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The Eleatic Challenge in Aristotle's *Physics* I.8

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Abstract: In *Physics* I.8, Aristotle outlines and responds to an Eleatic argument against the reality of change. I defend a new reading according to which the argument assumes Predicational Monism, the claim that each being can possess only one property. In *Phys.* I.2, Aristotle responds to Predicational Monism, which he attributes to the Eleatics; I argue that he uses this response to distinguish coincidental from non-coincidental becoming, a distinction he employs in *Phys* I.8 to resolve the argument against the reality of change. The Eleatics' acceptance of Predicational Monism, I argue, explains why this distinction is unavailable to them.

Keywords: Aristotle, change, the Eleatics, *Physics*, predicational monism

1 Introduction

In *Physics* I.8, Aristotle claims that it is only by adopting his account of the principles of nature that we can resolve the following ancient argument against the reality of change (191^a23–24):

(i) They say that no being either comes-to-be or perishes. For, they say, it is necessary that what comes-to-be comes-to-be either from what is or from what is not, both of which are impossible; for what is cannot come-to-be (since it already is), while nothing can come-to-be from what is not (since there must be something which underlies). (ii) And then, having reached this result, they make things worse by going on to say that there is no plurality, but only being itself (191^a27–33; trans. from Irwin and Fine (1995) slightly modified).

Aristotle remarks in (ii) that the originators of this argument subsequently argued for Monism, the claim that only being exists; this indicates that the 'they' in (i) are the Eleatics, Parmenides and Melissus, who Aristotle characterizes in *Phys.* I.2–3 as accepting both Monism and denying the existence of change (cf. 184^a15–18, 187^a9–10). In those chapters, Aristotle responds to what he calls their eristic argu-

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ments for Monism, but leaves untreated their arguments against the reality of change (186^a4–7), a lacuna he now addresses in *Phys.* I.8.¹

Call the argument in (i) the *Eleatic Challenge* (EC). Aristotle clarifies the conclusion of EC towards the end of the chapter: the Eleatics deny the existence of coming to be (γένεσις), perishing (φθορά), and change in general (ὅλως μεταβολή) (191^b30–34). ‘μεταβολή’ is Aristotle’s most general word for change: it includes unqualified change, growth, alteration, and locomotion.² The Eleatics, then, deny the existence of unqualified change, which occurs when some substance comes into or goes out of existence. They also deny the existence of qualified change, which occurs when a being that already exists changes in one of its qualities.³ This is a radical claim: if any being exists, regardless of what that being is, it cannot alter, grow, or move; nor could it have come into being, nor will it ever cease to be. Such a being exists eternally and is unchanging in all respects.⁴

Such a radical claim needs a convincing argument. Unfortunately, Aristotle merely adumbrates EC and leaves unexplained key premises, including why a being’s coming-to-be from ‘what is not’ would entail that nothing underlies. Some have added details to Aristotle’s outline by reconstructing *a priori* what the premises could mean and what could be supporting them.⁵ These interpreters have often taken EC to be concerned with how to distinguish genuine change from sheer emergence.⁶ Others have looked to Parmenides’ poem for his rich

¹ One might object that the originators of this argument are not merely the Eleatics but also the natural philosophers who, as Aristotle tells us in *Phys.* I.4, also responded to the Eleatic Challenge. There he says that they unanimously agreed that ‘what is’ cannot come from ‘what is not’ but responded that ‘what is’ can come from ‘what is’ (187^a26–^b1). However, the protagonists of *Phys.* I.8 cannot include these natural philosophers. They deny neither that change is possible nor that there is a plurality of beings. They try to solve this puzzle. They do not endorse its conclusion.

² See Morison (2002), pp. 11–15 and Ross (1936), pp. 7–8 for discussion.

³ I use ‘quality’ broadly to include any item from a category other than substance.

⁴ While Aristotle states that the argument concerns change in general, the only way to read EC’s conclusion in this way is by taking ‘no being’ (τῶν ὄντων οὐδέν) in (i) to include both qualities and substances and by taking each occurrence of the verbs ‘come-to-be’ (γίγνομαι) and ‘perish’ or ‘cease-to-be’ (φθείρω) completely (which I do throughout). So understood, EC’s conclusion states that neither substances nor qualities can come into being or perish full stop. This is equivalent to a denial of both qualified and unqualified change given how Aristotle distinguishes the two changes at 190^a31–33: a quality comes into being when some substance becomes so qualified; substances unqualifiedly come into being, which does not involve anything becoming qualified by a substance. See Loux (1992), p. 281 for a similar reading.

⁵ See, for instance, Code (1976a).

⁶ See, for instance, Gill (1994), p. 63, Gill (1991), p. 7, Waterlow (1982), p. 8, and Irwin (1988), pp. 84–87.

arguments against the reality of change. There he argues that were we to accept that a being comes from 'what is not', we would be implicated in the absurdity of thinking and speaking of 'what is not.'⁷ EC, though, is not a direct quote from Parmenides' poem, and it is unclear whether Aristotle thinks that EC originates with Parmenides as opposed to the larger school that he and Melissus belonged.

However, Aristotle does discuss both Parmenides and Melissus in depth earlier in *Phys. I*, and he can reasonably expect his readers to recall that discussion when he responds to EC in *Phys. I.8*. In that earlier discussion, Aristotle attributes to the Eleatics, and subsequently rejects, Predicational Monism (PM), the claim that each being can possess only one property, e.g., a being can be hot, or a stone, but it cannot be a hot stone.⁸ In this paper, I argue that (1) PM is assumed by EC and that (2) Aristotle's response to EC relies on his response to PM. This is not to say that Aristotle rehearses his response to PM in *Phys. I.8*. It is to claim that identifying the role of PM in EC is required for us to properly appreciate why the Eleatics endorsed its conclusion and to understand Aristotle's response.

My reading answers a question about EC that has received little attention: why does Aristotle think that his solution to EC is unavailable to the Eleatics? Aristotle responds to EC by distinguishing two different ways for a product of change to come from something else: either coincidentally or non-coincidentally (see section 6). But while Aristotle claims that only his account of the principles of nature allows for a solution to EC, he does not explain why one must adopt his account to distinguish coincidental from non-coincidental becoming, and he leaves unexplained why the Eleatics failed to notice this distinction. On my reading, the Eleatics have a principled philosophical position, PM, that is incompatible with the distinction Aristotle draws. This explains, I argue, why Aristotle's solution to EC is unavailable to them.

My main goal in this paper, then, is to show that this thesis, PM, leads the Eleatics (as Aristotle presents them) to endorse the conclusion of EC, and, further, to show that Aristotle's solution to EC relies on his response to PM. However, I want to emphasize that I make no claim about the historical Eleatics.⁹ The Eleatics I am concerned with are the ones we find in the text of *Phys. I*, and I remain neutral as to whether they are presented there accurately.

⁷ See, for instance, Parmenides B.8 3–10. For interpreters who use Parmenides to interpret *Phys. I.8*, see Shields (2007), pp. 50–52 and Ebrey (2007).

⁸ See section 4 for discussion of PM.

⁹ Some do, though, interpret the historical Parmenides as endorsing PM. See, for instance, Curd (1998).

I first outline two requirements for an adequate interpretation of EC and argue that the dominant readings in the literature fail one or both requirements. I then proceed to defend my claim that PM is an implicit premise in EC before showing that Aristotle's response to EC relies on his rejection of PM.

2 Interpreting the Eleatic Challenge

I first defend two requirements for an adequate interpretation of EC and then argue that alternative interpretations fail to satisfy one or both of these requirements. For ease of presentation, I label the argument for EC as follows:

1. If 'what is' comes-to-be, then it comes-to-be either from 'what is' or from 'what is not'.
2. If 'what is' comes-to-be from 'what is', then it is already.
3. 'What is' cannot come-to-be if it is already.
4. Therefore, 'what is' cannot come-to-be from 'what is'.
5. If 'what is' comes-to-be from 'what is not', then nothing underlies.
6. If 'what is' comes-to-be, then something must underlie.
7. Therefore, 'what is' cannot come-to-be from 'what is not'.
8. Therefore, 'what is' cannot come-to-be.

The first requirement states that an adequate interpretation must identify the support for EC's premises, namely 2 and 3 on the first horn, and 5 and 6 on the second. For 2, we must explain why something that comes from 'what is' would already be. For example, if a dolphin comes from 'what is', why would that dolphin already be? For 3, we must explain why something cannot become if it already is. For example, when we turn a cold piece of clay into a cold statue, we turn a cold thing into a cold thing, which appears to be a case of turning what is already cold into something cold. 3 prohibits this type of becoming, so we need an interpretation that explains this prohibition. For 5, we must explain why a being's coming-to-be from 'what is not' would entail that nothing underlies. And for 6, we must explain why the absence of something underlying makes it impossible for a being to come-to-be.

Second, the premises must be supported by claims that Aristotle takes the Eleatics to have endorsed. Why? Aristotle twice diagnoses the Eleatics' endorsement of the conclusion of EC as resting on some single confusion:

For this is why earlier thinkers were also diverted from the road leading them to <an understanding of> coming to be, perishing, and change in general. For if they had seen this <underlying> nature,¹⁰ that would have cured all their ignorance (191^b30–34; see also 191^b10–13).

Aristotle here charges the Eleatics with some mistake, a mistake that explains why they endorse the conclusion of EC. Since Aristotle's solution relies on correcting this mistake, we would expect it to play a role in EC. An adequate interpretation of EC, then, must identify this mistake and explain how it figures in EC.

It is worth noting that identifying this mistake will allow us to characterize what is philosophically interesting about EC. On the interpretation I argue for below, the Eleatics have a principled philosophical position, namely PM, which explains why they accept the key premises of EC. The central issue, then, is about whether any being can have the requisite complexity to be subject to change. The Eleatics of *Phys.* I.2 argue that no being can be so complex. Aristotle must diagnose and adequately respond to this earlier argument for PM if he hopes to respond to EC. This is precisely what he does on my interpretation.

Many hitherto defended interpretations have failed one or both requirements. These interpretations are normally characterized according to how they construe the dichotomy between 'what is' ('ἐξ ὄντος') and 'what is not' ('ἐκ μὴ ὄντος') in 1. Both are participle phrases formed from the preposition 'from' ('ἐξ') with the present participle of the verb 'being' ('εἶναι') in the genitive case. There are two different interpretations of these participles, which Ross nicely outlines:

It is not at first sight clear whether this means 'either from what is or from what is not' or 'either from what is it or from what is not it.'¹¹

On Ross's first option, the participles are construed existentially with the result that 1 states that 'what exists' comes from 'what exists' or 'what does not exist'. Call this the *Complete Reading* (CR). There are two versions of CR. According to the first version (CR1), premise 1 states two options about, as Timothy Clarke puts

¹⁰ While Aristotle does not mention 'ὑποκειμένη' here, one Bekker page previously he speaks about the underlying nature (ἡ δὲ ὑποκειμένη φύσις) (191^a7–8). So, I follow Ross (1936), p. 497 in taking ὑποκειμένη φύσις as the referent of 'ἡ φύσις'.

¹¹ Ross (1936), p. 494. See also Kelsey (2006), p. 333. Ross assumes that the complete and incomplete readings (see below) exhaust the interpretative options, but this assumes that the Greek verb 'εἶναι' has exactly the same syntactic and semantic properties as the English verb 'to be', an assumption that has been challenged by, for instance, Brown (1994) and Kahn (2009). I will set aside this issue as we can adequately interpret the participles in EC without settling these larger questions about 'εἶναι'.

it, the precursor of the generated thing. “[T]he ‘precursor’ of the generated thing is whatever it is that *becomes* the generated thing, as the seed becomes the plant or the bricks become the house.”¹² Premise 1 states that this precursor is either something that exists or something that does not exist, where the something is left unspecified.

According to the second version (CR2), Clarke’s preferred reading, premise 1 states two “options about *the pre-generation state* of the thing that comes to be.”¹³ Premise 1 states that the product comes from a state where it, the product, previously existed or from a state where it, the product, did not exist.¹⁴ So, according to CR2, premise 1 states that Socrates comes from a prior state where he himself existed or a state where he himself did not exist. According to CR1, premise 1 states that Socrates comes from some existing thing or other, or from some non-existing thing or other, where the something is left unspecified.

CR1 offers an inadequate interpretation of the first horn of EC. According to its interpretation of premise 2, if Socrates comes from some existing thing or other, then Socrates comes from himself. Why would the Eleatics accept this inference? Why accept that Socrates coming from *something or other* entails that the something or other is Socrates? If CR1 is correct, there is some claim (or claims) that explains this inference.¹⁵ It is difficult to identify a claim that the Eleatics could accept. They cannot, for instance, assume that there is just one being, say Socrates, that exists. If this claim were assumed, it would follow that Socrates coming from *something or other* would entail that he came from himself. However, the Eleatics, according to Aristotle, argue for Monism, the claim that there is only being itself, after establishing that change is impossible. If this conclusion both relies on Monism as a premise and is used as a premise to argue for Monism, we would not need to investigate the principles of nature to respond to the Eleatics. All we would need to do is observe that they make a simple logical mistake.

CR2 offers an inadequate interpretation of the second horn. According to its reading of premise 5, if Socrates comes from himself not-existing, then nothing would underlie. Why would the Eleatics accept this inference? Clarke suggests that (i) if Socrates is in the process of being born, then Socrates is the subject that

¹² Clarke (2015), p. 135.

¹³ Clarke (2015), p. 136.

¹⁴ See Clarke (2015) for the best defense of this reading. I take Waterlow (1982), p. 9 as also endorsing this reading. Even though she says that the thing that comes to be is a complement of the verbs (Waterlow 1982, p. 10), her overall reading is better captured by CR2 than any other alternative.

¹⁵ This problem is nicely raised by Kelsey (2006), p. 333.

is undergoing this process; (ii) if Socrates comes from himself not-existing, then Socrates does not exist as the change begins; (iii) the subject of a change must exist as the change begins. These three claims cannot all be true together. (ii) and (iii) entail that Socrates cannot be the subject of his own birth while (i) states he must be so.¹⁶ Let us grant (ii) and (iii). Why would the Eleatics endorse (i)? Clarke offers no explanation, but one is needed. While the Eleatics might deny that Socrates can be the subject of his own birth, they must explain why Socrates is the only candidate subject for his birth. Without such an explanation, we have no reason to accept that Socrates coming from himself not-existing would entail that Socrates comes from no subject whatsoever.

To illustrate the problem, consider the following two claims: (i) The pale becomes musical from being previously unmusical. (ii) The pale cannot be the subject of a music lesson. The conjunction of (i) and (ii) does not entail that there is no subject whatsoever for the change described in (i). The conjunction only entails that the pale or pallor is not the relevant subject. However, the conjunction is compatible with there being some subject other than pallor for the change, such as a person who happened to be pale learning to play music.

The difficulty with CR2 is that it leaves unexplained why the Eleatics ignore an obvious possibility: something other than Socrates underlies when he is born. What claim might explain this ignorance? Some candidates will not suffice. The Eleatics cannot assume that there is only one possible being, say, Socrates. If this claim were assumed, it would follow that Socrates and only Socrates could be the subject of his own birth. It would then follow that if Socrates were to come from his non-existing self, there would be no subject whatsoever. But were the Eleatics to assume that there is only one possible being as a premise of EC, they would be assuming Monism as a premise in an argument whose conclusion they will use to argue for Monism. Again, this is a simple logical mistake that requires no deep investigation of the principles of nature.

The second approach to the dichotomy mentioned by Ross construes the participles predicatively as in 'what is F' or 'what is not F'. Call this the *Incomplete Reading* (IR). The success of IR depends on the value supplied for 'F'. Some suggestions will not suffice. Ross, for instance, suggests that the value of 'F' is the product of the change itself, e.g., Socrates comes from what is Socrates or from what is not Socrates. But this suggestion is vulnerable to the same objection raised against CR2: why would it follow from Socrates coming from what is not Socrates that there is no subject of this change whatsoever?¹⁷ While we might

¹⁶ Clarke (2015), p. 137.

¹⁷ See Kelsey (2006), p. 334 for a good statement of this difficulty.

supply a premise to EC to explain this inference, it is difficult to identify one that would be acceptable to the Eleatics.

A more promising Incomplete Reading has been offered by Sean Kelsey. He claims that the value of 'F' is 'substance' with the result that premise 1 reads as the claim that a substance comes from what is substance or from what is not substance.¹⁸ But Kelsey's interpretation of the second horn fails our second requirement. Consider how he summarizes his view:

Suppose then we ask what sort of thing it is that substances such as Socrates come to be from. Either it is a substance or it is not a substance. If it is a substance, then it will become something that it already is, namely a substance. If it is not a substance, it will not "underlie" (for Aristotle, only substances "underlie").¹⁹

Kelsey interprets the second horn of the dilemma as providing an argument that Socrates cannot come from what is not a substance. His key move is to take what underlies, the subject, to be an ultimate subject of predication. Kelsey points out that Aristotle thinks that only substances are such ultimate subjects. Hence, if Socrates comes from what is not a substance, he comes from something that does not underlie.

It is a problem for Aristotle if a substance must come from something that is an ultimate subject of predication but could not come from a substance. But this is hardly a problem for the Eleatics from whom the puzzle originates, at least according to Aristotle. On Kelsey's reading, the claim that only substances underlie is a central premise of the argument, but this is a premise that, as Kelsey points out in our quotation above, is an Aristotelian premise. So, Aristotle would be wrong to attribute this claim to the Eleatics as a premise in EC and uncharitable to charge them with some confusion when endorsing its conclusion.²⁰

3 'What is' and 'what is not' as opposites

Interpreting 'what is' and 'what is not' is difficult because the Greek can be construed in several different ways and the text of *Phys.* I.8 provides inconclusive

¹⁸ Kelsey (2006). Note that Kelsey's reading, as he points out, can also be presented as a version of CR if we take 'εἶναι' to mean 'substance'. For ease of presentation, I take his view as an instance of the IR. My objections below apply equally to both presentations of his view.

¹⁹ Kelsey (2006), p. 336.

²⁰ See Clarke (2015), p. 135 for similar worries.

evidence for the correct construal. In the next two sections, I argue that earlier passages in *Phys.* I fix their use in EC. The first passage, the focus of this section, occurs at the beginning of *Phys.* I.5. In it, Aristotle uses the participles ‘what is’ and ‘what is not’ as the pair of opposites a change occurs between:²¹

All thinkers agree in making the opposites principles, both those who describe the All as one and unmoved, for even Parmenides treats hot and cold as principles under the names fire and earth, and those too who use the rare and the dense. The same is true of Democritus also, with his plenum and the void, both of which exists, he says, the one as what is, the other as what is not (188^a19–23).

In this quotation, Aristotle says that all his predecessors agree that some pair of opposites are principles, including Parmenides who believes the principles are the hot and the cold. Aristotle adds something striking for our purposes: Democritus believes that one opposite, the plenum, exists as ‘what is’ (τὸ ὄν), while the other, the void, exists as ‘what is not’ (τὸ οὐκ ὄν). By calling the plenum and void a pair of opposites, Aristotle means that Democritus treats the opposites the full and the empty as principles under the names ‘the plenum’ and ‘the void’ (see *Met.* 985^b4–9). This is analogous to how Parmenides treats the hot and the cold as principles under the names ‘fire’ and ‘earth’. While Aristotle characterizes Democritus as believing that some pair of opposites are ‘what is’ and ‘what is not’, he does not say the same about Parmenides in our above quotation. Nevertheless, Aristotle claims elsewhere that Parmenides “ranges the hot with what is, and the cold with what is not” (*Met.* 986^b31–987^a2; see also *GC* 318^b5–12).

Let us set aside the question why Aristotle characterizes Parmenides as thinking that there are two principles and the question how Aristotle understands the role these principles play in Parmenides’ poem. Focus instead on the use of ‘what is’ and ‘what is not’ in this passage and its proximity to our target passage in *Phys.* I.8. We might expect the use of the participles in EC to be fixed by our passage in *Phys.* I.5. At least, anyone who denies that the uses are similar must either identify some passage where Aristotle signals a change in use, or, if no sign is forthcoming, explain why Aristotle would use the phrases in different ways in two parts of his single investigation into the principles of nature. Given that he does nothing to signal a change in use, Aristotle must expect his readers to recall the way he has used these participles in a passage that occurred only four Bekker

²¹ There are four different ways for things to be opposed to each other according to Aristotle, “either as relatives, or as contraries, or as privation and possession, or as affirmation and negation” (*Cat.* 11^b17–19). See Ackrill (1963), pp. 109–11 for discussion. The opposites that concern us are contraries, though I continue to use ‘opposite’ throughout this paper.

pages previously. And this passage from *Phys.* I.5 shows that opposites are key to understanding the participles 'what is' and 'what is not' in the following two ways.

First, 'what is not' should not be understood as something non-existent. Aristotle does not claim that, for Parmenides, the hot is what exists and the cold is what does not exist. This would be a bizarre claim to make. Hot and cold differ not because one exists and the other does not. Rather, they differ because they are different existing temperatures. This may appear to be a surprising upshot if 'what is not' refers to a privation. If so, then the Eleatics construe privations to be things which exist and not mere absences. There is an interesting question of how Aristotle himself understands the ontological status of privations, but answering that question is not important for how he presents the Eleatics here, i. e., irrespective of what Aristotle thinks about privations, he presents the Eleatics as believing that they exist (if, indeed, 'what is not' refers to a privation).

Second, since 'what is' and 'what is not' are opposites, they should be understood as characterizations of the *termini* of a change. Aristotle himself uses 'what is' and 'what is not' in this way in *GC.* I.3 when he claims that "the way which leads to what is not unqualifiedly is unqualified perishing, and the way that leads to what is unqualifiedly is unqualified generation". He adds that the distinction between 'what is' and 'what is not' will always be made in terms of some pair of opposites where "one of the pair will be what is, the other what is not" (*GC* 318^b5–12; cf. *Met.* 1004^b27–28). By this, Aristotle means that a process of coming-to-be begins with 'what is not' and ends with 'what is'. A process of ceasing-to-be begins with 'what is' and ends with 'what is not', where 'what is' and 'what is not' are those opposites the change occurs between. How we understand 'what is' and 'what is not' depends on the kind of process involved. Warming takes place between the opposites cold and hot. Thus, warming can be characterized as a change that occurs between 'what is not' and 'what is' as long as we understand 'what is not' as 'the cold' and 'what is' as the 'the hot'. A sculpting, on the other hand, can be characterized as a change from 'what is not' to 'what is' as long we construe the former as 'the unsculpted' and the latter as 'the sculpted'.

On this reading, 'what is' and 'what is not' could be construed as either complete or incomplete phrases. Understood in the latter way, the participles refer to two distinct items. 'What is' has as its complement that opposite towards which the change is directed, e. g., 'what is hot'. 'What is not' has the same complement and refers to that opposite from which the change proceeds, in this case from what is cold. Understood as complete phrases, my reading is similar to Michael Loux's. He claims that (i) the participles "provide fully significant and unambigu-

ous characterizations of the terms of a coming to be,”²² and (ii) these phrases are “generalizations of more particular characterizations.”²³ Taken this way, ‘what is not’ and ‘what is’ are general characterizations of the *termini* of change just because they are generalizations of pairs of opposites, where some specific pair of opposites are the *termini* of some specific change, e. g., the hot and the cold are the *termini* of cooling and warming. Loux and I differ in that he thinks ‘what is not’ stands for the mere absence of ‘what is’, e. g., the mere absence of heat. In contrast, our passage from *Phys.* I.5 shows that ‘what is not’ should be construed as the opposite of ‘what is’, e. g. the cold.

4 Predicational Monism

It might appear that we must decide between these two options. ‘The hot’ and ‘what is hot’ are syntactically different phrases. They also appear to have two distinct referents. The latter refers to that which possesses heat. The former refers to the heat possessed. Here I want to show that a hitherto unnoticed assumption has been operative in the argument, namely PM, an assumption that Aristotle attributes to the Eleatics in *Phys.* I.2 and an assumption whose rejection is key to Aristotle’s own solution to EC. PM sullies the distinction between the complete and incomplete readings and affects our understanding of EC. Consider first the following passage from *Phys.* I.2:

The most pertinent question with which to begin will be this: In what sense is it asserted that all things are one? For ‘is’ is used in many ways. Do they mean that all things are substances, quantities, or qualities? And, further, are all things one substance—one man, one horse, or one soul—or quality and that one and the same—pale or hot or something of the kind? (185^a20–26).

In this quotation, Aristotle says that there are different categories of beings: substances, quantities, qualities, and so on. Thus, there are different ways of understanding the Eleatics’ claim that all beings are one, either as a claim that there is one *category* of thing or as also a claim that there is only one *member* of that category. For instance, the Eleatics could mean that all beings are substances (and only substances), or quantities (and only quantities), or qualities (and only qualities). For each of these options, there is a further question about the Eleat-

²² Loux (1992), p. 288.

²³ Loux (1992), p. 290.

ics' claim: do they think that there is just one being in the relevant category? For instance, if the Eleatics believe that all beings are hot, do they believe that there is one hot thing or many hot things?

These various ways of understanding the Eleatics' claim that all beings are one are similar in one important way: each entails Predicational Monism. If the Eleatics think that all things are one because each thing is hot and only hot, then, irrespective of whether there are one or many hot things, each thing that exists is only one kind of thing. If they think that all things are one because each thing is a horse and only a horse, then, irrespective of whether there are one or many horses, each thing that exists is only one kind of thing.

PM is not to be confused with Monism. PM states that for every object x , there is some property P such that x is P and only P . It is not the stronger claim that there is some one property P such that for every object x , x is P and only P . Nor is PM the claim that there is only one being that exists. These latter two claims are Aristotle's two different ways of understanding Monism. Each of these ways of understanding Monism does entail PM, but they are not entailed by PM. PM is not a claim, nor does it entail a claim, about the number of properties or beings that exist. It is a claim about the number of properties a being can possess, namely, it claims that each thing can possess one and only one property.²⁴

It is difficult to state PM more clearly than I have for reasons Aristotle himself raises. On the one hand, it is uncharitable to characterize the Eleatics as saying that each thing has only one property if this assumes that there are both subjects and the properties they possess. If the Eleatics allow that each thing is only, say, hot, then Aristotle complains that there must be two types of things that exist, both heat and the substance that possesses heat (185^a29–32). But the Eleatics deny this. They would deny that there are both substances and qualities. They claim that for each thing that exists, there is some F such that that thing is F *through and through*. By this, I mean that if x is F the Eleatics do not think that there are two things that stand in some predication relation. They think the 'is' is the 'is' of identity and assume that x is identical to F . Aristotle's complaint, then, is that the Eleatics seem both to claim that each being possesses one property and that each being is identical to that one property it possesses; a pair of claims that sit uneasy with one another. Nevertheless, it is this version of PM that will be relevant to EC below.

Let us apply this version of PM to both qualities and substances. Aristotle observes that Parmenides assumes in his arguments that there cannot be both the pale and that which is pale, e.g., there cannot be both the property of pallor

²⁴ See Clarke (2012), p. 48 for a detailed discussion on the varieties of monism in *Phys.* I.2–3.

and things which have that property (cf. 186^a22ff). On this view, one cannot draw a distinction between 'what is pale' and 'pallor'. There is just the thing that is pale through and through. The same point applies to substances. The Eleatics cannot distinguish between the property of being a horse and a particular subject that has that property. The phrases 'horse' and 'what is a horse', on this view, must be understood as referring to the one thing that is a horse through and through. So, if we suppose that Bucephalus is pale, then Bucephalus must be pale through and through. He cannot then be anything else in addition to being pale, in particular, he cannot also be a horse, a substance. Thus, there can be something that is pale and there can be something that is a horse, but there cannot be something that is a pale horse.

Aristotle's response to PM comes in the following passage in *Phys.* I.2:

(i) Even the more recent of the ancient thinkers were in a pother lest the same thing should turn out in their hands both one and many. (ii) So some, like Lycophron, were led to omit 'is', others to change the mode of expression and say 'the man has been whitened' instead of 'is white', and 'walks' instead of 'is walking', for fear that if they added the word 'is' they should be making the one to be many—as if 'one' and 'is' were always used in one and the same way. (iii) What is many may be many either in definition (for example to be white is one thing, to be musical another, yet the same thing may be both, so the one is many) or by division, as the whole and its parts (185^b25–34).

In (i) Aristotle summarizes one of the Eleatics' primary worries. He says that a puzzle about an entity being one and many was also tackled by other philosophers, including the sophist Lycophron mentioned in (ii). The use of 'also' indicates that the puzzle was also addressed by the Eleatics, the topic of the discussion in which this passage occurs. This tells us that a puzzle over how a being can be both one and many lies behind the Eleatics' claim that each being can only be one kind of thing, which is what we might expect given that Aristotle subsequently faults the Eleatics for assuming PM (cf. 186^a22ff).

The puzzle is straightforward. Consider the poet Simonides. Simonides is one being. Thus, he is one. Since he is both a man and musical, he is also two. Hence, Simonides is both one and many. We secure a contradiction if we assume that being one and many are contradictory properties. The Eleatics take the contradiction seriously and reply that each being is only one thing, e. g., Simonides is a man or musical, but he is not a musical man.

Aristotle thinks that the puzzle is easy to solve. In (iii) he states that there are importantly different ways of understanding the phrase 'being one and many'. It can mean being one and many in definition. For instance, being a man, a dog, a great oak, cold, tall, and cheerful are many in definition, where this means that what it is to be each is different. It can also mean being one and many in number.

Socrates, Simonides, and Plato are many men, where this means that they are numerically many. In contrast, Simonides is one man, where this means that he is numerically one man—there is just one of him. While it is contradictory to claim that something is one and many in the same way, it is not contradictory to claim that Simonides is one in number and many in properties, in the sense that he has many properties that are different in definition from one another, e.g., he is a man, musical, cheerful, etc.

5 The Eleatic Challenge reconstructed

Attending to these earlier passages allows for a new reading of EC. First, ‘what is not’ and ‘what is’ should be understood as those opposites a change occurs between. Second, since the Eleatics accept PM, they must take phrases like ‘what is hot’ and ‘the hot’ as referring to one and the same thing, i.e., that which is hot through and through. Similarly, the phrase ‘what is cold’ and ‘the cold’ refer to one and the same thing, i.e., that which is cold through and through. So understood, using the example of the hot and cold, 1 states that what is hot through and through comes from one of two things, either from what is hot through and through or from what is cold through and through. 2–4 provide an argument against the possibility of the former, and 5–7 provide an argument against the possibility of the latter.

I discuss each horn in turn and, for convenience, will use phrases of the form ‘the hot’ rather than ‘what is hot’ when doing so; my reading of both horns can be parsed in either way without loss in meaning as long as we recall that the Eleatics take both phrases to refer to what is hot through and through. The first horn is straightforward:

2. If ‘what is’ comes-to-be from ‘what is’, then it is already.
3. ‘What is’ cannot come-to-be if it is already.
4. Therefore, ‘what is’ cannot come-to-be from ‘what is’.

On my account, ‘what is’ is the *terminus ad quem* of the change; it is that which the change is a process towards. Let us use the example of heat. 2 states that if the hot comes from the hot, then the hot is already. 3 tells us that the hot cannot come-to-be if it is already.²⁵

²⁵ If one takes the participles incompletely, then, on my reading, 2 states that if ‘what is only hot’ comes from ‘what is only hot’, then ‘what is only hot’ is already. 3 states that ‘what is only hot’ cannot come to be if it is already.

Why would the Eleatics accept 2? When we craft a hot gold statue from some hot molten gold, a hot thing has come from a hot thing. As Aristotle presents them, the Eleatics ignore an obvious option: one hot thing comes from a different hot thing. But this option is not obvious to the Eleatics precisely because of their commitment to PM. If the hot comes from the hot, then the Eleatics think that it will be some hot thing through and through that is the subject of change. This effectively blocks the option the Eleatics ignore: one hot thing turns into another hot thing, e.g., hot gold becomes a hot statue. In such a case, the subject is not merely hot. It is also gold, or a stone, or some other such thing. But if a subject were hot and only hot, it could not also be gold, or a stone, etc. Such a subject has no feature or property it can lose or gain other than heat. There would then be no way to individuate these apparently two different hot things. The *terminus ad quem* and *terminus a quo* would be indistinguishable in every possible respect, which contradicts the claim that some kind of change has occurred.

Aristotle does not in our chapter give the Eleatics' reason for the prohibition stated in 3, but the premise should be understood by attending to the discussion of opposites in *Phys.* I.5.²⁶ After telling us that all his predecessors make some pair of opposites the principles, Aristotle proceeds to clarify this shared commitment by talking about the structure of change. He says that "the pale comes from the not pale, and not from any not pale, but from the dark or something in between" (188a31–188b6). Aristotle concludes that what comes to be in every change is an opposite, where what it has come from is what it is opposed to (188^b21–26).²⁷ Thus, if F is one of a pair of opposites, it cannot come from itself. It must come from what it is opposed to. This conclusion clarifies the claim that the principles are a pair of opposites, a commitment that Aristotle tells us is shared by all his

²⁶ An alternative way of construing 3 is by noting that this change is one that has heat as its product, i.e., the product is hot. 3 might be claiming that the hot cannot become what it already is, i.e., since the hot is hot, it cannot become hot. See Kelsey (2006), p. 335 for this reading.

²⁷ Aristotle recognizes that this conclusion may not seem to apply to complex entities like statues, houses, and humans. Nevertheless, he points out that even the generation of a complex entity involves an opposite coming-to-be, where what it has come from is what it is opposed to. For instance, when a statue comes-to-be, a shaped thing has come from a non-shaped thing (188^b15–20). Two qualifications: First, Aristotle does not say that substances come from their opposites, which would commit him to the claim he denies at *Cat.* 3^b24–32 that substances have opposites. He commits himself only to the claim that the form of a substance has an opposite. Second, once Aristotle has outlined his own view of the principles, he will claim that what comes-to-be is not merely an opposite, but a composite of some opposite and some subject (cf. 190^b17–21). Aristotle motivates his reading, we will see, by denying PM, a claim that is incompatible with both the product and subject it came from being composite.

predecessors, including Parmenides. 3, then, repeats a general claim that has already been attributed to the Eleatics.

Turning now to the second horn, recall that it reads as follows:

5. If 'what is' comes-to-be from 'what is not', then nothing underlies.
6. If 'what is' comes-to-be, then something must underlie.
7. Therefore, 'what is' cannot come-to-be from 'what-is-not'.

Why might the Eleatics accept premise 5?²⁸ This inference assumes two claims. First, it assumes that if 'what is' comes from 'what is not', then 'what is not' underlies. Secondly, it assumes that 'what is not' cannot be a subject of change into 'what is'. The conjunction of both claims is assumed by 5, so the challenge is to explain why the Eleatics accept both.

Whether that challenge can be met depends on one's understanding of the participles. On my reading, examples of the two claims are as follows: (i) If the hot comes from the cold, then the cold is the subject of the warming. (ii) The cold cannot be subject to warming, i.e., it cannot be the subject that the hot comes from. The conjunction of (i) and (ii) entails that if the hot were to come from the cold, there would be no subject whatsoever.

The Eleatics' acceptance of PM explains why they accept (i). They believe that a cold thing can be nothing other than cold. It cannot also be a stone, or gold, or chocolate. If a cold thing is cold through and through, then the Eleatics believe that were the hot to come from the cold, the subject would be cold and nothing more.²⁹ It is harder to identify why the Eleatics accept (ii). Why do they think that something which is cold through and through cannot be subject to warming? It is possible that the Eleatics think that this is obvious. If the initially cold subject is identical to the cold it possesses, it could not become warm since that would involve it ceasing to be cold.

Aristotle and many of his predecessors (as Aristotle presents them) accept premise 5 for a similar reason, at least according to *Phys.* I.6:

Granted then, that they [the principles of nature] are a limited number, it is plausible to assume them more than two. For it is difficult to see how either density should be of such

²⁸ Many have worried that IR cannot explain the second horn. See, for instance, Kelsey (2006), p. 334 and Anagnostopoulos (2013).

²⁹ Anagnostopoulos (2013), p. 262 agrees that the second horn relies on the assumption from *Phys.* I.6 that no opposite can be the subject of change. While our readings are in agreement on this point, Anagnostopoulos offers little argument as to why it follows from the fact that 'what is' comes from 'what is not' that there would be no subject. It is precisely the assumption of PM that explains this inference on my reading.

a nature to make rarity something or rarity is such to make density something. The same is true of any other pair of opposites; for Love does not gather Strife together and make things out of it, nor does Strife make anything out of Love, but both make a third thing something. Some indeed assume more than one such thing from which they construct the nature of beings (189^a21–27).³⁰

This quotation provides an argument that opposites cannot be subjects of change into one another. It thus provides a reason for thinking that what is cold through and through cannot be subject to warming. The argument assumes as a premise the claim that opposites cannot act upon and create beings out of one another, e. g., the hot cannot act upon the cold, and vice versa (189^a22–23). The reference to actors and patients in turn is explained by the assumption that a subject becoming F is caused by F (or an F thing) acting upon that subject, e. g., a thing becomes hot because it is acted upon by a hot thing. Thus, if a pair of opposites F and G cannot act upon one another, then F and G cannot be subjects of change into one another. And, if opposites cannot be subjects of change into one another, then there must be some other being that is so acted upon and so serves as the subject of change. For instance, since Love and Strife can make nothing out of one another, both must act upon some further thing(s).³¹

Aristotle does not explicitly mention the Eleatics in this passage or later in *Phys.* I.6, so one might question whether this quotation provides the Eleatics' reasons for denying that the cold through and through can be subject to warming. He does discuss his other predecessors. His discussion of Love and Strife is a clear reference to Empedocles, and he adds that "some even assume more than one such thing [a subject upon which opposites act] from which they build the nature of beings" (189^a26–27). These predecessors agree that opposites cannot act upon one another and so cannot be the subject of change into one another. Instead, they think that the opposites must act upon something else, where the thing acted upon serves as the subject of change. These predecessors are a diverse group that include not only Empedocles, but also those who Aristotle mentions a few lines later as believing that what is acted upon is just one material element, either water, fire, air, or an intermediate (189^a34ff.). This is a clear reference to Thales, Anaximander, and Anaximenes. The group also likely includes those who

³⁰ Note that we can translate 'ἡ πυκνότης τὴν μανότηα ποιεῖν τι πέφυκεν' as either 'density is such as to do something to rarity' or 'density is such as to make rarity something'. I presume that these two are equivalent. When the hot tea makes me warm, it is doing something to me, i. e., it is warming me up. Similarly, the cold lemonade does something to me by making me cold. See Charlton (1992), p. 3 and Ebrey (2007) p. 45, n. 11 for discussion.

³¹ See Ebrey (2007), ch. 2 for further discussion.

Aristotle describes as believing that a pair of opposites is acted upon rather than acts on something else (189^b14–16). This is a reference to Plato whom Aristotle characterizes at 187^a17–18 as holding that the great and small are matter and the one is the form.

Nevertheless, the fact that a majority of Aristotle's predecessors believed that opposites cannot act upon one another does not entail that the Eleatics share this belief. One might, then, question whether this is the real source of their claim that what is cold through and through cannot be subject to warming. Perhaps one piece of corroborating evidence comes from considering why opposites cannot act upon one another, which Aristotle explains only later in *Phys.* I.9. There he tells us that opposites are mutually destructive and therefore cannot be the subject of change into another (192^a16–22). In contrast, the subject is not destroyed by being so acted upon and persists through the action. This shows that for heat to successfully act upon *x*, *x* must persist through the change. Since the cold cannot persist through a warming, it cannot be acted upon by the hot. Thus, it cannot be a subject of warming. We have already seen that the Eleatics would deny that opposites persist through change. We learned in *Phys.* I.5 that Parmenides thinks of the hot and cold as principles and saw that Aristotle explains this in terms of the *termini* of change, e. g., when the hot comes to be, the cold passes away, and *vice versa*.³² On this suggestion, what is cold through and through cannot be subject to warming because it could not persist through such a change.³³

Finally, premise 6 commits the Eleatics to the claim that change requires something that underlies, i. e., requires a subject of change. Here one might raise an objection. Some, like Michael Loux, claim that it was Aristotle who discovered the need for a subject of change. Since the Eleatics were unaware of that need, according to Loux, Aristotle cannot claim that the Eleatics assumed it as a premise in EC. Loux suggests, “the remark in question has to be understood to have the neutral force ‘[t]here must be something there beforehand.’”³⁴ So translated, the Eleatics just assert that if ‘what is’ comes from ‘what is not’, then ‘what is’ comes from nothing at all.

³² See also *GC* I.3 where Aristotle claims that, for Parmenides, the coming to be of fire would require the passing away of earth, and *vice versa* (*GC* 318^b2–7). Fire and earth, Parmenides' ways of referring to the hot and cold (188^a20–22), then, do not persist through a change of one to the other.

³³ There is debate over whether Aristotle agrees that the subject of each change must persist through that change of which it is subject. See Code (1976b), Charlton (1992), Ebrey (2007), Jones (1974), O'Connor (2015) for further discussion.

³⁴ Loux (1992), p. 285.

In response, there is little evidence that Aristotle believes that he was the one who discovered the need for a subject of change, and there is strong evidence that he attributes awareness of this need to his predecessors. For instance, at 189^b5–8 Aristotle says his predecessors agree that there is a subject, but they disagree about which being or beings is/are these subjects. So, their disagreement is not over whether there is a subject of change, but over what the subject is.³⁵ Since Aristotle attributes belief in a subject of change to some of his predecessors, we have no reason to think that he does not attribute the same belief to the Eleatics in premise 6.

Summing up: On the interpretation I am defending, EC concerns the ontology of changing beings. The Challenge, in effect, turns on three key claims:

- A1. Change occurs between opposites.
- A2. There is a subject of each change numerically distinct from those opposites the change occurs between.
- A3. Each being has some one property F such that it is F through and through (PM).

A1 and A2 place two conditions on what beings can change. According to A1, if a being is to change, it must be capable of admitting those opposites, like the hot and cold, that change occurs between. According to A2, whatever changes cannot be one of those opposites, e.g., the subject that warms cannot be just cold. It must be distinct, in some way, from both the hot and the cold by being, for instance, a stone, or clay, etc. Aristotle and the Eleatics agree on A1 and A2; they agree that change is possible only if both A1 and A2 are satisfied. Their disagreement is over A3, which is incompatible with the conjunction of A1 and A2. If A3 is true, then the subject cannot both possess those opposites lost and gained in a change, and, at the same time, be distinct from those opposites. The Eleatics accept A1–A3. They accept that a subject must undergo each change, but they are unable to clearly distinguish any candidate for this subject other than the *termini* of a change. Since they agree that an opposite cannot undergo a change, could never be a subject of change, their acceptance of PM forces them to conclude that change is impossible. EC, in effect, comprises an argument that the assumption of PM makes it impossible for A1 and A2 to be jointly satisfied. Since Aristotle too accepts A1 and A2, he must either reject PM or show that it is, in fact, compatible with A1 and A2. He pursues the former strategy. He rejects PM and uses that rejec-

35 See also 187^a12–17 and Waterlow (1982), p. 9 and Kelsey (2010) for similar points.

tion to show how change can occur between opposites without opposites being subject of change into one another.

6 Aristotle's solution to the Eleatic Challenge

Key to Aristotle's strategy is to show that rejecting PM allows one to distinguish two different ways for the product of a change to come from something else. This distinction between what we can call *coincidental becoming* and *non-coincidental becoming* is introduced in *Phys.* I.7. That chapter is aimed at reconciling the conclusion of *Phys.* I.5 that some pair of opposites are the principles with the conclusion of *Phys.* I.6 that the subject of change is a principle distinct from those opposite the change occurs between. This raises the question of how many principles there are and the question of what exactly a product comes from, the subject or privation. Aristotle's crucial move in answering these questions relies on his rejection of PM:

In every case, there must be something which underlies [is the subject for] what comes to be; even if the subject is one in number, the subject is not one in form, since being a man is not the same as being an unmusical thing. (By 'in form' I mean the same as 'in account') (189^b13–16; cf. 190^b23–24).

Here Aristotle says that even if the subject is one in number, it can still be many, in particular, it can be two in form, which is equivalent to being two in definition. This is the same claim Aristotle used in *Phys.* I.2 to respond to the Eleatics' argument for PM. What it is to be a man differs from what it is to be unmusical. Thus, one individual thing like Simonides can be both one and many. He is numerically one entity, but, nevertheless, he is several kinds of things.³⁶ This is a claim, as we have seen, that the Eleatics cannot accept. Since they endorse PM, they cannot agree that any entity is both musical and a man.

By allowing entities such complexity, Aristotle can distinguish two ways for the product of a change to come from something else, namely, it can come coincidentally or non-coincidentally from something else (190^b25–27; see below). While a product comes non-coincidentally from the subject, it is only coincidentally that products come from the privation and opposite, where Aristotle lists

36 There is disagreement over whether 'one in number' is a monadic predicate, as I take it, or a dyadic predicate. See Code (1976a), Code (1976b), Irwin (1988), p. 85, Matthews (1992), and Matthews (1982).

things like the unmusical and the cold as opposites (190^b30–33). This distinction between coincidental and non-coincidental becoming is not clarified by Aristotle until *Phys.* I.8. He does so via an example: we can speak in two different ways of something acting, suffering, or changing *from* being a doctor, either from being coincidentally a doctor or precisely insofar as being a doctor (191^a34–^b4). The distinction marks a difference in whether being a doctor plays a role in explaining why some individual is able to act, suffer, and change in some specific way.

Suppose the famous doctor Galen builds a house. This event can be described as one in which a doctor builds a house. While this description is true, there is nothing about being a doctor that explains Galen's ability to build a house. In this instance, Galen builds a house insofar as he is a doctor, but only insofar as he is coincidentally a doctor. This contrasts with a case where being a doctor explains Galen's ability to act, suffer, or change. For instance, when Galen cures a patient, the event can be described as one in which a doctor cures a patient. In this case, being a doctor explains Galen's ability to tend to his patients. Galen, then, cures insofar as he is a doctor, not merely coincidentally, but precisely insofar as he is a doctor. The Eleatics will obviously balk at this example. If Galen is both a house builder and a doctor, then Galen has two features, which is incompatible with PM.

Just as we can say that Galen does something insofar as he is a doctor in two ways, Aristotle points out that we can speak about 'what is' coming from something else in two different ways. Thus, we can understand premise 1 in two different ways:

- 1a. 'What is' comes-to-be non-coincidentally from 'what is' or from 'what is not'.
- 1b. 'What is' comes-to-be coincidentally from 'what-is' or from 'what is not'.

1a is true only if being 'what is' or 'what is not' explains the ability of some subject to be turned into 'what is'. In contrast, 1b is true only if the subject is either 'what is' or 'what is not' at the beginning of the change and neither description picks out the relevant ability of the subject to be turned into 'what is'. The distinction between 1a and 1b by itself shows that EC, the argument from 1 to 8, is not sound. Read as either 1a or 1b, 1 falsely assumes an exhaustive distinction between two ways for 'what is' to come from 'what is' or 'what is not'. Since 1 is false, EC is not sound. Nevertheless, each horn might still contain sound arguments against both 1a and 1b: they may contain arguments that effectively show that 'what is' cannot come either coincidentally or non-coincidentally from 'what is' or 'what is not'.

Aristotle does concede that the arguments on both horns, 2–4 and 5–7, are valid and sound when read non-coincidentally. He says that he is "in agreement with them in holding that nothing can be said without qualification to come from what is not (191^b13–14) ... in the same way we maintain that nothing comes-to-be [unqualifiedly] from what is (191^b17–18)." He is right to make this concession. If the hot were to come non-coincidentally from the hot, then what the hot came

from would be a subject of warming precisely by virtue of its being hot. But while a subject might change from being one hot thing to another hot thing, this is because the change is a sculpting, or shaping, etc., and not a warming. In other words, the change is not one in which the subject is becoming hot, even though it is hot at the end of the change. Similarly, if the hot were to come non-coincidentally from the cold, then what the hot came from would be a subject of warming precisely by virtue of being cold. But this is a possibility that Aristotle rejected in *Phys.* I.6 in agreement with his predecessors.

While Aristotle makes this concession to the Eleatics, he argues that their arguments fail when the premises are given their coincidental readings. If their arguments equally show that ‘what is’ cannot come coincidentally from either ‘what is’ or ‘what it not’, then distinguishing coincidental from non-coincidental becoming will have been in vain. Aristotle’s attempt to show that the arguments on both horns fail when the premises are read coincidentally relies on his rejection of PM. He responds to the first horn by rejecting premise 3, the claim that ‘what is’ cannot come-to-be if it is already:

Similarly, there is no coming to be, except coincidentally, from what-is, or of what-is.³⁷ But coincidentally what is also comes to be, in the same way as if animal comes to be from animal and a certain animal from a certain animal. Suppose, for instance, that a dog comes to be from a horse. For the dog would come to be not only from a certain animal, but also from animal, though not insofar as it is animal for that is already present (191^b17–23).

This bit of text is difficult. It speaks of a dog coming from a horse and an animal from an animal, a bizarre example.³⁸ The example is meant to illustrate this point: ‘what is’ can come coincidentally from ‘what is’. The passage mentions one change that can be described in several different ways. The most perspicuous

³⁷ I follow Ross (1936), p. 495 and Kelsey (2006), pp. 352–53 in taking Aristotle to be referring to the *terminus a quo* in two ways, as ‘that from which the product comes into being’ and as ‘that which becomes the product’. I then take ‘κατὰ συμβεβηκός’ to qualify both claims. It says that ‘what is’ can coincidentally come from ‘what is’ and also that ‘what is’ can coincidentally become ‘what is’. On this reading, Aristotle does not here deny that ‘what is’ can come from ‘what is’. He asserts that ‘what is’ can do so, but only coincidentally.

³⁸ Some have found the speculative biology unacceptable. Ross (1936), p. 495, for instance, suggests that we read the text as saying ‘κύων ἐκ κυνὸς ἢ ἵππος ἐξ ἵππου γίγνεται’. Aristotle would then be speaking of a dog coming from a dog and a horse coming from a horse. Laas’s emendation (accepted by Ross) can be taken in two ways. The first takes Aristotle to be speaking of efficient causation, which leaves open how this example is meant to illustrate what is involved in, if you like, material causation. The second takes Aristotle to be claiming that the matter for the generation of a dog is itself a dog, an interpretation no better than construing him as claiming that the matter for the generation of the dog is the horse. So, I will proceed with the text as stated.

description states that the dog comes from a horse. Since a dog and a horse are both animals, this change can also be described as one where an animal comes-to-be, though coincidentally, from an animal. Aristotle's point is that while an animal comes from something that happens to be an animal, it does not do so insofar as that prior thing is an animal, i. e., being an animal does not explain how the horse can be turned into a dog.

How does this point allow Aristotle to reject premise 3? Suppose hot gold is crafted into a hot statue. This change is most properly characterized as a sculpting, as a change where the shaped has come from the unshaped. Nevertheless, the change can also be described as one where the hot came from the hot, even as one where the hot becomes hot. But, the description 'the hot becomes hot' is not a description of a warming. Aristotle does not claim that the hot warms up. Nor does the change in which the hot comes from the hot count as a warming. The relevant process of change is a sculpting, not a warming. Nevertheless, this change can be described as one where the hot comes coincidentally from the hot, where the presence of 'coincidentally' tells us that this is not the most perspicuous description of the change.

Since the Eleatics accept PM, they should not allow Aristotle this response. The claim that when a dog comes from a horse, then an animal comes coincidentally from an animal, assumes that neither the *terminus a quo* nor the *terminus ad quem* possesses just one property, a possibility excluded by PM. The former is not merely a horse; it is also an animal. Similarly, the latter is not merely a dog but also an animal. In general, the Eleatics will respond that 'what is' cannot come coincidentally from 'what is' because this would require 'what is' to have more than one property, e. g., require it to be both hot and a stone.

Aristotle responds to the second horn by rejecting premise 5, the claim that if 'what is' comes-to-be from 'what is not', then nothing underlies:

We agree with them in saying that nothing comes-to-be without qualification from what is not, but we say that things come-to-be in a way from what is not, for instance, things come-to-be coincidentally [from what is not]; for things come from the privation, which in itself is not, and which is not present (191^b13–16).³⁹

³⁹ Both 'unqualifiedly' ('ἀπλῶς') and 'coincidentally' ('κατὰ συμβεβηκός') are adverbial phrases that could modify two different verbs: 1) 'come-to-be' ('γίγνεται') and 2) 'being' ('εἶναι'). I presume it modifies the former. I also assume that Aristotle does not use 'unqualifiedly' ('ἀπλῶς') to restrict his attention to unqualified becoming. Rather, the phrase qualifies Aristotle's acceptance of the Eleatics' claim that something cannot come from 'what is not'. Aristotle accepts this claim when it is not qualified by 'coincidentally'. He then turns to defend a qualified way (πῶς) for something to come from 'what is not'.

In this quotation, Aristotle concedes that the hot cannot come non-coincidentally from 'what is not', i. e., from the cold. But he claims that it can still come coincidentally from 'what is not', which is naturally glossed on my reading as the claim that the hot comes coincidentally from the cold, the privation of the hot. Aristotle here stresses that although what the hot comes from happens to be cold, that thing is not a subject of change by virtue of being cold. It is a subject by virtue of being, say, a cold piece of clay, or a cold glass of water. This shows that the hot coming coincidentally from the cold does not entail that what is cold through and through is the subject of change. More generally, the fact that 'what is' comes coincidentally from 'what is not' does not entail that 'what is not' through and through is the subject of change. So, even though 'what is not' cannot be the subject of change, 'what is' coming from 'what is not' does not entail that nothing underlies. Thus, premise 5 is false when read coincidentally.

Again, the Eleatics cannot accept Aristotle's response. The hot comes coincidentally from the cold only if the hot comes from something that is cold but not insofar as that thing is cold. Thus, if the hot comes coincidentally from the cold, the subject it comes from must be something else in addition to being cold, i. e., it must be a cold horse, or a cold stone, or a cold piece of butter. This requires the subject to be something else in addition to being cold, a possibility excluded by PM.

Summing up: Why did the Eleatics not recognize the distinction between coincidental and non-coincidental becoming? If they had been aware of this distinction, would they still have endorsed the conclusion of EC? The question has received little attention and without an answer it is difficult to understand why Aristotle takes EC so seriously. I have argued that the Eleatics are not merely blind to the distinction. They have a principled philosophical position, PM, that is incompatible with it. It is Aristotle's response to PM that allows him to motivate that distinction and escape the clutches of the dilemma. Without a response to PM, Aristotle could not have solved EC. With PM, the Eleatics can and should reject his solution.⁴⁰

⁴⁰ Anagnostopoulos (2013) also claims that Aristotle's distinction between coincidental and non-coincidental becoming relies on his distinction between being one and many in number and being. Our readings differ in that mine sees the disagreement from *Phys.* I.2 as key to understanding the role of these distinctions in *Phys.* I.8.

7 Conclusion

My interpretation of EC has three important upshots. First, my reading identifies the Eleatics' support for the premises of EC earlier in the *Physics*. They agree with Aristotle that change could only exist if it occurred between opposites (*Phys.* I.5). They also agree with Aristotle that opposites cannot be subject of change into one another (*Phys.* I.6). But the Eleatics argue that these points of agreement are in tension with one another. Since they endorse PM (*Phys.* I.2), they think that change occurring between opposites would require opposites to be subjects of change into one another. They do not think that this requirement can be satisfied, so they conclude that change is impossible.

Second, my reading explains why the Eleatics fail to distinguish coincidental from non-coincidental becoming. This distinction is incompatible with PM, a principle that the Eleatics argue for in *Phys.* I.2. Of course, responding to PM by itself does not solve EC. The distinction between coincidental and non-coincidental becoming is integral to the solution. But Aristotle can draw this distinction only by using his response to the Eleatics' argument for PM. Without that response, the Eleatics will retort that Aristotle's solution to EC relies on the claim that a being can be both one and many, a claim that they have argued against. If Aristotle is to solve EC by using a distinction that the Eleatics have an argument against, he must also explain why the Eleatics go wrong in adopting a position that is incompatible with that distinction. On my reading, this is exactly what Aristotle does.

The third and final upshot concerns the philosophical problem at the heart of EC. On my interpretation, EC concerns the ontological complexity beings must possess if they are to be capable of change. If beings are incapable of being both one and many, there will be no change. As such, unless we can untangle those difficulties of construing beings as both one and many, of possessing the requisite complexity, we will find no escape from the horns of the dilemma.⁴¹

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