The Last Natural Philosophers in the *Phaedo* 

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Abstract

This paper examines the possible sources of the two theories introduced by Plato in *Phaedo* 99b2-c6. First,

it shows that the theories belong to people who remain unpersuaded by the teleology introduced by Socrates

(Phaedo 97c4-6) and believe they can find a better alternative. Then, it rejects that the most proximate

references could be Empedocles, Anaximenes, Anaximander or Anaxagoras. Next, it argues that Plato is

most plausibly alluding to both Aristophanes' Clouds and views held by Diogenes of Apollonia and

Archelaus of Athens. Finally, it concludes by noting that this interpretation raises a challenge to the

widespread assumption that Socrates' abandons or modifies his teleological views.

**Keywords:** cause; causality in Plato; teleology; *nous*.

In this paper, I examine and discuss the possible sources of the two theories described by

Plato in *Phaedo* 99b2-c6. My main aim, however, is not to conclusively attribute the passage to

specific thinkers—a task which may be impossible. Instead, I identify its most plausible references

to offer a better explanation of these theories' place, role, and relevance in the argumentation of

Phaedo. I have divided the paper into four sections. First, I show that the passage describes the

views of people who remain unpersuaded by the kind of teleological project previously introduced

by Socrates (*Phaedo* 97c4-6; in a nutshell, the idea that if there is a *nous*, it orders everything in whatever way is best) and believe they can find a better alternative. As a result of this, in section two I reject previous suggestions that Empedocles, Anaximenes, Anaximander or Anaxagoras are the most proximate references for these theories. In a third section, I argue that Plato is most plausibly alluding to both Aristophanes' *Clouds* and views held by Diogenes of Apollonia and Archelaus of Athens. Finally, I conclude by noting that a closer reading of these two theories in the *Phaedo* raises a challenge to the widespread assumption that Plato's Socrates' abandoned or weakened his teleology in the last part of the *Phaedo*.

### 1. Two theories in Plato's Phaedo 99b2-c6

In the autobiographical passage of the *Phaedo* (95e-99d), Socrates explains why he rejected the causal theories of his predecessors. After he criticises Anaxagoras' account, he introduces two last theories, accusing them of making the same mistake as Anaxagoras and then describing them in some detail. The passage reads as follows (*Phaedo* 99b2-c6):

τὸ γὰρ μὴ διελέσθαι οἶόν τ' εἶναι ὅτι ἄλλο μέν τί ἐστι τὸ αἴτιον τῷ ὅντι, ἄλλο δὲ ἐκεῖνο ἄνευ οὖ τὸ αἴτιον οὐκ ἄν ποτ' εἴη αἴτιον· ὁ δή μοι φαίνονται ψηλαφῶντες οἱ πολλοὶ ὥσπερ ἐν σκότει, ἀλλοτρίῳ ὀνόματι προσχρώμενοι, ὡς αἴτιον αὐτὸ προσαγορεύειν. διὸ δὴ καὶ ὁ μέν τις δίνην περιτιθεὶς τῇ γῇ ὑπὸ τοῦ οὐρανοῦ μένειν δὴ ποιεῖ τὴν γῆν, ὁ δὲ ὥσπερ καρδόπῳ πλατείᾳ βάθρον τὸν ἀέρα ὑπερείδει· τὴν δὲ τοῦ ὡς οἶόν τε βέλτιστα αὐτὰ τεθῆναι δύναμιν οὕτω νῦν κεῖσθαι, ταύτην οὕτε ζητοῦσιν οὕτε τινὰ οἴονται δαιμονίαν ἰσχὺν ἔχειν, ἀλλὰ ἡγοῦνται τούτου Ἅτλαντα ἄν ποτε ἰσχυρότερον καὶ

άθανατώτερον καὶ μᾶλλον ἄπαντα συνέχοντα έξευρεῖν, καὶ ὡς ἀληθῶς τὸ ἀγαθὸν καὶ δέον συνδεῖν καὶ συνέχειν οὐδὲν οἴονται.

Imagine not being able to make the distinction that the real cause is one thing, while that without which the cause could never be a cause is something else! That is just what most people seem to me to call a cause, fumbling in the dark, as it were, and using a name that belongs to something else. That is why one individual puts a vortex around the earth and thus makes the earth actually be kept stationary by the heaven, while another compares it to a flat kneading-trough and props it up with air. But as for these things' ability to be positioned now in the best possible way for them to be placed, they neither seek it nor suppose that it has any divine might; instead they believe that one day they might find an Atlas that is stronger and more immortal and keeps everything together more than this, and they do not suppose for a moment that what is good and binding truly does bind and keep anything together.<sup>1</sup>

These theories offer competing causes of the place of the earth in the cosmos:

A1. A vortex around the earth makes the earth actually be kept stationary by the heaven (b6-7).

A2. Air props the earth up, as if it were a flat kneading-trough (b7).

<sup>&</sup>lt;sup>1</sup> Transl. Long and Sedley (2011), with minor modifications.

Most people discussing Plato's sources for this passage focus their energy on these two claims. As a consequence, they often suggest Empedocles, Anaxagoras or Anaximenes as the possible authors of A1 and A2. However, Socrates adds four other claims to his description of these theories:

- A3. They do not seek these things' ability to be positioned now in the best possible way (c1-2).
- A4. They do not suppose this ability has any divine might (c2-3).
- A5. They do not suppose for a moment that what is good and binding (i.e., *nous*)<sup>2</sup> truly does bind and keep anything together (c5-6).
- A6. They believe that one day they might find an Atlas that is stronger and more immortal and keeps everything together more than this [ability] (c3-5).<sup>3</sup>

These theories offer the same type of causes as those criticised before. However, their innovation lies in the fact that they are unpersuaded by the teleology previously introduced by Socrates after he first heard from Anaxagoras' book. Compare A3-6 with Socrates' comments about teleology at *Phaedo* 97b8-d1:

Άλλ΄ ἀκούσας μέν ποτε ἐκ βιβλίου τινός, ὡς ἔφη, Ἀναξαγόρου ἀναγιγνώσκοντος, καὶ λέγοντος ὡς ἄρα νοῦς ἐστιν ὁ διακοσμῶν τε καὶ πάντων αἴτιος, ταύτη δὴ τῇ αἰτίᾳ ἤσθην τε καὶ ἔδοξέ μοι τρόπον τινὰ εὖ ἔχειν τὸ τὸν νοῦν εἶναι πάντων αἴτιον, καὶ ἡγησάμην, εἰ

reference to Atlas, like Williamson (1904) and Burnet (1911).

<sup>3</sup> I take τούτου at c3 as a neuter that refers to ταύτην (τὴν δύναμιν) at c2, and not as a masculine with

<sup>&</sup>lt;sup>2</sup> I take 'what is good and binding' as an epithet for *nous* as described by Socrates at 98a7-9.

τοῦθ' οὕτως ἔχει, τόν γε νοῦν κοσμοῦντα πάντα κοσμεῖν καὶ ἕκαστον τιθέναι ταύτῃ ὅπῃ ἀν βέλτιστα ἔχῃ· εἰ οὖν τις βούλοιτο τὴν αἰτίαν εὑρεῖν περὶ ἑκάστου ὅπῃ γίγνεται ἢ ἀπόλλυται ἢ ἔστι, τοῦτο δεῖν περὶ αὐτοῦ εὑρεῖν, ὅπῃ βέλτιστον αὐτῷ ἐστιν ἢ εἶναι ἢ ἄλλο ὁτιοῦν πάσχειν ἢ ποιεῖν·

One day I heard somebody reading from what he said was a book by Anaxagoras, and saying that it turns out to be intelligence that both orders things and is the cause of everything. I was pleased with this cause, and it struck me that in a way it is good that intelligence should be the cause of everything, and *I supposed that, if this is the case, when intelligence is doing the ordering it orders everything and assigns each thing in whatever way is best.* So, I thought, should someone want to discover the cause of how each thing comes to be, perishes, or is, this is what he must find out about it: how it is best for it either to be, or to act or be acted upon in any other respect whatsoever.<sup>4</sup>

Notice that this teleology, although prompted by Anaxagoras' claim, is Socrates' own contribution. His main argument can be understood as follows:

Socratic teleology (ST)

- 1. If intelligence orders things and is the cause of everything (as Anaxagoras claims), it orders everything and assigns each thing in whatever way is best.
- 2. Intelligence orders things and is the cause of everything (assumption).

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<sup>&</sup>lt;sup>4</sup> Transl. Long and Sedley (2011).

3. Therefore, intelligence orders everything and assigns each thing in whatever way is best (from 1-2).<sup>5</sup>

Although the contrast between this type of teleology and the theories described in A3-6 is clear, the latter do not go as far as to provide an explicit anti-teleological argument. They simply 'do not suppose' this type of teleology. In other words, the authors of A3-6 are only agnostics about Socrates' teleology, but they do not argue against it. This is important because otherwise they would switch the burden of proof to them. However, A3-6 distance themselves from the above teleology in at least three ways: from the good's explanatory role in causation (A5), from the teleological method of inquiry Socrates infers (A3), and, finally, from the idea that things bear a divine teleological force (A4). Instead, they are looking for something that will supersede the teleological cause as Socrates had imagined it (A6). This last point is crucial. A6 makes clear that these philosophers are not simply unaware or unconcerned about teleology. They believe they will find something better. However, notice that at no time do they explicitly reject the existence of the good, nous, that things are in fact in the best possible place or that there is some divine force or gods more generally.

Moreover, if we look at all these claims together (A1-A6), the picture is of two closely related theories that share their theoretical framework even if they offer different answers as to why the earth stays still. I shall refer to them as  $T_1$  (A1 + A3-6) and  $T_2$  (A2 + A3-6). This suggests that whoever their authors are, we should conceive of them as a pair of natural inquirers that either belong to the same school of thought or share a strong connection. But, then, who are they? Since many Greek philosophers posited theories with vortices and air as causally relevant, the

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 $<sup>^{5}</sup>$  Compare with Socrates' teleology in Xen.  $\textit{Mem}.\ 1.4$  and 4.3.

identification of the references of  $T_1$  and  $T_2$  is not straightforward. However, now we might be in a better position to narrow the list of candidates.

## 2. The usual suspects: Empedocles, Anaximenes, Anaxagoras and Anaximander

Most scholars have turned their attention to two passages in Aristotle's *De caelo*. In the first one, Aristotle writes (*Cael.* 3.2, 300b2-3):

φησὶν Ἐμπεδοκλῆς τὴν γῆν ὑπὸ τῆς δίνης ἠρεμεῖν.

Empedocles says that the earth stays still under the influence of a vortex.<sup>6</sup>

This text fits nicely with A1. Yet, one may object, Empedocles' philosophy is not as critical of teleology as T<sub>1</sub> is. On the contrary, as David Sedley suggests, perhaps Empedocles stresses Love's intelligent craftsmanship in various ways, like when he describes Love's creation of the eye.<sup>7</sup> But, of course, Plato's reception of Empedocles may be different. A passage from *Laws*, which some take as a reference to Empedocles,<sup>8</sup> seems to corroborate this idea (*Laws* 10, 889b1-c6):

<sup>&</sup>lt;sup>6</sup> See also *Cael.* 295a9-21. Based on these texts, Bollack (1969, I.95, II.244-245), includes *Pheado* 99b6-8 as a testimony on Empedocles. Compare also with Simpl. *in Cael.* CIAG 7, 528.3-530.26, commenting on 295a29-32; and *in Phys.* 32.13-33.2 (3-17) =DK33B35. For the discussion, see Rowe (1993, 237), and Burnet (1911, 107).

<sup>&</sup>lt;sup>7</sup> See Arist. *De sensu* 437b26-438a2=DK31B84 and Simpl. *in Cael.*, 529.23 =DK31B86D; Sedley (2007, 52-4). See also Sedley (1998a, 18-21). However, see the criticisms in Gregory (2007, 95-8).

<sup>&</sup>lt;sup>8</sup> See, for example, Graham (2010, 419, 430).

πῦρ καὶ ὕδωρ καὶ γῆν καὶ ἀέρα φύσει πάντα εἶναι καὶ τύχῃ φασίν, τέχνῃ δὲ οὐδὲν τούτων, καὶ τὰ μετὰ ταῦτα αὖ σώματα, γῆς τε καὶ ἡλίου καὶ σελήνης ἄστρων τε πέρι, διὰ τούτων γεγονέναι παντελῶς ὄντων ἀψύχων· τύχῃ δὲ φερόμενα τῇ τῆς δυνάμεως ἔκαστα ἑκάστων, ἦ συμπέπτωκεν ἀρμόττοντα οἰκείως πως, θερμὰ ψυχροῖς ἢ ξηρὰ πρὸς ὑγρὰ καὶ μαλακὰ πρὸς σκληρά, καὶ πάντα ὁπόσα τῇ τῶν ἐναντίων κράσει κατὰ τύχην ἐξ ἀνάγκης συνεκεράσθη, ταύτῃ καὶ κατὰ ταῦτα οὕτως γεγεννηκέναι τόν τε οὐρανὸν ὅλον καὶ πάντα ὁπόσα κατ' οὐρανόν, καὶ ζῷα αὖ καὶ φυτὰ σύμπαντα, ὡρῶν πασῶν ἐκ τούτων γενομένων, οὐ δὲ διὰ νοῦν, φασίν, οὐδὲ διά τινα θεὸν οὐδὲ διὰ τέχνην ἀλλά, ὂ λέγομεν, φύσει καὶ τύχῃ.

They maintain that fire, water, earth and air owe their existence to nature and chance, and in no case to art, and that it is by means of these entirely inanimate substances that the secondary physical bodies—the earth, sun, moon and stars—have been produced. These substances moved at random, each impelled by virtue of its own inherent properties, which depended on various suitable amalgamations of hot and cold, dry and wet, soft and hard, and all other haphazard combinations that inevitably resulted when the opposites were mixed. This is the process to which all the heavens and everything that is in them owe their birth, and the consequent establishment of the four seasons led to the appearance of all plants and living creatures. The cause of all this, they say, was neither intelligent planning, nor a deity, nor art, but—as we've explained—nature and chance.

<sup>&</sup>lt;sup>9</sup> Transl. Saunders (1997).

Although this passage seems close to T<sub>1</sub> and T<sub>2</sub> (although, in fact, committed to a stronger anti-teleological doctrine), some take it as alluding to the atomists and not to Empedocles. 10 Moreover, in other parts of the Platonic corpus where Empedocles is referred to by name, Plato offers no sign of conceiving of him as a critic of teleology. 11 Besides, his candidacy comes with the disadvantage that he has no obvious counterpart to attribute  $T_2$ .

<sup>&</sup>lt;sup>10</sup> For example, Gregory (2001, 20). This raises an interesting question: could Plato be alluding to the atomists? Leucippus proposed a cosmic vortex that is responsible for the formation of the earth (Diog. Laert. 9.30-32 =DK67A1; see also Diog. Laert. 9.30 and Aët. P 1.4.1-4 =Ps.-Plutarch, Epit. 1.4 =DK67A24). In a passage attributed to the atomists, the vortex is responsible for the place of the earth (Philoponus, in Phys. 262.8-13; see also Diog. Laert. 9.31-31 =DK67A and Aët. 2.7.2). In addition, for Leucippus there is neither an intelligent craftsman behind his vortex or any mention of the good (Diog. Laert. 9.33; see also Aristotle, *Physics* 196a24-34). Thus, even if our cosmos were the best, it would be so only accidentally. Therefore, Leucippus' atomic interactions could be the missing Atlas that will hold things together. Democritus, in turn, was already mentioned in the second De caelo passage as the author of a view somehow similar to A2. Moreover, his philosophy is also critical of teleology (Plutarch, Miscellanies 7 = DK68A39). He is said to have torn Anaxagoras' cosmology and his account of *nous* into pieces (Diog. Laert. 9.34-35 =DK68A1), and he remains somehow sceptical of causal explanations, which goes well with the openness reported in A6 (Dionysius of Alexandria in Eusebius, *Prep. evang.* 14.7.4 =DK68B118). Interestingly, there is also a fragment where Democritus connects air with Zeus, which reminds us of the Clouds (Clem. Al., Protr. 68.5; cf. Strom. 5.102). Even if Democritus was active after Aristophanes had presented his *Clouds*, Plato could have suggested that he belonged to a similar group of critics of teleology. However, I see significant problems with the atomists' candidacies. We have evidence that Democritus thought the earth was disk-shaped and hollow in the middle, instead of shaped like a flat kneading-trough (Ps.-Plutarch, Epitome III 10.4-5 = Aët. 3.10.4-5). Moreover, in another report, the idea of a spherical earth is attributed to the atomists (Stobaeus 1.15.6b = Aët. 2.2.2). A more pressing problem is that the atomists are more fully and explicitly anti-teleological than  $T_1$  and  $T_2$ .

<sup>&</sup>lt;sup>11</sup> See *Meno* 76c and *Theaetetus* 152e. In other passages Plato, while not referring to Empedocles by name, seems to criticise some of his views. See, for example, Timaeus 44e, Symposium 189c-193d, Statesman

If one looks to Aristotle's second passage from *De caelo* (2.13, 294b13-23), one may think that Anaximenes could be the author of T<sub>2</sub>:

Άναξιμένης δὲ καὶ Άναξαγόρας καὶ Δημόκριτος τὸ πλάτος αἴτιον εἶναί φασι τοῦ μένειν αὐτήν. Οὐ γὰρ τέμνειν ἀλλ' ἐπιπωμάζειν τὸν ἀέρα τὸν κάτωθεν, ὅπερ φαίνεται τὰ πλάτος ἔχοντα τῶν σωμάτων ποιεῖν· ταῦτα γὰρ καὶ πρὸς τοὺς ἀνέμους ἔχει δυσκινήτως διὰ τὴν ἀντέρεισιν. Ταὐτὸ δὴ τοῦτο ποιεῖν τῷ πλάτει φασὶ τὴν γῆν πρὸς τὸν ὑποκείμενον ἀέρα, (τὸν δ' οὐκ ἔχοντα μεταστῆναι τόπον ἰκανὸν ἀθρόως [τῷ] κάτωθεν ἡρεμεῖν,) ὥσπερ τὸ ἐν ταῖς κλεψύδραις ὕδωρ. Ὅτι δὲ δύναται πολὺ βάρος φέρειν ἀπολαμβανόμενος καὶ μένων ὁ ἀήρ, τεκμήρια πολλὰ λέγουσιν.

Anaximenes and Anaxagoras and Democritus give the wideness of the earth as the cause of its staying still. Thus, they say, it does not cut, but covers like a lid, the air beneath it. This seems to be the way of flat-shaped bodies; for even the wind can scarcely move them because of their power of resistance. The same immobility, they say, is produced by the flatness of the surface which the earth presents to the air which underlies it (while the air, not having room enough to change its place, rests on the compressed mass underneath), like the water in a clepsydra. And they adduce an amount of evidence to prove that air, when cut off and at rest, can bear a considerable weight.<sup>12</sup>

<sup>268</sup>e-274e, *Phaedrus* 248b-249b, and *Phaedo* 65e-67b, 69c. For the discussion, see O'Brien, (1969, 93–8, 177–9); Bollack (1969); Gregory (2007, 81); and Trépanier (2004, 18).

<sup>&</sup>lt;sup>12</sup> Transl. Stocks (1991), with minor modifications.

Anaxagoras, in fact, talks about both a vortex surrounding the earth and air supporting it. From the *Phaedo* passage alone, Anaxagoras cannot not be ruled out completely, since it is possible that Socrates is including Anaxagoras in A3-6 as part of a wider group. However, it seems that Anaxagoras' vortex is not the cause of the stillness of the earth but of keeping the stars from falling. 13 In some other Anaxagorean texts the cause of the stillness of the earth is not its flatness, like in Aristotle's De caelo, but a combination of its size, the lack of void and the fact that air holds it suspended.<sup>14</sup>

The theory reported in the passage above, however, does not fully fit with A2. Although in Aristotle's text air is under the earth as a base—like in A2—it says that Anaximenes, Anaxagoras, and Democritus posit the wideness of the earth as the cause of its place, not air. Thus, the air beneath the earth is not the central causal feature. Even if this claim is similar to A2 on a superficial level, they offer different causal explanations and different causes for the same effect.

The variation, one may answer, could be explained by an exegetical disagreement between Plato and Aristotle or because Aristotle is compiling three different theories. Moreover, Anaximenes conceives of air as a god and believes in the traditional Greek pantheon. His cosmological explanations, although naturalistic, do not explicitly criticise teleology. <sup>15</sup> Now, Plato might have in mind a version of Anaximenes' cosmology distorted by Aristophanes' Clouds. 16 But

<sup>&</sup>lt;sup>13</sup> See Plutarch, *Lys.* 12 =DK59A12.

<sup>&</sup>lt;sup>14</sup> See Hipp. *Haer*. 1.8.1-13 =DK59A42. For more on Anaxagoras' vortex, see Arist. *Cael*. 295a9-14 =DK59A88; Simpl. in Phys. 35.14-18 =DK59B9; and Clem. Al., Strom. 2.14 =DK59A57.

<sup>&</sup>lt;sup>15</sup> See Cic. Nat. D., 1.10.26 = DK13A10, Hipp. Haer. and 1.7.1-3 = DK13A7, Aët. P 1.3.4, S 1.10.12 =DK13B2. However, Plato's criticism could be, similarly to that of Anaxagoras, that Anaximenes had the basis for a teleology, but failed to apply it for the stillness of the earth.

<sup>&</sup>lt;sup>16</sup> This connection has been previously suggested, for example, by Vander Waerdt (1994).

if that is the case Anaximenes may not need to be the most proximate reference here. Before I explore the connection with the *Clouds* in the next section, let me briefly assess another possible candidature.

There is one testimony that suggests Anaximander might be the reference for A2 (Simpl. *in Cael.* 2.13, 532, 13-14):

Άναξιμάνδρω δὲ ἐδόκει καὶ διὰ τὸν ἀέρα τὸν ἀνέχοντα μένειν ἡ γῆ καὶ διὰ τὴν ἰσορροπίαν καὶ ὁμοιότητα.

Anaximander thought that the earth remains at rest because of the air holding it up and because of its even balance and uniformity.<sup>17</sup>

However, there is disagreement on whether we can trust this report. <sup>18</sup> A reason to doubt it is that, in another testimony, Anaximander omits air from his explanation of the stillness of the earth. <sup>19</sup> Moreover, later at *Phaedo* 108c-109a, Socrates tells us that someone—who seems to be Anaximander—has convinced him that the earth's balance explains how the earth stays still, without the need of air or a vortex. Therefore, it is very unlikely that Anaximander is the author of T<sub>2</sub>.

<sup>&</sup>lt;sup>17</sup> Transl. Mueller (2005), with minor modifications. See also Arist. *Cael.* 2.13, 295b10-5 =DK12A26; Ps.-Plutarch, *Strom.* 3=DK13A6; Hipp. *Haer.* 1.6.3 =DK12A11, and 1.7.1-9 =DK13A7, and Aët. P 3.10.3, 3.15.8.

<sup>&</sup>lt;sup>18</sup> In favour see Furley (1989, 20) and Robinson (1971), but see the doubts raised by Kahn (1960, 55), and criticisms in Panchenko (1994) and Schofield (1997, 49).

<sup>&</sup>lt;sup>19</sup> See Arist. *Cael.* 295b10-16 =DK12A26.

# 3. Socrates' 'old accusation': Aristophanes' Clouds, Diogenes of Apollonia and Archelaus

In Aristophanes' *Clouds*, Socrates is portrayed as a philosopher who worships various forms of air (246-254). He says that clouds are some type of divinity (229), criticises teleological explanations, and, instead of identifying Zeus with air, explicitly rejects the god's existence (366-369):

Στ. ὁ Ζεὺς δ' ὑμῖν, φέρε, πρὸς τῆς Γῆς, Οὑλύμπιος οὐ θεός ἐστιν;

Σω. ποῖος Ζεύς; οὐ μὴ ληρήσεις. οὐδ' ἐστὶ Ζεύς.

Στ. τί λέγεις σύ;

άλλὰ τίς ὕει; τουτὶ γὰρ ἔμοιγ' ἀπόφηναι πρῶτον ἁπάντων.

Σω. αὖται δήπου·

Strepsiades: What about Zeus? How can Olympian Zeus not be a god?

Socrates: Zeus? Don't be absurd! Zeus doesn't exist.

Strepsiades: What are you saying?

Who is it that makes rain, then? First of all, show me this.

Socrates: Why, the Clouds of course!<sup>20</sup>

More significant is that the comedy makes Socrates invoke air as the earth's support (264):

ὧ δέσποτ' ἄναξ, ἀμέτρητ' Ἀήρ, ὃς ἔχεις τὴν γῆν μετέωρον.

<sup>20</sup> Transl. Meineck (2002), with minor modifications and including my translation of a missing sentence at 367. See also *Clouds* 369-409. For a rejection of the traditional gods, see *Clouds* 423.

O master, our lord, infinite Air, upholder of the buoyant earth.

Later, Socrates reveals that the Clouds are moved by a vortex that has dethroned Zeus. After a naturalistic explanation of thunder, we read (379-381):

Στ. ὁ δ' ἀναγκάζων ἐστὶ τίς αὐτάς—οὐχ ὁ Ζεύς; —ὥστε φέρεσθαι;

Σω. ἤκιστ', ἀλλ' αἰθέριος δῖνος.

Στ. Δῖνος; τουτί μ' ἐλελήθει,

ο Ζεὺς οὐκ ὤν, ἀλλ' ἀντ' αὐτοῦ Δῖνος νυνὶ βασιλεύων.

Strepsiades: But surely someone must force the Clouds to move in the first place. That must be Zeus.

Socrates: Not at all, it is the whirling of the Celestial Vortex!

Strepsiades: Vortex? So, Zeus is no more and Vortex is king now, is he?<sup>21</sup>

This lesson is later passed on from Strepsiades to his son (826-828):

Στ. ὁρᾶς οὖν ὡς ἀγαθὸν τὸ μανθάνειν;

ούκ ἔστιν, ὧ Φειδιππίδη, Ζεύς.

Φε. άλλὰ τίς;

<sup>&</sup>lt;sup>21</sup> Compare also with *Philebus* 28c6-8: 'Soc. [...] For all the wise are agreed, in true self-exaltation, that *nous* is our king, both over heaven and earth.' Transl. Frede (1997), with minor modifications.

Στ. Δῖνος βασιλεύει τὸν Δί' ἐξεληλακώς.

Strepsiades: Now you will see the benefits of education. Pheidippides, there is no Zeus!

Pheidippides: What!

Strepsiades: Zeus is overthrown! Vortex is king now!<sup>22</sup>

These passages from *Clouds* strongly suggest that in the *Phaedo* passage, Plato is looking back to

Socrates' impiety charge and the 'old accusation' derived from Aristophanes' plays; the thought

that Socrates busied himself 'studying things under the earth and in the heavens' (ζητῶν τά τε ὑπὸ

νῆς καὶ οὐράνια), namely air and the vortex. <sup>23</sup> Thus, it is relevant to include and reject  $T_1$  and  $T_2$ 

not only for the conversation Socrates is having with his friends in prison, but also to insist that he

was not a disbeliever of the gods.<sup>24</sup> After all, if in the *Apology* Plato's strategy was to deny that

Socrates had any knowledge of natural inquiry (18c-19d), in the *Phaedo*, he makes Socrates

acknowledge that he had a past with natural inquiry but he rejected their theories. This must be

<sup>22</sup> See also *Clouds*, 1472. The *Clouds*' reference to a cosmic vortex could seem to be a reference to Diagoras

of Melos, who was, like Socrates, accused of impiety (see *Clouds*, 830–831). However, the *Clouds* seem to

be referring only to Diagoras' impiety and not to his cosmological views. See Woodbury (1965) and Betegh

(2004, 377). In contrast, Janko (2006) argues that Diagoras is the author of the *Derveni Papyrus*. If so, then

there are some grounds to believe his criticisms involved some naturalisation of religious claims. However,

Janko's proposal has been heavily criticised by Betegh (2004, 373–80), and Winiarczyk (2016, Ch. 5).

<sup>23</sup> See *Apology* 19b5. See also *Gorgias* 508a, and *Sophist* 232b-c.

<sup>24</sup> The connection between natural inquiry and disbelief in the gods is made explicit in *Apology* 18b6-c3:

"...there is a man called Socrates, a wise man, a student of all things in the sky and below the earth, who

makes the worse argument the stronger. Those who spread that rumor, gentlemen, are my dangerous

accusers, for their hearers believe that those who study these things do not even believe in the gods.' Transl.

G.M.A. Grube (1997).

especially clear for the views Aristophanes ascribed to Socrates.<sup>25</sup> However, if this is right, it is still unclear if it is possible to identify who the original authors of the views used by Aristophanes are. Tracing Aristophanes' sources is not an easy task, but even if the exact authorship and some subtleties are lost, some of Aristophanes' jokes depend on his audiences' ability to recognise the references. Moreover, some lines in *Clouds* are basically copying some claims made by Socrates' most immediate predecessors.<sup>26</sup>

Some have suggested, for example, that Diogenes of Apollonia is the proximate source for many of the accusations against Socrates in the *Clouds*.<sup>27</sup> In one surviving scholium in St Basil, *Homilies*, we read:<sup>28</sup>

Διογένης ὁ Ἀπολλωνιάτης ὑπὸ ἀέρος φέρεθαι ἔφη τὴν γῆν.

Diogenes of Apollonia said that the earth is supported by air.<sup>29</sup>

<sup>&</sup>lt;sup>25</sup> For the relevant section of the *Apology*, see Leibowitz (2010, Ch. 3). For the Aristophanic Socrates, see Konstan (2011), Rashed (1998, 107-136), and Vander Waerdt (1994, 48-86). Compare also with Xen. *Mem.* 1.1.14, 20.

<sup>&</sup>lt;sup>26</sup> For the discussion of Aristophanes' reference to Socrates and other philosophers, see Vander Waerdt (1994), McPherran (1996, Chapter 3), and Laks and Saetta Cottone (2013).

<sup>&</sup>lt;sup>27</sup> Compare Diogenes' texts (especially Simpl. *in Phys.* 152.18 =DKB4, 152.21-23 =DKB5 and 152.23-25) with *Clouds* 264 (quoted above), and 229-234 where Aristophanes makes fun at the idea that air bears intelligence. For the discussion, see Vander Waerdt (1994), who argues that in the *Clouds*, Socrates is rightly portrayed as a follower of Diogenes of Apollonia. However, see Kahn (1960, 106-7), and Betegh (2004, 307), (2016), and (2013).

<sup>&</sup>lt;sup>28</sup> Schol. in St Basil, *Homilies on the Hexaemeron*, in *Marcianus* 58, Fol. 6<sup>r</sup> marg. sup =DK64A16a.

<sup>&</sup>lt;sup>29</sup> My translation.

This testimony offers a causal explanation that fits very well with A2, even better than the *De caelo* passage, because Diogenes puts air at the centre of the causal explanation. Diogenes is also an attractive candidate because some of his fragments refer to air with some of the characteristics Plato uses to describe the promised Atlas. Compare ἰσχυρότερον καὶ ἀθανατώτερον ('stronger and more immortal') at *Phaedo* 99c4 with the following Diogenes' fragments (Simpl. *in Phys.* 153, 20-22 =DK64B8 and Simpl. *in Phys.* 153, 19-20, respectively):<sup>30</sup>

άλλὰ τοῦτό μοι δῆλον δοκεῖ εἶναι, ὅτι καὶ μέγα καὶ ἰσχυρὸν καὶ ἀίδιόν τε καὶ ἀθάνατον καὶ πολλὰ εἰδός ἐστι.

But this seems to me to be evident: that it is vast and *strong*, eternal and *immortal* and that it knows many things.

καὶ αὐτὸ μὲν τοῦτο καὶ ἀίδιον καὶ ἀθάνατον σῶμα, τῷ δὲ τὰ μὲν γίνεται, τὰ δὲ ἀπολείπει.

And this is itself a body both eternal and *immortal*, but it is by means of it that some things come to be and others cease to exist.

However, one may worry—as with the previous candidates—that Diogenes' philosophy is far from being a critique of teleology. Although for him *noesis* is immanent to things, its activity is teleological, at least in the sense that things have an internal ordering capacity that means the

<sup>&</sup>lt;sup>30</sup> Both translations by Laks and Most (2016, 233), with minor modifications.

cosmos has the finest possible arrangement.<sup>31</sup> For Diogenes, air was the bearer of intelligence, steered and controlled all things,<sup>32</sup> and was identified with Zeus.<sup>33</sup> Yet, this type of claim seems to be the exact target of Aristophanes' *Clouds*, since air's intelligence and divinity are ridiculed and equated to a crass abandonment of teleology. But then again, Plato could be alluding to Diogenes via Aristophanes' *Clouds*. I shall come back to this thought in a moment but first, consider another candidate.

Archelaus of Athens is also an interesting contender for being a reference in both Aristophanes and Plato.<sup>34</sup> Some sources make him Anaxagoras' pupil and, more importantly, Socrates' teacher.<sup>35</sup> Archelaus made *nous* an immanent principle—similar to Diogenes' *noesis*—and he explicitly says it lacks creative power (Aët. 1.7.14 =DK60A12):

Άρχέλαος∙ ἀέρα καὶ νοῦν τὸν θεόν, οὐ μέντοι κοσμοποιὸν τὸν νοῦν.

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<sup>&</sup>lt;sup>31</sup> See Simpl. *in Phys.*, 152.12-16 =DK64B3 and 153.17(19)-20 =DK64B7. See also Betegh (2004, 315–6).

<sup>&</sup>lt;sup>32</sup> See Simpl. *in Phys.*, 25.1-13 =DK64A5, 152.21-153.13 =DK64B5; Aristotle, *De an.* 405a21-25. Compare with *Phaedo* 97c1-2.

<sup>&</sup>lt;sup>33</sup> See Philedemus, *On Piety*, 6b p. 70 Gomperz =DK64A8; Cicero, *Nat. D.* 1.12.29; and Theophrastus, *Sens.* 39-43 =DK64A19.

<sup>&</sup>lt;sup>34</sup> Plato seems also to refer to Archelaus' philosophy at *Phaedo* 96b2-3, and some have suggested that Archelaus is the one Socrates heard reading from Anaxagoras' book (*Phaedo* 97b8-c1). See Betegh (2016). <sup>35</sup> See, for example, Diog. Laert. 2.16 =DK60A1, 2.23 =DK60A3, Eusebius *Prep. Evang.* 10.14.13, *Suda* A.4084 =DK60A2, Simpl. *in Phys.* 27, 23, and Hipp. *Haer.* 1.10 =DK60A4, Simpl. *in Phys.* 27. 23 =DK60A5; S.E. *M.* 9.360 =DK60A7 and Aug. *Civ. Dei* 8. 2 =DK60A10. For the discussion, see Graham (2008), and Tilman (2000).

Archelaus: god is air and nous, but nous is not what made the cosmos.<sup>36</sup>

He also explains the origin of motion without reference to *nous*.<sup>37</sup> Although for him the inherence of *nous* in all things explains the ordered structure of the cosmos, <sup>38</sup> there is no mention of the good. In fact, Archelaus is known for saying that the just (τὸ δίκαιον) and the shameful (τὸ αἰσχρὸν) only exist by convention.<sup>39</sup> Moreover, he thought the earth was fixed in the centre and was surrounded by air, which in turn was dominated by a whirling fire (Diog. Laert. 2.17 =DK60A1):

τηκόμενόν φησι τὸ ὕδωρ ὑπὸ τοῦ θερμοῦ, καθὸ μὲν εἰς τὸ <κάτω διὰ τὸ> πυρῶδες συνίσταται, ποιεῖν γῆν: καθὸ δὲ περιρρεῖ, ἀέρα γεννᾶν. ὅθεν ἡ μὲν ὑπὸ τοῦ ἀέρος, ὁ δὲ ὑπὸ τῆς τοῦ πυρὸς περιφορᾶς κρατεῖται.

He says that the water, melting by the effect of heat, produced the earth <because of the> fiery element to the extent that it reached the <centre>, and that it generated the air to the

<sup>36</sup> Transl. Laks and Most (2016), with minor modifications. See also Hipp. *Haer*. 1.9, 1 =DK60A4 and Aug.

*Civ. Dei* 8.2. But compare with Aët. S 2.4.5 =DK60A14. Laks and Most (2016, 203), suggest that air, rather than *nous*, creates the cosmos. Compare also with the testimony in Clem. Al., *Protr.* 5.66 =DK60A11 and

Anaxagoras' argument for the role of nous in Simpl. in Phys. 164, 24-25, 156.13-157.4; 176.34-177.6

=DK59B12.

<sup>37</sup> See Hipp. *Haer*. 1.9, 2 = DK60A4 and Diog. Laert. 2.16 = DK60A1.

<sup>38</sup> For a discussion of the relevant evidence, see Betegh (2004, 316).

<sup>39</sup> See Diog. Laert. 2.16 =DK60A1 and *Suda* s.v. Archelaus (DK60A2). See also Betegh (2016, 21), who has pointed out the similative of Archelaus' claim with *Clouds* 1038-40, 1185-6, 1399-1400 and 1421-9.

extent that it floated around the periphery. This is why the earth is dominated by air, and the air by the revolution of fire.<sup>40</sup>

Gábor Betegh, however, has suggested that when Archelaus says that 'the cold is a bond' (ἡ ψυχρότης δεσμός ἐστιν; Plut. *De primo frig.* 21 954f =DK60B1a) it means that the cold is responsible for the stillness of the earth.<sup>41</sup> But the text seems to suggest, instead, that the cold is what holds the earth together and not necessarily in its place. In this way, if Archelaus is one of the references of the *Phaedo* passage, for him the cold might not be a candidate for the stillness of the earth but for the force that holds things together (*i.e.*, the 'missing Atlas').

If the *Phaedo* passage alludes to Diogenes and Archelaus via the *Clouds*, one may wonder whether Plato tacitly agrees with Aristophanes in his unfair misconstruction of their philosophy. Do we have to say that Plato is not a careful or charitable reader of these philosophers? Not necessarily. If Aristophanes caricatures and combines Diogenes' and Archelaus' views as antitleological, Plato carefully distinguishes and describes them as unpersuaded only of the teleology considered by Socrates at 97b8-d1. After all—as M.M. McCabe has rightly reminded us—teleology is said in many ways. ACabe distinguishes three main teleological paradigms that can be understood as follows: *practical teleology* (divine or human), where the intention of the agent's action is the explanatory end: S performs action X because of intention Y; teleology of order (parts or wholes), which makes no reference to intentions but rather to how something fits into a wider order: X is good because X fits in a wider order Y; and teleology of function, where

<sup>&</sup>lt;sup>40</sup> Transl. Laks and Most (2016), with minor modifications. But see Hipp. *Haer*. 1.9, 2-3 =DK60A4.

<sup>&</sup>lt;sup>41</sup> See Betegh (2004, 323).

<sup>&</sup>lt;sup>42</sup> McCabe (2000, 185–193). For a recent survey on ancient teleology see Rocca (2017).

the explanation comes from specifying how parts contribute to the good working of a whole: *X* is *Y* so that *X* achieves its good functioning.

Now, the authors of T<sub>1</sub> and T<sub>2</sub> are unpersuaded by what I shall call Socrates' 'strong teleology.' An uneconomical combination of both practical teleology and teleology of order, which makes an explicit reference to the good, the agent's choosing, and an externally imposed order. Remember that Socrates has already complained that mentioning *nous* alone is not enough for him. Part of the explanatory heavy lifting is done specifically by *nous*'s choosing of the best (*Phaedo* 99a7-b2):

ώς μέντοι διὰ ταῦτα ποιῶ ἃ ποιῶ, καὶ ταῦτα νῷ πράττω, ἀλλ' οὐ τῆ τοῦ βελτίστου αἰρέσει, πολλὴ ἂν καὶ μακρὰ ῥᾳθυμία εἴη τοῦ λόγου.<sup>43</sup>

But to say that *because of* these things I do what I do, despite the fact that I act because of my *nous*, rather than *my choice of what is best*, would be a profoundly lazy way of talking.<sup>44</sup>

Diogenes and Archelaus, in contrast, are interested in what I shall call a 'weak teleology' that makes reference to an intrinsic order and function, but is not necessarily a practical teleology. The reason is that the activity of *nous* or *noesis* is ultimately cashed out as aerostatics and aerodynamics instead of an agent's choice for what is best. Thus, Diogenes' and Archelaus' philosophy is not necessarily incompatible with of T<sub>1</sub> and T<sub>2</sub>—whose aim is only to show

<sup>&</sup>lt;sup>43</sup> Reading πράττω at a8 with the MSS.

<sup>&</sup>lt;sup>44</sup> My translation.

incredulity towards Socrates' 'strong teleology'. <sup>45</sup> Therefore, if they are the proximate references for these theories, it is not necessary to assume that Plato oversimplified or misrepresented their views. <sup>46</sup>

### 4. Conclusions

T<sub>1</sub> and T<sub>2</sub> might not just be an indeterminate reference to 'mere faces in the crowd,' as Christopher Rowe puts it, of natural inquirers that Socrates forgot to mention and that are now introduced for the sole purpose of emphasis.<sup>47</sup> The textual parallels make a strong case for thinking that Plato is alluding to the *Clouds*, Diogenes of Apollonia and Archelaus of Athens. In this way, Plato's introduction of T<sub>1</sub> and T<sub>2</sub> makes a double move in defending Socrates. On the one hand, it rejects the accusations based on Aristophanes' portrayal of Socrates in *Clouds*. On the other, it allows Plato's Socrates to explicitly discard the views of the critics of strong teleology, like Diogenes and Archelaus.

<sup>&</sup>lt;sup>45</sup> One may object that Diogenes cannot be the reference of  $T_1$  because, as I mentioned above, he thinks that things are ordered in the finest possible way, which seems to be denied by A3, and identifies the things' ability with a divine might, which seems denied in A4. However, I think the ability mentioned in A3 and A4 depends on the external capacity of *nous* for choosing what is best. In other words, it is the things' passive ability to follow the decisions of *nous*. Diogenes, in contrast, proposes that the air immanent in all things is the active capacity that orders the cosmos.

<sup>&</sup>lt;sup>46</sup> In fact, although I think the evidence is compelling, it is not essential to my argument that Archelaus *and* Diogenes are Aristophanes' real sources. The *Phaedo* passage is reminiscent of both the *Clouds* and Diogenes and Archelaus' views, even if it is only Plato who is suggesting a connection between *Clouds* and both of these philosophers. In the same way, my main worry is not the historical Socrates, but Plato's characterization of him.

<sup>&</sup>lt;sup>47</sup> See Rowe (1993, 238).

Thus, a careful reading of  $T_1$  and  $T_2$ , support the idea that, in the *Phaedo*, Socrates does not abandon his strong teleology. If Socrates were to distance himself from it in the following lines (*i.e.*, 99c6-d2), as some would like us to believe, it seems that Socrates would be, in the best case, advocating for a 'weak teleology' and effectively siding with  $T_1$  and  $T_2$  on this topic. But this would be a problematic move since these views belong to those who were perceived as impious by Socrates' contemporaries and are criticised in the *Phaedo* precisely for not believing in strong teleology. Therefore, any supporter of the idea that Socrates abandons this type of teleology in favour of formal causation has to address this tension. It is at least odd that Socrates criticised  $T_1$  and  $T_2$  for looking elsewhere instead of accepting a strong teleology if he was going to do the same in the next sentence.<sup>48</sup>

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<sup>&</sup>lt;sup>48</sup> A proper defence of how this reading fits with the second sailing would need to address other objections, though. However, that goes beyond the aims of the present paper. For a discussion about teleology in the *Phaedo*, see Shorey (1888, 406) and (1933, 179); Murphy (1936, 40–7), and (1951, 145–8); Huby (1959, 12–14); Vlastos (1969); Taylor (1969); Burge (1971); Stough (1976); Zeller (1922<sup>5</sup>, II, i, 687, n. 1); Bluck (1995, 13–16, 111–3, 160–173, 198–200) and (1957, 21–31); Crombie (1963, 161); Gould (1963, 77); Cresswell (1971, 244–9); Gallop (1975, 146–7); Bedu-Addo (1979, 104–114); Fine (1987); Sedley (1989) and (1998b, 114–132); Wiggins (1986); Kanayama (2000, 87–100); and Gregory (2007, 85–7).

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