material. However, I would be extremely careful about using what I find here to inform a reading of the *Timaeus* (or vice versa); the projects seem radically different, I do not see such strong grounds for seeing engagement with Zeno in the *Timaeus* and there are crucial differences, for example, whereas the *chōra* plays an important role in the *Timaeus*, it is not mentioned here.

first hypothesis demonstrates, all sorts of contradictions are true of the one, if it is, since, if the one is, then for a range of properties, F, then the one is neither F nor not-F, both F and not-F and the others are both F and not-F, neither F nor not-F, where F and not-F are contradictories.¹ Thus, Plato presents Zeno with a problem regarding 1 of PP. Plato offers us something, which, if it exists, allows us to escape PP but which is deeply problematic.

There are a number of ways in which we could attempt to resolve this tension, but none are straightforward. Justifying a denial of the one is a formidable undertaking; the entire second hypothesis supposedly shows that if the one is not, then for a range of properties, the one is both F and not-F and neither F nor not-F and the others are both F and not-F and neither F nor not-F, where F and not-F are contradictories. Another strategy is accepting a one that exists and which is only one but arguing that Parmenides moves illegitimately from the conclusions of A and B to the overall conclusion, C4. Thus, even if the one (if it is) is deeply problematic, 1 of PP is still plausibly true. However, C is valid and C1 amounts to a reasonable claim: if something is somewhere, it must be in something or other.

A third strategy is to show that Argument A or Argument B is problematic. However, this is a difficult undertaking, as I will demonstrate now. Consider A. It is valid. The premises, I argue, are difficult to disprove or plausible. A1 is a principle that is established early in the first deduction and plays a role in the arguments that follow. There, Parmenides assumes that if the one is, it is *only* one. From this, he infers A2, another driving principle (137d1–3).

We might think that A1 is manifestly false; all sorts of things that are one are also many; I am one person but have many parts. If so, A2 does not follow. However, in order to make this case, we must be able to show that *the one* is both one and many. However, it is difficult to do so since exactly what the one is is unclear (and therefore controversial), e.g. on the one hand, Plato suggests that the one is something we might think is a Form (135e3–5), something that is plausibly one and not many; on the other hand, the language associated with Forms is sparse in Part 2. Suppose we instead take the view that the claim that the one is only one and not many is acceptable, e.g. because the one *is* a Form. If so, we might defend 1 of PP by showing that at least one of A3–7 is false. Yet, not only is making a case for taking the one in this way difficult for the reasons outlined above, but A3–7 are not obviously unacceptable. Consider A3. We might think it is problematic; if I have one foot in the sea and one outside it, I am in the sea but not surrounded by it. However, as pointed out above, being in something amounts to being in its place. I am plausibly not in sea where the sea is *my* place; the sea is my foot's place, i.e. things are only in something (their places) if they are *entirely* in it. Alternatively, we might think that parts

¹ S. Rickless, *Plato's Forms in Transition ...* & S. Rickless, *Plato's Parmenides* take the unusual view that in some cases, when Parmenides denies or ascribes F and not-F of the one or the others, F and not-F are not contradictories but contraries. Since contrary statements do not always generate contradictions, one might think that fewer contradictions are generated. Even on this restricted view, however, numerous contradictions follow from the cases where F and not-F are contradictories.

of things do not have proper places; parts of a whole just correspond to parts of the place of the whole.¹ Consequently, my foot as a part does not have its own place.

Another objection to A3 is that not everything that is in something, where that is its place, seems to be surrounded in the relevant way: immediately (encircled all around). Suppose Tilly is in a skintight spacesuit, which entirely encloses her and touches her immediately. That the spacesuit is her place seems plausible enough. However, we might also regard Tilly's room as her place. Her room does not surround her entirely; her spacesuit is in the way. Yet, her room is surely also her place. This is not a compelling objection. I argued, following Huggett, that one reasonable reason why we might find the conclusion of PP worrying is because we believe that place is absolute, such that there is a unique, privileged answer to the question *Where is x?* If this is so, the most plausible candidate for place is that which immediately surrounds what it contains, since anything else could contain more than one thing.² Thus, A3 is plausible. Since A4 follows from A3, I take A4 as plausible too.

A5 also seems acceptable. Tilly's spacesuit touches Tilly and vice versa at various spots. They touch at these spots through parts; the trouser leg of the spacesuit touches Tilly's leg and vice versa; the arm of the spacesuit touches her arm, etc. Earlier in the first deduction, Parmenides argued plausibly that if something is straight or round, it must have a middle, which requires parts and being many (137e1–138a1). Therefore, the one, which, if it is, must not have parts or be many (A2), cannot be straight or round or share in straightness or roundness. Since A2 is plausible, A6 is too. We saw that Tilly and her spacesuit must touch at various spots through their parts—and since they must have parts and touch at various spots, they must be many. Since she is surroundable, we might think, she must somehow be round and not entirely straight. Consequently, if something were around her it, it would be round in some way. Thus, A7 seems acceptable.

Showing that B is problematic is difficult too. We might maintain that B1 and B2, like A1 and A2, are false because it is not the case if the one is, it is only one and if the one is, it cannot be many and thereby defend 1 of PP. As argued above, though, justifying this is not straightforward. Maintaining B1 and B2 (itself complex to justify) but arguing that the rest of Argument B is problematic is also difficult. Argument B is valid. B3–9 also seem acceptable, as I show now. I argued above that being in something should be understood as being in a place and that treating place as absolute and therefore that which immediately surrounds what is in it is reasonable. Hence B3 is plausible. B4 follows from B3 and since A5 is plausible, B5 is too. B6 is self-evident and B7

¹ I argue later that Plato does in fact suggest that only wholes can have places in Argument B.

² Of course, this requires maintaining that no two things can be in exactly the same place at the same time and denying spatially coincident objects. However, the claim that no two things can occupy exactly the same place at the same time is not obviously false; it is difficult to think of a counterexample. Indeed, it is a claim that usually rejected in the face of puzzles concerning material constitution. This strategy it is not uncontroversial even there since it requires subscribing to a particular account of identity and constitution, such that they are different relations.

follows from B3–6. We might think that B8 is false. I am a whole. Yet, I can be responsible for and suffer the very same thing in different respects at the same time, e.g. if I accidentally bite my tongue, I cause pain with my teeth but experience pain in my tongue. I can also simultaneously bring about something with respect to something else and suffer the same thing, where the latter is brought about by something else. E.g. if I play in a football match, I oppose the other team and am opposed by them at the same time. However, Plato's point seems to be that *a whole* [ὅλον] *cannot bring about and suffer exactly the same thing at the same time* [ταὐτόν] (138b3–5). Properly specified, neither of the above cases are counterexamples to this claim. Causing pain with my teeth is not identical to experiencing pain in my tongue—and nor are opposing the other team and being opposed by the other team. In contrast, me being the place of myself and myself being my place are equivalent. Therefore, B8 is acceptable. Given B8, it seems that the only way that the one is in itself could be true is if *the one* and *itself* in fact refer to different things, thus B9 is acceptable.

The first way in which Plato engages with PP in the first deduction of the *Parmenides* then is by posing a problem. Accepting C4 would allow us to escape the regress by rejecting 1 of PP. However, it requires committing to something that is deeply problematic. Resolving this problem is not straightforward.

5. Simple and Mixtures

In Argument A, Parmenides makes the plausible claim that for all *x* and all *y*, if *x* is in *y* (its place), *x* must be immediately surrounded by *y* (from A3 and A4). He then argues that if *x* is in *y* (its place), *x* is touched by *y* at many spots through parts of *x* and parts of *y* (A5), which I argued is acceptable. C1, I showed, also seems plausible. From these plausible claims another follows: if *x* is somewhere, *x* is in some *y* (its place), where *x* is touched by *y* at many spots through parts of *x* and parts of *y*. I show here that Plato presents us with some cases that do not seem to meet this criterion: things that are mixed in a particular way. This allows us to deny 1 of PP, thereby blocking the regress.

The first case of things which we might think exist but do not meet the criterion for being somewhere is simple objects; since simple objects exist and are partless, they cannot touch anything at all through parts. When positing Forms in Part 1 of the dialogue, they are characterised by Socrates as simple; he says that they are one and that he would be amazed if they turned out to be many (129b6–129c1). In addition, the very subject under consideration in the first deduction of Part 2, the one, is treated as simple; the opening moves establish that if the one is, it is only one and not many and therefore partless. As such, simple objects are obviously at issue in the *Parmenides*. When confronted with Argument A then, the reader will be prompted to reflect on simple objects as counterexamples to the first premise of PP (all existent things are somewhere).

Of course, simple objects are not presented as unproblematic. In Part 1, Parmenides makes a series of objections to the Forms. One, which comes in the form of a response to Socrates' use of the day analogy, stems from their

supposed simplicity. Socrates, in attempting to show that a Form can be related to multiple participants simultaneously such that the Form is not separate from itself argues that a Form is related to its participants as a day is to those (many) places in which it is daytime, i.e. simultaneously present in them but not separate from itself. Parmenides, however, argues that the day is related to the many places in which it is daytime in the same way that a sail that covers a group of people is related to them. The *whole* sail does not cover each person that it covers; rather, a (different) *part* of the sail covers each person. Since Forms have parts, it follows that they are many and not simple after all (131a4–131b9). Likewise, Plato confronts us with a series of arguments in the first deduction that lead to the one's being denied many properties that we think it *must* have, if it is. These arguments are driven by the simplicity of the one that Parmenides establishes in the opening moves of the deduction: the one, if it is, is only one, not many, it is not a whole and has no parts. Since properties would pluralise the one, it turns out that if the one is, it cannot have any properties whatsoever; as such, it turns out to be nothing at all.¹ Whilst Plato points us towards a possible solution to PP through simple objects (simple objects are counterexamples to premise 1 of PP) then, we are left to establish whether or not positing simple objects is justifiable and consequently whether or not this solution is successful for ourselves.

The second case which might lead us to deny 1 of PP is things that are mixed in a particular way. Being touched at many spots by many parts (A5) in at least some cases seems to require *discrete* parts; Tilly's leg-part touches her spacesuit's leg-part, her head-part touches her spacesuit's helmet-part etc. However, we might think that there are also things which are somewhere without distinct parts of this sort: mixtures. Consider a gin and tonic. Mixtures, I take it, always have parts, so my gin and tonic has parts. However, there are number of positions we might take on what sort of parts a mixture has:

1. Mixtures have indivisible particles as parts, so that my gin and tonic is composed of gin-particles and tonic-particles, each of which cannot be further divided.
2. Mixtures have particles that are themselves mixed as parts but which are structured in such a way that they cannot be separated into further parts, so that my gin and tonic is composed of indivisible gin-and-tonic particles.
3. Mixtures are homogeneous such that none of their parts are discrete particles: my gin and tonic is gin-and-tonic *all the way across*.

On 1 and 2, mixtures have distinct parts, hence they can be touched at many spots through their parts and the parts of that which immediately surrounds it. However, on 3, parts are not discrete. Hence, if there are mixtures of the third sort and it is true that if x is somewhere, x is in some y (its place) where x is touched by y at many spots through distinct parts of x and distinct parts of y, 1 of PP (all things exist are somewhere) is false. Moreover, even if we do subscribe to and justify mixtures of the third sort, we face an objection: whilst

¹ That properties are treated as parts and that parts pluralise the one is widely accepted but see V. Harte, *Plato on Parts and Wholes ...* for extended argument.

they might not have discrete particles, things that are mixed in this way have other kinds of discrete part. For example, some might argue that we can divide mixtures into smaller volumes, which are discrete in virtue of the relations they stand in with respect to each other. On this view, my gin and tonic can be divided into volumes such that, for example, one bit of it is to the left of and below another bit.

Plato, I think, encourages us to think about both the parts of things that are located and parts of things which are mixed. He avoids explicitly using μέρος at 138a3–5, which leaves us wondering about what sorts of part are at issue here. In addition, mixture is crucial to Anaxagorean metaphysics—in fact, good candidates for mixtures of the third sort above are Anaxagorean: everything except mind—and there is ample reason to think that the reader is invited to have the philosophy of Anaxagoras, particularly his ideas about mixture, in mind when reading Argument A, even though mixture is never explicitly connected with being in something in the argument itself. Consider the very first lines of the dialogue, which, I take it, ought to stick with the reader for the rest of the dialogue:

When we arrived at Athens from our home in Clazomenae, we bumped into Adeimantus and Glaucon in the market-place. Adeimantus took my hand [χειρὸς] and said, “Welcome, Cephalus! If there is anything we can do for you here [τῆδε], just tell us.”

“But I am here [πᾶρειμί] for that exactly that, to ask you a favour” I said.

“Tell us what you need” he said.

And then I said, “What was the name of the brother with whom you share a mother [τῷ ἀδελφῷ ὑμῶν τῷ ὁμομητρίῳ]? I don't remember. He was only a boy when I last came here [δεῦρο] from Clazomenae. His father's name, I believe, was Pyrilampes.”

“Yes,” he said.

“And what is his own name?”

“Antiphon. Why are you so eager to learn it?”

“These men ,” I said, “are fellow-citizens of mine, who are true philosophers [μάλα φιλόσοφοι]”. (Parmenides 126a1–b8)

Here, our attention is drawn to what we might think are parts that are related to one another and their wholes in different ways: Adeimantus takes hold of a bodily part of Cephalus, his hand; Cephalus asks about the brother with whom Adeimantus shares a biological part of his mother, Cephalus and his friends are all citizen-parts of the same polis. This occurs in a passage in which locations (and the contrasts between them) are also emphasised. The location that stands out in particular is Clazomenae. It is mentioned twice explicitly as Cephalus' home and once implicitly, through his reference to some of the others as fellow-citizens—this, as Forcignanò points out, is more mentions of a city (even if we

exclude the implicit reference) in the first few lines of a dialogue than we find anywhere else in the Platonic corpus.¹ Clazomenae is also connected to its high-quality philosophical activity through the description of Cephalus' fellow-citizens as true philosophers. Since it was also the birthplace of Anaxagoras (hence Anaxagoras is identified as being from Clazomenae, *Apology* 26d8–9), we are led to think of him both as a good candidate for a true philosopher in his own right² and more distantly, as a potential influencer of the true philosophers from Clazomenae present at the conversation—and mixture, of course, is central to Anaxagoras' metaphysics.³ In the very first lines of the *Parmenides* then, we are invited to have Anaxagorean ideas about parts and wholes, notably mixture, in mind,⁴ particularly in the context of discussions about place, even though Anaxagoras himself is not named and there is no mention of mixture here.

Passages that make us think about what sorts of parts there might be extend throughout the Part 1 of the dialogue.⁵ For example, with the scene-setting of the central and overtly philosophical conversation itself, Socrates listens to the end of Zeno's reading (i.e. the last part) and then asks to hear the first bit of the first argument of Zeno's book (i.e. part of part of it) (126d6–e1). Moreover, we can see many passages where Anaxagorean ideas about mixture in particular are relevant—and connected with space and place. For instance, when Socrates is discussing the sense in which somebody might think him many, we do not find specific body parts, as one might expect (especially given the mention of a hand in the very first line of the dialogue) but rather the relational spatial parts *upper, lower, back, front, right, left* (129c6–7)—and relations of this sort, as I have suggested might be also be thought to be in play in the third kind of mixtures above. Although I do not have space to rehearse his arguments here, Forcignanò has made a very strong case for seeing Anaxagorean thought, particularly concerning mixtures, as playing an important role in discussions about the relationship between Forms and their participants and subsequently

¹ See F. Forcignanò, *Anaxagoras in Plato's Parmenides*.

² Of course, Socrates is famously dissatisfied with Anaxagoras' account of causation in *Phaedo* 97d. But the fact that it was considered so carefully by Socrates, I take it, indicates that here, too, he is treated as a good candidate for a philosopher with ideas that are worth taking philosophically seriously.

³ The possible connection between Clazomenae and Anaxagoras has been frequently noted by commentators, although there are a wide range of views in what significance, if any, this has—see e.g. F. Forcignanò, *Anaxagoras in Plato's Parmenides*, D. Horan, *The Introduction to Plato's Parmenides ...*, pp. 258–261, M. Miller, *Plato's Parmenides ...*, pp. 25–28, Proclus, *On Plato's Parmenides* 625.9–10 & 626.11–12, K. Sayre, *Parmenides' Lesson ...*, p. 58 & I. Schudoma, *Platonis 'Parmenides' ...*, p. 15.

⁴ I cannot help but think that Anaxagoras may well be related in other ways too. For example, it seems likely that Socrates' reluctance to posit Forms for man, fire, water, man, hair, mud and dirt is somehow connected with Anaxagoras' (DK59B11) incredulity at the possibility of hair coming from hair and flesh from flesh and the importance that Anaxagoras places on light and dark, warmth and cold, moisture and dryness, earth more generally. However, it is not obvious to me that the connection here is mereological.

⁵ See V. Harte, *Plato on Parts and Wholes ...*, ch. 2–3 for an extensive discussion of mereology in the *Parmenides*.

for the sail and day analogies in Part 1.¹ And notice that the day and sail analogies are explicitly linked to space and location: Socrates suggests that the Form is related to its participants as the day is in many places [πολλαχοῦ] (131b4) and when Parmenides responds, the justification he gives for likening the day analogy to the sail is that according to Socrates, the day is simultaneously in many places [πολλαχοῦ] (131b7).

Although they are not explicitly mentioned then, we are repeatedly invited to think about what kinds of parts there might be with Anaxagorean ideas about mixture in mind and in the context of discussions in which location and space are important in Part 1. Consequently, we are primed to expect same with Part 2. Sure enough, parts are at issue from the outset, as is evident from this reconstruction of the very first argument of the first deduction, which occurs at 137c4–d3:

1. If the one is, it is only one. (tacit)
2. If something is only one, it cannot be many.
3. A part is always part of a whole.
4. A whole is that from which no part is missing.
5. So anything that has parts or is a whole is many. (tacit)
6. Therefore, if the one is, it is not many, it does not have parts and is not a whole.

The premises and conclusion of this argument, in addition to the assumption that properties or import parts play a role in many, if not all, of the arguments (with their worrying conclusions) prior to Argument A. We are also introduced to what might seem to be yet another kind of part: beginning, middle and end along with spatial concepts of straight and round not long before Argument A (137d3–8 & 137d8–138a1). Thus, I take it that we are expected to continue to think about mixtures in Part 2 too—and particularly when we get to Argument A, where space and location clearly come back into play in the form of place.

Unlike Forms and the one, however, Plato does not provide us with explicit arguments about mixtures with Argument A; rather, we are encouraged to reflect on parthood and mixtures more generally. Positing things that are mixed in the third way above then requires doing even more work on our own. With Argument A then, Plato points us towards a strategy for PP: maintain that the criterion we find for being somewhere in Argument A is true and subscribe to simples or mixtures of a particular kind. However, Plato leaves us to establish how successful this strategy is for ourselves—which is no easy task.

6. If Something is Somewhere, it is in a Place

According to PP's conclusion, there are infinitely many places. I suggested that we can infer that space is infinitely extended from this. Consequently, those who are troubled by ontological expense will find the conclusion unacceptable. I also argued that it seems that both places and space are actually infinite.

¹ See F. Forcignanò, *Anaxagoras in Plato's Parmenides*. Something that Forcignanò does not note but which seems important: lightness and darkness, which we associate with Anaxagoras, are hinted at by the day.

Hence, those who find actual infinities intolerable will find the conclusion of PP intolerable. However, in A and B, place is treated as that which immediately surrounds what it contains such that one place can only contain one thing (A3–5, B3, B5, B7). This leads us to ask about what sorts of things could be places: anything at all or particular kinds of things, namely outlines? Suppose we maintain all of PP's premises but hold that places must be outlines. Whilst we would still be forced to accept the conclusion that outlines are infinitely many, we would not need to commit to the claim that anything else could be (actually) infinitely many. Moreover, outlines are not extended; they are limits. Thus, the conclusion of PP does not imply infinitely extended space.

This will not satisfy those who are committed to parsimony or find actual infinity unacceptable. However, it does show that if true, the cost of the conclusion of PP may not be quite as steep. It also suggests that Plato lays the ground for part of the way that Aristotle solves PP: places, on his account, are outline-like; they are the limits of surrounding bodies.

7. The Function of Place

One way to avoid the conclusion of PP is to deny its third premise: places exist. This seems unacceptable; after all, things are obviously in places. One rather obvious motivation for subscribing to places is in play in both PP and the first deduction of Part 2 of the *Parmenides*: if something is somewhere, it must be *in* something—and that which something is in is just what we mean by *place*. Thus, place is a necessary condition for being somewhere. However, I show here that Plato encourages us to reflect further on why places must exist. As I have already claimed, in Arguments A and B, places are treated as those things which immediately surround their occupants such that each thing has only one place (A3–5, B3, B5, B7). This kind of surrounding, it seems, requires touching such that whatever is in a place has *parts* (A5). Consider the way that these points are put at 138a 3–7:

If something were in some other thing, it would, I take it, be encircled all around by that in which it would be in and would be touched [ἄπτοίτο] at many spots by many [parts] of it but it is impossible for that which is one and partless and does not share in roundness to be touched at many spots all around. (Parmenides 138a3–7)

There are a number of interesting and important features of this passage. First, Plato uses ἄπτοίτο. This often means more than superficial touching: holding or fastening. Why might Plato suggest that being in something requires being touched by it in this sense? One explanation points to another motivation for positing place: place somehow holds what it contains together. As such, it is a necessary condition for unity. Moreover, without this unity, it is difficult to see how one thing can be distinct from another. Thus, place is also a necessary condition for distinctness. In the first deduction then, Plato points to two reasons why things ought to have places. Second, this passage invites us to further reflect on location in the context of simple things. I argued previously that

Parmenides suggests that only wholes have places because having a place requires having parts. Thus, it seems that we must either accept that simple things are not somewhere (and therefore that the first premise of Zeno's paradox is false) or deny that their existence altogether. Plato's use of ἅπλοισι in this passage suggests that there is less motivation for positing places in the case of simple things than in the case of wholes: simple things have no parts which require unifying. As such, place is not crucial for what it is to be the thing that it is (simple).

8. Nothing Can Be Its Own Place

According to 4 of PP, the *in* relation is asymmetric and irreflexive. I suggested earlier that this is plausible. With Argument B, we find a good reason to accept that the *in* relation is irreflexive—and one that requires making few assumptions about the relationship between places and their occupants. We find a general claim with B8: a whole cannot suffer and bring about the exactly the same (identical) thing. This gives us a reason to justify the claim that nothing can be in itself; it would require violating this rule, maintaining that something is both responsible for being in (its place) and suffering being in (its place). Notice that this rule itself does not require any serious metaphysical claims about places themselves; the only other assumption we need make in order to use it as it stands to justify the *in* relation as irreflexive is that things which are in places are wholes. Moreover, we can amend B8 so that we need not even commit to this: nothing can suffer and bring about the very same thing. Thus, Plato gives us further motivation to maintain that the *in* relation is irreflexive (part of 4 of PP).

I have argued that we can extract Zeno's paradox of place from Aristotle's account of it in *Physics* IV and Simplicius' description of Eudemus' report of the paradox in *In Aristotelii physicorum* I have also demonstrated that in the first deduction of the *Parmenides*, Plato engages with this paradox in sophisticated and interesting ways. He challenges the first premise of Zeno's paradox (all things that exist are somewhere) by presenting us with three things that we might think exist but are not in a place: the one, simple things and homogeneous things. In prompting us to reflect on what sorts of things can be places, Plato points to a way to limit the damage of accepting the conclusion of Zeno's paradox and hints at a possible, Aristotelian solution to the paradox. We also find motivation for maintaining Zeno's third premise (places exist) and justification for part of one the premises of Zeno's paradox of place (the *in* relation is irreflexive).

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