Jason W. Carter*

How Aristotle Changes Anaxagoras's Mind

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Abstract: I argue that a common interpretation of *DA* 3.4, which sees Aristotle as there rejecting Anaxagoras's account of mind, is mistaken. Instead, I claim that, in providing his solution to the main puzzles of this chapter, Aristotle takes special care to preserve the essential features that he thinks Anaxagoras ascribes to mind, namely, its ability to know all things, its being unmixed, and its inability to be affected by mixed objects.

Keywords: Anaxagoras, Aristotle, mind, mixture, thinking

Introduction

It is commonly supposed that Aristotle formulated his philosophical views in serious conversation with Plato and the Academy, but not with the Presocratics – whom, it is often said, he rather treats as 'lisping' at his own views.[1] Although this is possibly true concerning Aristotle's doctrine of the four causes canvassed in *Metaphysics* A, in this paper, I shall argue that, concerning the conceptual relationship that holds between Aristotle's and Anaxagoras of Clazomenae's (ca. 500-428 BCE) philosophy of mind (νοῦς), it is not. Instead, I claim that the immaterialist arguments about cognition that we find in *DA* 3.4 represent Aristotle's attempt to incorporate Anaxagoras's doctrines into his own psychology.[2]

1 So Cherniss (1935, xiv), relying upon *Metaph.* A.10, 993a11–18. As Cooper (2012) points out, the earlier thinkers to whom the charge is addressed do not include Plato and the Academy. He also points out that Aristotle uses the verb ψελλίζομαι, which refers to a general inability in children to articulate their speech, not to dismiss his predecessors outright, but to indicate their failures to fully think through the consequences of their views.

2 In a similar manner, Aristotle's views about the structure and objects of thinking that he puts forward in *DA* 3.6 derive from his attempt to resolve problems about the nature of thinking described by the *Timaeus*. See Carter (2017).

***Corresponding author: Jason W. Carter,** Exeter College, University of Oxford, Turl Street, Oxford, Oxfordshire OX1 3DP, United Kingdom of Great Britain and Northern Ireland, E-mail: jason.carter@exeter.ox.ac.uk

It is not difficult to find a *prima facie* methodological reason for why he would do so from the *De anima* itself. Aristotle tells us that, whilst going through puzzles concerning the soul, it is *necessary* (ἀναγκαῖον) to take into account what earlier thinkers said about it. This must be done, he says, in order to see which of their claims may be accepted into, and which ones excluded from (*DA* 1.2, 403b20–4), the science (εἴδησις) of soul that the *De anima* seeks to establish (*DA* 1.1, 402a1–4). This claim suggests that the reports and criticisms that Aristotle gives of earlier views of the soul are not merely dialectical or eristical, in the sense of presupposing a fully-fledged hylomorphic psychology, but rather play an essential role in its scientific justification and conceptual development.[3]

We have good reason to think that Anaxagoras would have been considered by Aristotle to have said at least some correct things about the mind and soul. This is because he is the only Presocratic to avoid both of the major errors Aristotle assigns to earlier Greek psychological theories – wrongly thinking that the soul moves other things in virtue of its own motion, and wrongly thinking that it is composed of (material or immaterial) elements in virtue of which it cognises like elements. Although some scholars have thought that Aristotle places Anaxagoras in the former[4] or the latter group,[5] in fact, he places him in neither.

Just as interesting is that, in reporting Anaxagoras's claims about mind in *DA* 1.2, we find further evidence of Aristotle's potential appropriation of his doctrines. Here we find that Aristotle represents the controversial attributes that he later ascribes to mind in *DA* 3.4 – its being unmixed and unaffectable – as originally Anaxagorean.[6] This suggests that, in order to understand Aristotle's account of mind in *DA* 3.4, it is necessary to see both how he interpreted Anaxagoras's claims about it, and the extent to which he adopted those claims into his own account.

3 Indeed, our most plausible evidence about the Peripatetic doxographical tradition shows that, although certainly Aristotle and Theophrastus collected earlier δόξαι for the purposes of dialectical debate, more importantly, they also did so for the purposes of advancing inquiry into the correct solution of scientific προβλήματα. This means that one cannot infer from the fact that Aristotle discusses earlier δόξαι or ἔνδοξα that such discussions are themselves dialectical. See Mansfeld (1990, 3199); (2010, 37–8).

4 E.g., Witt (1992, 172); Polansky (2007, 66 n.14) is a notable exception.

5 E.g., Laks (1993), despite noting that Theophrastus assigns Anaxagoras to the group of thinkers who believed in a 'like-cognises-unlike' principle. See *De Sensibus* §27 = Diels (1879, 507). At *DA* 1.2, 405b13–15, Aristotle notes that among those who define the soul in terms of knowledge, all of them either make it an element or composed of elements, 'except one' (πλὴν ἑνός). The exception is Anaxagoras, as Burnyeat (2002) notes.

6 So Shields (2016, 113): 'In some respects, as regards the primary characteristics of reason, there seems to be a direct line of influence from Anaxagoras to Aristotle.'

To show this, I first give a rough overview of Anaxagoras's cosmogony and claims about mind. I then show that Aristotle's own doxographical reports about Anaxagoras's doctrine of mind differ from Plato's, and reflect that he is reading DK59 B12, as well as other parts of Anaxagoras's work which we no longer possess, both carefully and seriously. I go on to explain why Anaxagoras's belief that the mind has nothing in common with anything in the cosmos raises a difficulty for Aristotle about how it can acquire the concepts of those items. In the final sections of the paper, I argue that a common interpretation of *DA* 3.4, which sees Aristotle as there rejecting Anaxagoras's account of mind, is mistaken. Instead, I claim, in providing his solution to the main puzzles of this chapter, Aristotle takes special care to preserve the essential features that he thinks Anaxagoras ascribes to mind, namely, its ability to know all things, its being unmixed, and its inability to be affected by mixed objects. I then offer a summary of these results.

The Fragmentary Background of Anaxagoras's Psychology

In the fragments of Anaxagoras that we possess, in his description of the nature and origin of the cosmos, he commits himself to at least three basic theses:

> (T1) There are an unlimited (ἄπειρον) number of material stuffs in the cosmos.
> (T2) Every determinate being in the cosmos has a portion of every other thing in it.[7]
> (T3) Generation occurs not *ex nihilo*, but by the localized recombination or separation of pre-existing material stuffs into new mixtures in which different material stuffs predominate.[8]

It is well known that Anaxagoras's doctrine of mind (νοῦς) fits uneasily into this materialist framework. This is because he holds that mind is an exception to (T2). Further, in discussing this exceptionality in DK59 B12, he commits himself to at least three more theses:

7 Cf. Aristotle's criticisms of this theory at *Phys*. 1.4, 187a12–188b18.
8 Cf. KRS (1983, 66); Graham (2004). For good recent treatment of Anaxagoras's metaphysics, see Marmodoro (2017).

(M1) Mind is mixed with nothing in the cosmos.
(M2) Mind knew all things in the cosmos.
(M3) Mind moves all mixed things in this cosmos (without being moved by any mixed thing).[9]

In what follows, I shall claim that, although Aristotle rejects Anaxagoras' (T1)-(T3) in his philosophy of nature, a close reading of *De anima* shows that he attempts to preserve *all* of (M1)-(M3) in his philosophy of mind.

Aristotle's First Report about Anaxagoras's Psychology

Aristotle's first report about Anaxagoras's psychology in *De anima* begins by relating the latter's view of the soul to that of the Platonists. He writes:

> In a similar manner [as the Platonists], Anaxagoras also claims that the soul is what causes motion (τὴν κινοῦσαν), and anyone else[10] who said that 'mind moved the whole' (τὸ πᾶν ἐκίνησε νοῦς). (*DA* 1.2, 404a25–27)[11]

Two things in this report are worth noting. First, it appears to contain a very rough paraphrase of a section of DK59 B13, wherein Anaxagoras says:

> When mind began to initiate motion (ἤρξατο ὁ νοῦς κινεῖν), there was separation off from the multitude that was being moved, and whatever mind moved (ὅσον ἐκίνησεν ὁ νοῦς), all this was dissociated ... [Trans. Curd, modified].

Second, Aristotle's paraphrase of this fragment, as well as the fragment itself, contains no language that would suggest to a Greek reader that Anaxagoras's νοῦς is itself *in* motion. In fact, we find no mediopassive forms of κινέω predicated of νοῦς in *any* fragments of Anaxagoras,[12] nor any other verbs that

9 I defend the inclusion of the parenthetical part of (M3) below.
10 Aristotle probably refers here to Hermotimus. See *Metaph.* A.3, 984b19.
11 All translations are my own, unless otherwise noted.
12 Finding such verbs would be the only way to determine decisively that Anaxagoras did *not* possess the concept of an unmoved mover, *pace* Menn (2002). He makes the strong claim that all philosophers before Aristotle, with the possible exception of Plato in the *Sophist*, thought that 'when *X* [...] is doing something, there must be some process going on in *X*'. However, if by 'process' he means 'material process', it is highly unlikely that Anaxagoras could agree. More importantly, Menn neglects to mention that Aristotle explicitly cites Anaxagoras as a source for his own doctrine that mind is unmoved at *Phys.* 8.5, 256b24–27 = DK59 A56. Other philosophical

obviously suggest its being in motion.[13] Aristotle's report is sensitive to this feature of Anaxagoras's account: the similarity that he specifies between Anaxagoras's and Plato's psychology is not that their souls are *self-movers*, but that in both of their accounts soul or mind is affirmed to transitively *move* bodies. Indeed, in *DA* 1, Aristotle represents Anaxagoras as the only Greek thinker whose theory of soul/mind is compatible with it acting upon bodies as an *unmoved* mover.[14] Below, I shall argue that Aristotle's interpretation of Anaxagoras's mind as an entity that can act without being affected or moved by material things will play a central role in spurring him to account for how it can acquire its concepts.

Aristotle's Second Report about Anaxagoras's Psychology

Of the remaining three reports about Anaxagoras's psychology in *DA* 1.2, the first two belie Aristotle's honest difficulty in finding in the latter's philosophical book a clear distinction between soul and mind.[15] The first is given immediately after Aristotle infers Democritus' identification of mind and soul from the latter's

considerations also make it implausible that Anaxagoras took his divine mind to be in (local) motion. For instance, he says that νοῦς exists 'where' all things are (DK59 B14), and hence, there would be no place for it to move into. In contrast, McKirahan (2010, 217), argues that Anaxagoras, 'was the first philosopher to distinguish clearly between the mover and the moved'. Cf. Marmodoro (2017, 140 n. 16)

13 *Pace* Cherniss (1935, 172 n. 122), whose only proof is to read DK59 B13 with Heidel's (1913) implausible suggestion that we take νοῦς as the subject of ἀπεκρίνετο. While grammatically possible, this would force us to apply Anaxagoras's technical term for separating out *mixed elements* from the primordial mixture (e.g., DK59 B12) to an *unmixed entity*, and to give this word the different sense of 'withdraw from'. This would be justified only if the status of νοῦς as μόνος αὐτὸς ἐπ' ἐωτοῦ had a spatial connotation, e.g., 'alone with itself *away from the mixture*'. If so, we would have expected Anaxagoras to use a parallel verb of motion (e.g., προσέρχομαι) to introduce its 'drawing near' to the mixture in order to move it. Sider (2005, 143) and Curd (2010, 67) make similar points.

14 Aristotle's subtle indications in *De anima* that Anaxagoras's mind is not subject to motion, quite surprisingly, is completely overlooked by the ancient commentators. To my knowledge, these indications are not given prominence until Thomas Aquinas. See Aquinas (*In De an.* I, lec. 3, §38).

15 *Pace* Cherniss (1935, 292), who, missing the sense of the passage entirely, interprets Aristotle's admission as a sign of personal embarrassment, rather than scholarly honesty.

(putative) identification of the power of cognition with the power of perception (*DA* 1.2, 404a27–31). Then, turning to Anaxagoras, he writes:

> But Anaxagoras is less clear concerning them [*sc*. soul and mind]. For in many places he says that the cause (αἴτιον) of beauty (καλῶς) and right order (ὀρθῶς) is mind (νοῦν), but elsewhere he says that mind is identical (ταὐτὸν) to soul; for it [*sc*. mind] exists (ὑπάρχειν), he says, in all living beings, both the great and small, both the noble and ignoble. However, what is said to be 'mind' in the sense of practical reason (φρόνησιν) does not appear to belong to all living things, nor even to all humans. (*DA* 1.2, 404b1–6)

The main item of interest in this report is the fact that its account of Anaxagoras's teleology diverges from Plato's.

Unlike Plato, who in the *Phaedo* has Socrates lament that Anaxagoras did not use his νοῦς to show how the cosmos is arranged for the better,[16] Aristotle here ascribes to Anaxagoras's νοῦς a teleological power to do exactly this.[17] This suggests that, rather than relying upon Plato's claims, Aristotle has read Anaxagoras carefully enough to be able to contradict his former teacher. Indeed, he cites 'many places' (πολλαχοῦ) in which the latter claims mind to be the cause of beauty and order to the universe, which for Aristotle are morally good ends.[18] Indeed, he later alleges that it is rather Plato himself who, in the *Timaeus*, neglects to specify how all things, such as the world soul's spherical shape and rotation, are constructed by the Demiurge for the better (*DA* 1.3, 407b9–11).

The second thing of interest here is that Aristotle's description of mind belonging 'in all living beings, both the great and the small', appears to offer another paraphrase, this time, of DK59 B12. Aristotle's claim that mind 'exists in all living things, both great and small' (ἐν ἅπασι γὰρ ὑπάρχειν αὐτὸν τοῖς ζῴοις, καὶ μεγάλοις καὶ μικροῖς), echoes Anaxagoras's statement that, 'mind has control (κρατεῖ) over all things that have soul (ψυχὴν), both the larger and the smaller

16 *Phaed*. 97b8–98c2 = DK59 A47.

17 *Metaph*. A.4, 985a18–21 = DK59 A47 does not contradict this claim. This passage only claims that Anaxagoras's default method of explanation was to appeal to material necessity when explaining why specific things are the way they are – for example, in claiming that the sun is the source of the moon's light (DK59 B18), and that the rainbow is a reflection of the sun in the clouds (DK59 B19). This is consistent with the idea that he also affirmed that mind is the general cause of order and beauty (e.g., in the arrangement of the cosmos as a whole).

18 Aristotle, in fact, is our sole ancient witness for this teleological information about Anaxagoras's depiction of the works of mind. For this reason, it is tempting to see τοῦ in 404b2 as a copyist's emendation. This would allow us to read καλῶς and ὀρθῶς as adverbs qualifying λέγει. In this case, Aristotle would only be reporting that, in many places, Anaxagoras 'aptly and rightly claims mind to be a cause'. However, there is no MS. support for deleting τοῦ.

(τὰ μείζω καὶ τὰ ἐλάσσω)'. These verbal parallels are important, since they suggest that Aristotle is attempting to be a faithful, even if not exact, doxographer.

One might allege, however, that Aristotle's loose paraphrase DK59 B12 has already introduced a distortion into our understanding of Anaxagoras's views. This is because, in DK59 B12, Anaxagoras does not claim that mind 'exists in' (ἐν ὑπάρχειν) living things; instead, he claims that it 'controls' (κρατεῖν) them.[19] Yet, when we peruse further fragments, we see that Aristotle's interpretation of mind as 'in' living beings has warrant.[20] In DK59 B1, Anaxagoras seems to refer to a special way that mind exists in living things:

> In everything there is a portion (μοῖρα) of everything except mind, but there are some things in which (οἷσι) mind also is.[21]

This fragment shows that, rather than seeing Aristotle as having misquoted a specific fragment in his report, and thus distorting one of Anaxagoras's claims about how mind 'exists in' and 'controls' all living things, we would do better to think that some of Aristotle's reports represent synopses of Anaxagoras's views taken as a whole.

Although it is not clear from DK59 B1 (nor any other fragment) how to understand the mode in which Anaxagoras thought that mind existed in things, this supports Aristotle's second report, for this is precisely the interpretive claim that it makes. Aristotle's observation that non-human animals and some humans lack practical reason is not, as it might first appear, a criticism of Anaxagoras's view that mind exists 'in' them.[22] In context, it serves as a reason for why it is difficult to understand *how* Anaxagoras distinguished between soul and mind.

Aristotle first assumes that Anaxagoras's claim that mind is responsible for beauty and right order in the cosmos justifies our ascription of practical reason (φρόνησις) to it – which power, unlike theoretical reason, enables its possessor to calculate how to act rightly and successfully.[23] Aristotle's query is that, since

19 Cf. Hicks (1907, 220).

20 As Barnes (1982, 407–8) notes, it is also consistent with Anaxagoras's position that mind is itself a part 'in' the mixture of that constitutes other things, without itself having those things mixed *into* it (e.g., as a mint leaf might ride atop a mixed drink).

21 λέγει δὲ σαφῶς, ὅτι ἐν παντὶ παντὸς μοῖρα ἔνεστι πλὴν νοῦ, ἔστιν οἷσι δὲ καὶ νοῦς ἔνι.

22 Cf. Shields (2016, 108).

23 Aristotle believes that the suppositions of practical reason are always true (*NE* 6.9, 1142b33) and that practical reason is essentially able to achieve good ends (*NE* 6.13, 1145a4–9). It is worth pointing out that Aristotle does not argue for the lack of practical reason in all living things – he takes this to be basic phenomenon that is apparent to everyone. Cf. *DA* 2.3, 415a7–11; *DA* 3.3, 427b7–10.

Anaxagoras seems then to ascribe practical reason to mind, why then do some animals – all of which Anaxagoras claims are controlled by a νοῦς that is 'in' them (or their souls) – *not* have it? Aristotle assumes that Anaxagoras could not have been unaware of the fact that not all animals have the practical wisdom of a cosmos-ordering (or human) mind, and so he offers a guess as to what the latter might have been thinking.

The best explanation, Aristotle suggests, is that Anaxagoras thought of mind as controlling in a different mode whilst in animals which lack practical reason, namely, by *being* their souls. In short, even if Aristotle thinks that Anaxagoras is committed to the inconsistent triad: (I) νοῦς and soul are identical; (II) νοῦς is or has the power of practical reason; and (III) practical reason is sometimes absent in things with soul, in context, his real complaint is that Anaxagoras is not clear on the matter.[24]

We can add that Aristotle's philosophical concerns about distinguishing soul and mind in Anaxagoras's work can be justified on other grounds as well. In fact, on the available evidence, it *is* difficult to determine whether, and how, Anaxagoras distinguished the two, especially *vis-à-vis* his commitment to (T2), that in everything there is a portion of everything. A close analysis of DK59 B12, as well as other fragments like DK59 B4 wherein he claims that things with soul are also compounded from all things, provides no help. Even here, it is not clear if Anaxagoras thinks that soul is (a) itself one of the elemental stuffs that is mixed into everything else, or (b) something pure and unmixed (and hence identical to mind), or (c) some *tertium quid*.[25] Aristotle, at least, does not seem to think that Anaxagoras preferred (a). He later discusses a group of theorists in *DA* 1.5 who held this view, and there is no hint that Anaxagoras is amongst them.

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24 It is worth pointing out that, had he wanted to, Aristotle could have asserted the much stronger claim that Anaxagoras is committed to practical reason being in all living beings; for DK59 B12, in asserting that 'all mind is alike, both the greater and the lesser' (νοῦς δὲ πᾶς ὅμοιός ἐστι καὶ ὁ μείζων καὶ ὁ ἐλάττων), can be read as promoting the idea that, if something shares in νοῦς at all, it will have all of its powers. This would suggest that if any portion of νοῦς has practical reason, then all portions of νοῦς do, whether these portions exist in humans or in cats or in moths. So Schofield (1980, 17): 'So whatever explanation [Anaxagoras] might attempt of the superiority of Plato's intelligence to Xenophon's, it could not be that Plato had a better or purer or a subtler mind than Xenophon.' Cf. Menn (1995, 28–9), and the criticism of Curd (2010, 55).

25 One way of defending (c) is to say that, for Anaxagoras, ψυχή still only had the traditional Greek meaning of 'life', as it does in earlier Greek literature up to Empedocles (see Empedocles DK31 B138). If so, then Aristotle is guilty of involuntary Platonic anachronism. On this interpretation, when Anaxagoras claims that νοῦς controls all things that 'ψυχὴν ἔχει', he does not mean that mind controls a metaphysically distinct entity called a soul, or that it exists 'in' such an entity. Rather, he just means that it controls all things that 'possess life', i.e. different kinds of living things that are amongst Anaxagoras's seeds.

Aristotle's Third Report about Anaxagoras's Psychology

When he comes to his third report, Aristotle reverses course. Having argued that Democritus identified νοῦς with soul, and soul with spherical atoms, and spherical atoms with fire, and that these identifications served for the atomists as an explanation for why soul is both cognitive and motive,[26] Aristotle turns to contrast this atomist explanation of the soul's cognitive and motive powers with that of Anaxagoras. He writes:

> But Anaxagoras seems to claim that soul and mind are different (ἕτερον), just as we said earlier, but he makes use of both as one nature, although certainly he puts forward mind as most of all the principle (ἀρχήν) of all things; at any rate he says it [*sc.* mind] is unique (μόνον) amongst the things that exist, being simple (ἁπλοῦν) and unmixed (ἀμιγῆ) and pure (καθαρόν). And he assigns (ἀποδίδωσι) both the power to cognise and the power to cause motion (τό τε γινώσκειν καὶ τὸ κινεῖν) to this same principle, when he says that 'mind moved the whole' (νοῦν κινῆσαι τὸ πᾶν). (*DA* 1.2, 405a13–19)

In this third discussion, after reminding his readers that Anaxagoras seems to treat mind and soul as different entities, Aristotle complicates matters by claiming that Anaxagoras also 'uses' (χρῆται) these different things 'as one nature' (ὡς μιᾷ φύσει). Aristotle's idea is that, despite Anaxagoras's suggestions that mind and soul are distinct, nevertheless, he seems to ascribe to both of them the same nature, namely, the power to produce cognition and motion.[27]

This interpretation is plausible, for in DK59 B12, Anaxagoras does *not* simply say that mind moved the whole; he also says that mind decided what kinds of things would come out of the whole it moved.[28] Aristotle is attracted to this depiction of mind. For, as he says against Democritus's conception of soul atoms dragging around the body from within, 'generally, the soul does not appear to move the animal (ζῷον) in this way (οὕτω), but [appears to move it] by a sort of decision (διὰ προαιρέσεώς τινος) and thinking (νοήσεως)' (*DA* 1.3, 406b24–5).

26 *DA* 1.2, 405a8–13.

27 As others have noted, the term νοῦς always has a cognitive connotation, no matter what other description (e.g., 'causing motion') attaches to it. Cf. von Fritz (1943, 1945, 1964), Laks (1993). As Hussey (1972, 139) points out, it is the power to cause motion that is innovative in Anaxagoras's conception of νοῦς, not its power to cognise.

28 If that is, we translate γνώμην in DK59 B12 as 'decision' for the reasons defended by Lesher (1995). Curd (2010, 60) emphasising the cognitive element related to decision, opts for 'discernment'.

Thus, Aristotle's third report reveals that, despite some interpretive reservations, he thinks that Anaxagoras posited a single first principle, νοῦς, in which the power of cognition and the power to produce motion naturally coincide. This makes Anaxagoras's mind functionally equivalent to the preliminary account of soul that Aristotle lays out at the opening of *DA* 1.2, which why he thinks that Anaxagoras treats soul and mind as being of one nature.

Aristotle's Fourth Report about Anaxagoras's Psychology

However, Aristotle's most important report of Anaxagoras's doctrine of mind is his fourth and final one. In this report, unlike the earlier ones, and unlike his reports about other thinkers covered in the otherwise neutral doxographical chapter of *DA* 1.2, Aristotle seems to offer an implicit criticism of Anaxagoras's epistemology. Within the discussion of earlier psychological views which give an account of the natural principle(s) or causes in virtue of which the soul cognises, we suddenly find a complaint about the *lack* of such a principle in Anaxagoras:

> But Anaxagoras alone says that mind is unaffected (ἀπαθῆ), and that it possesses nothing in common (κοινὸν) with any other thing. But being of this sort, he did not specify in what manner (πῶς) and in virtue of what cause (διὰ τίν' αἰτίαν) it will cognise (γνωριεῖ), nor this is evident (συμφανές) judging by the things he said. (*DA* 1.2, 405b19–23)

In this quasi-criticism, Aristotle specifies another attribute that supposedly belongs to Anaxagoras's νοῦς, namely, the properly of being 'unaffected' (ἀπαθής) – in medieval terminology, *impassibilis*. At first glance, this claim is confusing, since Anaxagoras does not use the term ἀπαθής in our extant fragments.[29] Fortunately, we can reconstruct why Aristotle feels confident to ascribe this attribute to his νοῦς.

As others have recognised, Aristotle is appealing here to *GC* 1.7, wherein he lays out the conditions under which it is possible for an object to be affected by an agent:

> But since it is not by chance that any two things are by nature such as to act and be acted upon by one another (τὸ τυχὸν πέφυκε πάσχειν καὶ ποιεῖν) – but only those that are contraries or are in a state of contrariety – necessarily, agent and patient must be alike in

29 Hence, this term is not, *contra* Polanksy (2007, 437), 'applied prominently by Anaxagoras to mind.'

> genus and the same, and yet unlike and contrary in species. For by nature body is acted upon by body, flavour by flavour, colour by colour, and so generally that which is homogenous is acted upon by that which is homogenous (τὸ ὁμογενὲς ὑπὸ τοῦ ὁμογενοῦς). The cause of this is that contraries are in every case within a single genus, and contraries are what reciprocally act and are acted upon. Hence, agent and patient must be in one sense the same, but in another sense different and unlike. (*GC* 1.7, 323b29–324a5)

Call this principle of the possibility of causal interaction the *Axiom of Causal Association*.[30] Formulated more precisely, it states:

> For all *x* and *y* in the cosmos, *x* can be affected by *y* by nature iff (1) *x* and *y* fall under a common genus, *U*, which contains contrary species, *F* and *G*, and (2) *x* has *F* and *y* has *G*.

Since Aristotle takes this to be a fundamental metaphysical principle which grounds the possibility of causal interaction between objects, he assumes that, for Anaxagoras's mind to think, it will need to be affected somehow by those mixed bodies that it thinks about and controls. The problem is that, since (a) an unmixed mind and (b) mixed bodies do not belong to the same genus (and hence, cannot be contrary to one another in species), according to the *Axiom of Causal Association*, it should be impossible for an unmixed mind to be affected by mixed bodies. However, if mixed bodies cannot affect Anaxagoras's mind at all, then it does not seem possible for them to affect it in a cognitive way either.

Aristotle's fourth report ends by emphasising that, 'from the things he said' (ἐκ τῶν εἰρημένων), one cannot construct a clear picture of how Anaxagoras took cognition to work. This suggests, once again, that Aristotle is operating both with a principle of interpretative charity, and at the same time, in virtue of his appeal to *GC* 1.7, within a framework which has as its goal the scientific appropriation of the (correct or near-correct) views of earlier thinkers, rather than their dialectical refutation.

Aristotle's Puzzle about Anaxagoras's Psychology

The causal interaction problem that Aristotle raises here for Anaxagoras's conception of the mind-cosmos relation is structurally akin to the mind-body interaction problem in post-Cartesian philosophy. If one claims that a non-material entity, whether a Cartesian *res cogitans*, or an Aristotelian or Anaxagorean νοῦς, has *nothing* in common with any other material entity in the world – including

30 See Mourelatos (1984). Cf. Burnyeat (2002): 'Combine generic likeness and specific unlikeness, and qualitative contrariety emerges as a fundamental explanatory principle of Aristotelian physics'. Cf. Cherniss (1935, 301) and Laks (1993).

common generic properties that ground causal abilities to act and be acted upon – one will inevitably face the problem of how to give a law-like account of that entity's causal relation to those material things.[31]

This problem would be more difficult for Anaxagoras to resolve than it would be for other Presocratics or for Plato. Whereas most of their theories, Aristotle claims, simply fail to add to their definitions of soul and body an explanation that accounts for their natural abilities to interact (*DA* 1.3, 407b13–19) – suggesting that, in principle, they *might* be able to do so – Anaxagoras is in danger of having ruled out this possibility from the outset in virtue of his commitment to mind having *nothing* in common with anything else in the world.

On the one hand, given the truth of the *Axiom of Causal Association*, Anaxagoras's affirmation that νοῦς is pure and unmixed seems to rule out the possibility that it could *act upon* (or control) a corporeal mixture in order to set it moving. On the other hand, his affirmation that it cannot *be acted upon* (or be controlled) by other mixed items in the world seems to rule out the possibility that it could become epistemically aware of those items via a causal process. If so, then it is unclear how mind could be present in animals in a way that could explain the contents of their knowledge of the world at all – whether in the mode of sensory awareness, or in the mode of practical or theoretical reason. As we shall see, because Aristotle wants to integrate Anaxagoras's doctrines about mind into his own philosophy, in *DA* 3.4 he will take it upon himself to solve this causal association problem.

Aristotle's Analysis of Anaxagoras's Psychology in Physics 8.5

Despite Anaxagoras being discussed no less than four times over the course of *DA* 1.2, he is almost completely neglected in the critical discussions of *DA* 1.3–5. We can explain this absence once we see that Anaxagoras's theory of mind, and the puzzle raised about how it thinks or becomes aware of the things it thinks about, play a positive role in the conceptual development of Aristotle's own explanation of how the soul causes motion and thinks.

First, Aristotle could not have complained in *DA* 1.3–5 about Anaxagoras's account of mind concerning its motive powers. As we saw in his first report,

31 Indeed, one could go so far as to say that the mind-body interaction problem in Cartesian philosophy is *constituted* by Descartes' decision to classify mind and body under two distinct genera: extended and non-extended (thinking) substance.

Anaxagoras's νοῦς is not subject to Aristotle's repeated criticisms (whether fair or not) of Plato and other Presocratics that the soul does not cause motion by being in motion.[32] Instead, he everywhere implies that Anaxagoras held (M3) – that mind, in the same way as an Aristotelian soul, can move mixed bodies without being in motion.[33]

Further, we know that Aristotle ascribed (M3) to Anaxagoras, because in *Phys*. 8.5, near the end of his argument for the necessity of there being an unmoved mover of the cosmos, he says as much:

> It is because of this (διὸ) [*sc*. that there is an unmoved mover] that Anaxagoras also speaks correctly (ὀρθῶς) in claiming that mind is unaffected (ἀπαθῆ) and unmixed (ἀμιγῆ), since he makes mind to be the first principle of motion; for in this way alone, i.e. being unmoved (ἀκίνητος ὤν), could it cause motion (κινοίη), and being unmixed (ἀμιγὴς ὤν), could it control (κρατοίη). (*Phys*. 8.5, 256b24–27 = DK59 A56)

Just as he does in *De anima*, here, Aristotle ascribes the property of being unaffected (ἀπαθής) to Anaxagoras's νοῦς. However, in this context, he shows why the impassibility of mind can function as a good thing: it is in virtue of this attribute, he claims, that it can perpetually move the cosmos without being moved in return.

However, Aristotle is also endorsing another claim here: only in virtue of *being unmixed* could mind *control*. We can make sense of this once we remember that Anaxagoras conceived of mind as having cognitive *and* motive powers. Given Aristotle's keenness to distinguish these two attributes from one another, it is plausible to take his second claim as referring to a kind of *cognitive* control that mind has over other items in the cosmos. As we shall see, in *DA* 3.4, this suspicion is confirmed.

Aristotle's Appropriation of Anaxagoras's Unmixed Mind

In *DA* 3.4, we learn why Aristotle is careful about interpreting Anaxagoras's doctrine of mind in *DA* 1.2. It is because, in this later chapter, he wants to show

32 That the soul has the ability to move and direct the body locally whilst remaining unmoved is never in doubt in *DA* 1. It is only the way in which soul initiates and governs the body it ensouls that is controversial. Cf. *DA* 1.4, 407b34–408a1; *DA* 1.4, 408a32–33; *DA* 1.4, 409a16–17; *DA* 1.5, 411a29.

33 On Aristotle's conception of soul as an unmoved mover, see Menn (2002) and Carter (2018).

that Anaxagoras's (M1), that mind is not mixed with other bodily things, can be reconciled with (M2), that it knew all things. He also wants to show that, when a mind comes to know mixed objects, this process does not violate (M3). Finally, he also wants to show that these insights can explain why it is necessary for mind in humans to be 'unmixed' with anything bodily – in the sense of being a power that does not essentially depend for its existence upon the body or any of its organs. For Aristotle, this means that mind will turn out not to be a capacity that belongs to the ensouled body *qua* hylomorphic compound (i.e. in virtue of an ensouled body's formal *and* material features), but a capacity that belongs to *one part* of this hylomorphic compound alone – *the soul*. He begins his explanation for this thesis as follows:

> If indeed thinking is just like perceiving, it would consist in either a being affected by a thinkable object, or a different sort of being affected. Thinking must therefore be unaffected (ἀπαθές), but be receptive of form and this sort of thing in potentiality, and not be this thing, but be similar to it – just as the power of sense perception is in relation to perceptible things, so the mind is towards thinkable objects. It is necessary, therefore, since mind thinks everything (πάντα νοεῖ), for it to be unmixed (ἀμιγῆ), just as Anaxagoras says, in order for it to have control (κρατῇ), that is to say, in order to know (γνωρίζῃ); for if what belongs to something else (τὸ ἀλλότριον) appears in it by nature (παρεμφαινόμενον),[34] it hinders (κωλύει) and blocks (ἀντιφράττει) it [from controlling and knowing], so that there is no nature at all belonging to mind except this one – that it is capable (δυνατόν) [of receiving thinkable forms]. Therefore, so-called 'mind' (I mean by 'mind' that with which (ᾧ) the soul reasons and infers) is not among the beings that exist in actuality (οὐθέν ἐστιν ἐνεργείᾳ τῶν ὄντων) until it thinks. (*DA* 3.4, 429a13–27)

Aristotle begins by arguing that there is a parallel between the power of thinking and the power of perceiving. Both are viewed as naturally receptive of, because able to be *affected* by, a certain kind of form, but also naturally *unaffected* by objects that fall outside of their cognitive domain.[35] For instance, the capacity for hearing is affected by audible forms, but not visual ones.

There is an explanatory schema at work here: in order for a sense organ to be receptive of the range of forms belonging to *one genus* of perceptible

34 Aristotle's own prior uses of παρεμφαίνω in *Phys*. 4.4, 212a7–9 and *Phys*. 4.14, 224a1 show that he takes this term to refer to a thing or attribute that appears in or alongside something by nature. *Pace* Caston (2000), there is no need to think that παρεμφαινόμενον evokes *Timaeus* 50d–51b. Although its argument about the cosmic receptacle's need to have no shape manifest in it (παρεμφαῖνον) is similar to the one advanced here, nevertheless, its metaphors belong to a Platonic schema of visual distortion and reflection, whereas the metaphors here belong to the Aristotelian schema of blocking and tactile impressions established in *DA* 2.12.

35 Including bodily changes that might be thought to destroy these capacities. See *DA* 1.4, 408b18–29.

contraries (e.g., the range of forms belonging to the genus of colour), it must by nature (i) lack by nature the specific forms it receives, but (ii) be made of a material and structured in a way that *explains* why it is receptive of the forms belonging to that genus (e.g., the eye has to be made of transparent material because this is the sort of material fit to receive colour).[36] This means that any given organ system (e.g., the eyes) will be of a nature *not* to receive forms from another range of perceptible forms (e.g., smells) (*DA* 2.11, 424a2–15).[37] Thus, the material nature of the organ serves to explain why it can be made commensurable with, and receptive of, one generic range of perceptible forms, but not another (*DA* 2.11, 424a6–7).

However, Aristotle points out that there is also a disanalogy between mind and perception with regard to its being commensurable with a single genus of formal objects. For mind, it is claimed, is supposed to think *all things*.[38] However, it seems to be true *a priori* that no material object, *qua* material (the brain, for example) could be commensurate with, i.e. hold in mean state between, all thinkable objects or qualities.

Firstly, this is because there is no bodily material that could intelligibly be said to be a ratio or mean between all formally specifiable contraries. The ratio of hot to cold that constitutes flesh, for instance, could not act as a mean that serves to judge the *concept of triangle*, because the concept of triangle is neither an excess nor a deficiency of hot or cold.[39]

Aristotle uses the idea that being made of a specific material would make it impossible to explain the full range of objects that the mind can receive to confirm his acceptance of Anaxagoras's (M1), that mind is not mixed with body. The principle that he appeals to at 429a20–21 – which I have translated as, 'for if what belongs to something else (τὸ ἀλλότριον) appears in it by nature (παρεμφαινόμενον), it hinders and blocks it',[40] explicitly evokes the claim made in DK59 B12 that:

36 See Johansen (1997, 47).

37 See Sisko (1999, 260 n. 23).

38 Aristotle's commitment to mind's ability to know all things is certainly connected to his belief that there is a science of being *qua* being. Cf. Politis (2001) and Cohoe (2013). However, it is also important to remember that, in the *De anima*, Aristotle suggests that this thesis is part and parcel of earlier Greek views of the soul's power of cognition (*DA* 1.2, 403b20–28).

39 This is one of the most important lessons of *DA* 3.4, 429b10–21, wherein Aristotle distinguishes between a thing and its essence.

40 Different commentators translate this line differently. Cf. Ross (1961, 290), Politis (2001, 381–2), Caston (2000, 140 n. 10), Lewis (2003, 100 n. 23) and Cohoe (2013, 357, n.25).

> For if mind were not by itself, but had been mixed with anything else (ἐμέμεικτο ἄλλῳ), then it would partake of all things … and the things mixed together with it would hinder (ἐκώλυεν) it, so that it would control (κρατεῖν) none of the things in the way that it in fact does, being alone by itself.

In these lines, Anaxagoras seems to be saying the same thing as Aristotle in *DA* 3.4: mind could not 'control' (or, as Aristotle has it, 'cognise') other mixed things had it been mixed with them.[41] Call this Anaxagoras's *No Purity No Control Principle*. Just as I suggested was the case in *Phys*. 8.5, here also, Aristotle takes this principle to cover (or to necessarily involve) mind's power to know all things.

This might seem surprising, since in DK59 B12 the 'control' that Anaxagoras's mind asserts overs its objects seems to be predominately physical (e.g., the ability to cause the primordial mixture to rotate, and to separate into smaller components). However, Aristotle plausibly interprets this passage as suggesting that mind's maximal power to control the mixture – which essentially depends upon its being unmixed – must *also* involve its capacity to discern and make decisions about the objects that will result from this physical activity (e.g., their natures, and how they will interact after separated out). In *DA* 3.4, Aristotle uses the *No Purity No Control Principle* to make a further inference about mind that is not clearly present in Anaxagoras, namely, that *necessarily*, if mind thinks all things, it cannot be mixed. There are two reasons why he thinks this must be the case.

First, Aristotle takes this principle to be in accordance with his own view that mind cannot think about a form that it does not initially receive afresh. If mind were mixed with something else by nature or essentially, according to Aristotle's hylomorphism, it would actually have some form *F* throughout its existence. However, of metaphysical necessity, what actually exemplifies some form *F* cannot receive *F*. If I, for instance, have a received a dark suntan at the beach, of metaphysical necessity, I can no longer receive the same dark suntan at the beach (but can only become lighter or darker).

Second, Aristotle thinks that, if our mind were mixed with the body, it would be impossible for it to receive the appropriate kind of form, i.e. thinkable essences and universals. He writes:

> Because of this (διὸ), it is also reasonable (εὔλογον) that mind has not been mixed (μεμεῖχθαι) with body; for [if it were, in receiving a thinkable form] it would come to be a certain quality (ποιός τις), such as cold or hot, and there would be an organ for it, just as there is for the perceptive power; but as it is, there is none.[42] And those who say that the

41 *Pace* Caston (2000, 141).

42 Cf. Shields (1997, 314).

> soul is the 'place of forms' speak well, excepting that it is not the whole soul, but the intellectual one [that is the place of the forms], and not the forms in fulfilment, but in potentiality. (*DA* 3.4, 429a24–29)

Commentators have often thought that Aristotle is making the claim here that, were mind to be of a bodily nature, it would, like the organ of touch, have a certain bodily quality *G*, which would prevent it from thinking *G*. The idea goes like this: if the mind's bodily organ was normally 27 degrees Celsius, then mind could not form the concept of 27 degrees Celsius because it (or its organ) could not receive this qualitative form (being this temperature already). Mind would thus be like the organ of touch, which cannot discriminate the temperature of an object which is as hot or cold as itself (*DA* 2.11, 424a1–5).[43]

Although this interpretation is consistent with the first reason that Aristotle gives for thinking that the mind is necessarily unmixed, as others have pointed out, if his main concern is with bodily organs causing intellectual 'blind spots', this would be a pretty meagre argument for mind's immateriality.[44] Why not simply accept that mind knows all the things there are except those things that constitute the standing qualities of its natural organ?

Since Aristotle's arguments are rarely, if ever, this insubstantial, it is more likely that Franz Brentano's interpretation of the corollary argument is correct. He argues that Aristotle's point is really about what *kind of form* mind receives. Being mixed with the body, Aristotle suggests, would make it the case that the mind's function is to be able to be affected by, in order 'to become' (γίγνοιτο), those sorts of forms that affect bodies *qua* bodies, namely, perceptible forms like hot and cold.[45]

In contrast, Aristotle thinks that, in acquiring a concept, our mind does *not* become a certain *perceptible form* (αἰσθητόν). Instead, he thinks that our mind becomes, or changes into, a *thinkable form* (νοητόν). These latter forms are not particular qualities of bodies perceived in space and time, but rather universals and substantial essences (*DA* 2.5, 417b22–24; *DA* 3.4, 429b9–22). Mind, Aristotle thinks, cannot perceive a form in the way that perception perceives it, just as the power of perception cannot think a form in the way that a mind thinks it.[46] This, for Aristotle, constitutes a categorical distinction between objects of the mind, and objects of the senses (*DA* 3.8, 431b20–24; *APo* 1.31, 87b29–33).

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43 See Sisko (1999, 262).

44 See Shields (1997, 325).

45 See Brentano (1977, 229 n. 35), who notes that the optative suggests that Aristotle is concerned with the mind's *becoming* hot or cold (not its *being* so), i.e. its receiving sensible qualities in order to think about them. Cf. *DA* 3.5, 430a14–15. If so, Aristotle's concern is what sorts of items mind can become.

46 See Cohoe (2013, 372–3). See also Cohoe (2016).

This distinction explains why mind, of necessity, does not have a bodily organ. As I pointed out above, the purpose of a perceptive power being 'mixed' with the body is to give it the necessary means of accomplishing its function, and a psychological function is defined by the kind of object it receives (*DA* 2.4, 415a14–22). Bodily organs, for Aristotle, are necessary in order to mediate the transmission of distinct ranges of perceptible differences, falling under distinct perceptual genera, to their respective sense organs (*DA* 3.2, 426b8–12).[47]

So, by analogy to the general claim that having some actual form by nature would hinder mind from receiving some class of objects, Aristotle now claims that by having a bodily organ, our mind would be limited to being changed by, and its contents explained by, the *perceptible qualities* that its material organ was suited to receive. However, what material properties could be uniquely suited to receive universals, like the *concept* of colour, or pity, or infinity?[48] For a universal such as colour is neither white nor black, nor any other colour.

One might object that this is a point that, as modern philosophers, we should feel free to reject. We now tend to accept the scientific picture that a very complex bodily organ, namely the brain, can indeed encode abstract information about the world in some material way. However, our modern account notion of material encoding comes at a philosophical price.

Among other things, affirming that the brain materially encodes our abstract knowledge of the world at a particular spatio-temporal location within it (e.g., knowledge of the truths of mathematics, physics, and biology), opens the door to scepticism about this knowledge. This is a problem that Aristotle thinks many of the Presocratics are susceptible to, since they tended to conflate the mechanisms that controlled perceptual cognition with those that controlled intellectual cognition (*DA* 1.1, 404a27–31; *DA* 3.3, 427a17-b5).[49] Aristotle thinks that this position, for Presocratics like Democritus and Empedocles, implies that our knowledge is arbitrarily controlled by, because is essentially dependent upon, the physical states of different human bodies and their cognitive organ(s) at different times in relation to different environments. For Aristotle, this is a theory which raises the spectre of Protagorean relativism.

In defence of Aristotle's immaterialism about the mind against our modern picture, we might summarise his reasons for keeping the mind free from material mixture in the following way: if our conceptual knowledge of essences and

47 Aristotle goes so far as to argue that there could not be any other sense beyond the five that we have, unless there were a physical body which had a kind of quality that we have not yet experienced (*DA* 3.1, 424b1–425a13).

48 See Brentano (1977, 80)

49 See Frede (2008).

universals (e.g., the essence of a fundamental particle, or of a neuron), is mediated by a material that encodes these concepts at a particular spatio-temporal location in the brain, then it is not clear if we can ever be justified in thinking that this encoded concept represents objects in the world correctly.

For instance, if a given neural configuration with structure S_1 purports to be the encoded concept 'animal', what reason is there for thinking that this materially encoded concept represents correctly the nature of the objects it picks out in the world? It seems that, if half of the human brains in the world were to have not S_1, but a neural state S_2, which encoded the concept 'angel', and S_2 picked out the same group of objects in the world as S_1, we would have no way of telling, from a materialist standpoint, whether we were on heaven or on earth. This is because all of our attempts to determine this so would themselves be mediated by further particular material neural states, S_3 ... S_n, within the scientists who attempted to determine which of S_1 or S_2 represented the world correctly (if either did).

However, if we think of universals and essences like Aristotle, namely, as exemplified in immaterial minds in virtue of a chain of causes that link back from the contents of immaterial mind to an immaterial thinkable form present in material things (namely, the chain of thinkable forms in a mind drawn from images caused by perceptions caused by perceptible forms caused by their substantial bearers), it seems we can avoid this problem.[50]

This is because Aristotle thinks that mind's objects are not *representations of* what is knowable, but what *is* knowable – thinkable forms – directly instantiating themselves in a mind that is not subject to being cognitively altered by contingent material factors in the brain or the environment. Indeed, given the truth of the *Axiom of Causal Association*, it could not be.[51] Mind can only be affected by its proper mental objects, and these objects are the structures of things in the world insofar as they are intelligible. This is why Aristotle is justified in thinking that, if mind receives the form of all things, it cannot do not *via* an organ in the body, but only via the part of soul that reasons and supposes certain things to be the case.[52]

50 It is notable that, in the *Metaphysics*, at least part of Aristotle's motivation for thinking that we have minds that grasp thinkable essences is to keep perceptual idealism at bay, since essences (which are potentially the objects of mind) do *not* have to be perceived or thought about in order to exist in actuality, whereas perceptual qualities do (see *Metaph*. Γ.5, 1010b30–1011a2).

51 Although he is happy to admit that such factors hinder the expression of, and our conscious access to, our mind's knowledge. See *DA* 2.4, 408b19–28.

52 Incidentally, this helps to show that φαντάσματα (cf. *DA* 1.4, 408b15–19; *DA* 3.2, 425b24–25), which *are* resident in certain physical organs in the body, cannot be identical to the mind's objects. See Cohoe (2016).

Thus, in the opening section of *DA* 3.4, Aristotle wholeheartedly accepts, with no real change, Anaxagoras's doctrine that mind is not mixed with anything bodily. This implies that he accepts that the mind (before it receives its concepts) is a power that exists apart from bodily conditions, just as Anaxagoras does. However, now he must face the consequence of buying Anaxagoras's position wholesale – how can an unmixed mind come to acquire the concepts of mixed or material objects, give the truth of the *Axiom of Causal Association*?

Anaxagoras's Return

We saw above that, in *Phys* 8.5, Aristotle thinks of Anaxagoras's mind's being impassible as something positive. This property explains why it, like the soul, can remain unmoved by the objects that it moves. Concerning Anaxagoras's epistemology, however, we saw that this property raises a question: how can mind gain access to its objects, if thinking involves being moved or affected by them in the intra-generic way required by the *Axiom of Causal Association*? Having adopted Anaxagoras's claim that mind is by nature unmixed with the body, he now has to face his earlier problem – how can Anaxagoras's unmixed mind come to think about objects, which appears again at the outset of *DA* 3.4 (429a13). He writes:

> But someone might raise a puzzle, if mind is simple (ἁπλοῦν) and impassible (ἀπαθὲς) and it has nothing in common with anything at all (μηθενὶ μηθὲν ἔχει κοινόν), like Anaxagoras says, how will it think (πῶς νοήσει), if thinking is identical to suffering some affection (πάσχειν τί) (for it is insofar as something common (κοινόν τι) exists in two things, that one seems to be what acts, and the other seems to be what is affected); and further, [someone might puzzle] whether mind itself is thinkable (νοητὸς καὶ αὐτός); for [if so] either mind will belong in other things (if it is not in virtue of something else that mind is thinkable) – since 'what is thinkable' is something one in kind – or it will have something mixed [in it], which makes it thinkable in the same way as the other things are. (*DA* 3.4, 429b22–29)

There are two problems here. The first is how mind thinks about other things, the second, how (or if) mind can think about itself.[53] The first problem arises because Anaxagoras claims that mind has *nothing* in common with any of the other mixed objects in his cosmos. As we saw above, the *Axiom of Causal Association* established in *GC* 1.7 claims that agents and patients can only interact by nature if they fall under a common genus and possess qualities that are contrary in species. Hence, it seems like Aristotle and Anaxagoras cannot both be right.

53 Cf. *Parm.* 132b3-c12.

The second problem is more obscure. Commentators have often found it difficult to reconstruct what exactly Aristotle's reasons are for thinking that, if mind is simple, impassive, and has nothing in common with anything else, then if it thinks itself (as Aristotle claims it does at *DA* 3.4, 429b5–9), either (a) it will be *in* other things, or (b) something will be 'mixed' into it. Scholarly reconstructions of this argument are often speculative and unpersuasive – for example, that Aristotle is claiming, if the mind thinks itself, we might only be able to think about other minds,[54] or that all other things do have mind in them, because mind just *is* the 'formal structure of the universe become aware of itself'.[55]

Part of the reason for this disparity of opinion, I think, is that most attempts at solving these problems ignore the fact that Aristotle places both of them upon Anaxagoras's doorstep. For this reason, a more historically minded interpretation is in order.[56] Since mind, as DK59 B12 says, knew the items that it separated out of the primordial mixture, we can surmise that Aristotle and his students thought it patently obvious that mixed material things are for Anaxagoras thinkable things. However, if so, this is a problem for Anaxagoras's account of mind – if, that is, his mind is *also* a thinkable thing.

This is because Anaxagoras is committed to the mind having *nothing* in common with anything else in the cosmos. However, if mind and its mixed objects both contain an 'ingredient' that causes them to be *thinkable*, Aristotle says, then mind will have at least one property – *thinkability* (or what causes it) – in common with other things.

The positive consequence, of course, is that if mind does have something in common with other mixed things, it will be able to be affected by them, just as the power of perception is affected by perceptible objects; the negative consequence is that Anaxagoras's mind is in danger of becoming naturalized, becoming one more material object amongst others, rendering its capacity for the reception of universals and essences problematic. The dilemma Aristotle poses for Anaxagoras's philosophy of mind is this: either what causes thinkability is a *material property* mixed into things, in which case (if mind thinks itself) mind will itself be mixed with a body, or what causes thinkability is *a mental property*, in which case any material thing that can be thought will have mind mixed into it.

To solve both of these Anaxagorean problems, what Aristotle needs is an account of how mind can think its objects, and itself, that preserves the properties Anaxagoras ascribed to it: being impassive, pure (i.e. unmixed), and without

54 E.g., Polansky (2007, 452).
55 E.g., Kahn (1992, 375).
56 See Driscoll (1992).

a common nature. However, *at the same time*, he also needs an account that formally meets the generic similarity (or homogeneity) condition that holds between any agent and its natural patient, and the contrariety condition that allows it to be affected by objects that are somehow contrary in species to it, since this is required by the *Axiom of Causal Association*.

Aristotle's Solution to the Puzzles about Anaxagoras's Mind

In what follows, Aristotle does not, as some commentators claim, take the properties that Anaxagoras ascribes to mind to be irrelevant to solving this dilemma,[57] nor does he reject them.[58] His solution runs as follows:

> Or, is the being affected (πάσχειν) in respect of the 'something common' (κοινόν τι) we distinguished earlier, because mind is somehow potentially the thinkable things (δυνάμει πώς ἐστι τὰ νοητὰ), but in fulfilment none of them until it thinks (ἐντελεχείᾳ οὐδέν, πρὶν ἂν νοῇ)? But 'in potentiality' in this way – just as nothing exists on a writing tablet (γραμματείῳ) that has not actually been written upon; it happens just this way in respect of mind. Further, mind is itself thinkable in the same way as [other] thinkable things. For in respect of things without matter (τῶν ἄνευ ὕλης), mind's-thinking-about- something and something's-being-thought-about (τὸ νοοῦν καὶ τὸ νοούμενον) are the same (τὸ αὐτό); for theoretical knowledge and that which is theoretically known are the same. (But the cause of why we are not always thinking we should investigate later). But in regard to things which have matter, each of them is potentially thinkable. It follows that mind will not belong in them (for mind is the potential to be such things apart from matter), but what is thinkable will belong in mind. (*DA* 3.4, 429b29–430a9)

Aristotle's solution has three components: (i) a denial that the kind of being-affected that mind undergoes when it acquires a piece of knowledge (i.e. when it transitions into *second potentiality/first fulfilment*) involves the sort of suffering that mixed material objects undergo in ordinary changes, (ii) an affirmation that there *is* a common genus between mind itself and its objects, namely, *object of mind* (νοητόν); and (iii) an affirmation that mind's being affected by its objects does involve contrariety, namely, mind being in a state of privative ignorance in regard to the possession of concepts, and mind being in a state of fulfilled knowledge after acquiring its concepts in the state of *second potentiality/first fulfilment*.

57 E.g., Hamlyn (1968)
58 E.g., Ross (1961, 294).

In respect of (i), Aristotle points us back to *DA* 2.5, where he argues that there is a difference between (a) a destructive affection, which destroys the nature of something, and (b) a preservative affection, which helps a thing fulfil its own natural potentiality. He writes:

> Nor is suffering (τὸ πάσχειν) something simple; but one kind is a kind of destruction (φθορά) by what is opposite, and another is more a preservation (σωτηρία) of that which is in potentiality by what is in fulfilment and like it in the way that potentiality holds in relation to fulfilment. (417b2–5)[59]

If mind acquires knowledge by way of the latter kind of suffering, Aristotle suggests, then when it acquires a universal concept, it will not be true to say that it 'suffers' in an ordinary destructive way wherein a thing changes by having a property, *F*, which it instantiates, destroyed via the gradual instantiation in it of a contrary property, *G* (e.g., a wet thing becoming dry).

Instead, Aristotle thinks that when mind acquires a piece of knowledge, it transitions only from being *potentially* the thinkable form, *G*, to being *in fulfilment* the thinkable form *G*, without losing any other thinkable form *F* which it may have. If so, Aristotle thinks, Anaxagorean *impassivity* is preserved, because in acquiring its objects, mind is really just developing into its own nature, i.e. fulfilling its dispositional potential to be the thinkable form of 'all things'.

In respect of (ii), Aristotle claims that *object of mind* (νοητόν) is the unitary genus under which both mind and its intelligible objects fall, because mind can become any specific thinkable form *F* that (preservatively) affects it, and mind can also be an object to itself.[60] Importantly, Aristotle does not think this forces us to accept that mind resides *in* any mixed or material body, since objects-of-mind (νοητά), i.e. thinkable forms, only exist in composite things potentially. In other words, the objects of mind (thinkable forms) are not *actually* in anything in the world *qua* thinkable; this is because Aristotle thinks that, although things in the world (e.g. humans) have actual formal essences (e.g. a what-it-is-to-be-human) which are thinkable, they only become thinkable in *fulfilment* once a mind has thought about them. Roughly, Aristotle thinks that after a perceptual process transmits the perceptible forms of those things to the soul and deposits them as images (φαντάσματα), the mind can

59 The number and kinds of distinctions Aristotle marks out in *DA* 2.5 are controversial. Cf. Burnyeat (2002) and Heinaman (2007). My argument here only commits me to the idea that mind's transition (through learning) from *first potentiality* to *second potentiality*/*first fulfilment* is a preservative affection that is also a transition from a privation to a disposition. See Bowin (2011).
60 Cf. Sisko (2000, 186) and Polansky (2007, 453).

abstract from such images the formal essences of those objects to make them into actual objects of thought (*DA* 3.8, 432a3–9).

Aristotle argues that *when* the νοητά in such images become *actual* (i.e. when mind transitions from a state of *first potentiality* to a state of *second potentiality/first fulfilment* within regard to them), they do not become actual *in* the mixed object; rather, they become actual in the mind that acquires them. This is a complicated but coherent way of affirming, with Anaxagoras, that mind – both before and after it becomes a thinkable object, shares no *actual* property in common with the mixed objects it thinks about.[61]

Finally, in respect of (iii), Aristotle affirms that there is a specific contrariety involved in mind acquiring its objects. Transitions from *first potentiality* mind, in which condition mind potentially has knowledge but is actually in the privative state of ignorance (*DA* 2.5, 417a26–7) – after learning and many changes – to *second potentiality/first fulfilment* mind (*DA* 2.5, 417a27–8),[62] in which condition mind is identical to its objects and able to contemplate them at will in *second fulfilment* (*DA* 2.5, 417a28–9), Aristotle counts as a change from one contrary state to another (*DA* 2.5, 417a31–2), namely, a privation (στέρησις) to a disposition (ἕξις).[63]

Aristotle's final point in the passage above explains how mind is able to think itself. He appeals to his doctrine that mind's thinking about something is a reflexive act, such that mind thinks itself alongside, or indirectly, in virtue of thinking something else.[64] Thus, mind's sharing nothing in common with anything non-mental is preserved, at the same time as its generic unity with thinkable objects,[65] its ability to think itself, and its ability to be changed by its mental objects, is established.

Conclusion

It should now be clear that Aristotle's charitable and sophisticated treatment of Anaxagoras in his four reports concerning him in *DA* 1.2, which leads to his appropriation of the latter's metaphysical theses, (M1), (M2), and (M3), about

61 *Pace* Lewis (2003, 100). This is essentially the view of Philoponus as well. See Charlton (1991, 58). See also Lewis (2003, 96 n. 15).

62 See Burnyeat (2004, 19–24).

63 See *Metaph.* I.4.

64 See *Metaph.* Λ.9, 1074b35–6. Aristotle does not need mind and its objects to be indiscernibly identical to one another, in the Leibnizian sense, in order for them to be 'the same' as one another. A good critique of the identity thesis may be found in Lewis (1996).

65 *Pace* Ross (1961, 294).

the mind in *Phys*. 8.5 and *DA* 3.4, and his serious attempt to solve the puzzle of how Anaxagoras's pure, unique, and impassible mind could be affected so as to think its mixed material objects, shows that he did not investigate the latter's views in *De anima* in order to proleptically promote the truth of his own pre-established theory of mind.

Instead, the evidence points in the opposite direction. I argued that, in *DA* 1, Aristotle's claim that it is necessary to take into account the views of earlier thinkers implies that we cannot properly understand Aristotle's views without understanding theirs. I also showed that Aristotle takes particular care to quote, interpret, and understand the claims that Anaxagoras makes about mind without rejecting any of these claims in *DA* 1.3–5. This suggests that they are of particular importance to him.

I also claimed that Aristotle is attracted to Anaxagoras's hints that the mind moves its objects without being moved, which is in harmony with his own view of how the soul causes motion. More importantly, he is also attracted to the idea that mind stands out as generically different from other material things, namely, as an intellectual power whose nature does not, and indeed cannot, require a bodily or material organ if knowledge is to remain stable and universal. However, in adopting Anaxagoras's unmixed mind into his own psychology, Aristotle is forced to solve the problem of how mind can think, i.e. how it can acquire its concepts, given that Anaxagoras's model of mind seems to violate the *Axiom of Causal Association*.

Aristotle is able to solve all these problems, I claimed, by appealing to his doctrine of preservative change, his doctrine that 'object of mind' is a unified genus, under which different thinkable forms or essences fall as species, and his claim that in learning, mind undergoes a transition from a privative stage of ignorance (after many *preservative* changes), into the contrary state of knowledge. If this is so, then despite the fact that Anaxagoras was murky on the distinction between soul and mind, and despite the fact that he did not explain how it could think its objects, nevertheless, in respect to νοῦς being unaffected, unmixed, and sharing nothing in common with anything material, here, as in *Physics* 8.5, Aristotle affirms that he spoke without a lisp.

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