

Why the Intellect Cannot Have a Bodily Organ: *De Anima* III 4

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Abstract

I reconstruct Aristotle's reasons for thinking that the intellect cannot have a bodily organ. I present Aristotle's account of the aboutness or intentionality of cognitive states, both perceptual and intellectual. On my interpretation, Aristotle's account is based around the notion of cognitive powers taking on forms in a special preservative way. Based on this account, Aristotle argues that no physical structure could enable a bodily part or combination of bodily parts to produce or determine the full range of forms that the human intellect can understand. For Aristotle, cognitive powers with bodily organs are always spatiotemporally limited, but the understanding is not. Aristotle claims that our understanding applies to all instances of the thing understood wherever and whenever they exist. On Aristotle's own account the intellect in its nature is only "potential," it does not actually possess any form. Thus nothing prevents it from possessing all forms.

Keywords

Aristotle; Intellect; *Nous*; Intentionality, Philosophy of Mind; Perception

1. Introduction

Trees, tables, rocks, and elements aren't about anything. In contrast, our sense-perceptions and our thoughts are about something.¹ Indeed, their aboutness or intentionality is one of the most distinctive features of our cognitive activities.² We see red, we hear middle C, we think of the number two. Our sense-perceptions and thoughts

¹ My account will focus on the intentionality of perceiving with the senses (*αἴσθησις*) and understanding (*νόησις*), as these lay the foundation for Aristotle's account of the aboutness of memory, beliefs, desires etc.

² The term "intentionality" enters modern philosophical usage through Brentano's discussion of many of the same passages from Aristotle that I consider here (Brentano 1977). He adopted the term from medieval usage.

are essentially about something beyond themselves: any proper account of our cognitive activities needs to explain this feature. Our ability to understand what something is also has several features that distinguish it from our powers of sense-perception. Our ability to perceive through the senses (henceforth, perceive) is limited by our sense-organs.³ Humans, like other animals, can only perceive the kinds of things that our sense-organs give us access to and these ranges are wider or narrower in different animals. In contrast, the human ability to understand something does not have such clearly delineated limits. We can understand such disparate things as the number two, humanity, redness, and belief. Further, our understanding of a kind of thing seems to be applicable to all the instances of that kind regardless of where (or whether) these instances are in space or time.

In this paper I present Aristotle's account of the aboutness or intentionality of cognitive states, both perceptual and intellectual. His account is based around the notion of preservative change, a change in which a power goes from potentiality to actuality

³ I will be using "perception" (as a short-form for the more expansive "sense-perception") and cognates to translate "αἴσθησις" and cognates. Perception, like αἴσθησις, is always about something, making it the best available term for my purposes. However, the range of things we can, in conventional English, be said to perceive is much broader than the range of objects Aristotle thinks can in themselves be objects of αἴσθησις. Someone can perceive a remark as hurtful, but Aristotle would not take this to be a case of αἴσθησις. Thus by perception I will mean sense-perception in the sense laid out in *De Anima* II 6 (as explicated below at the end of section 2). In this chapter Aristotle allows for some extended uses of αἴσθησις, but he holds that these are cases of perceiving "incidentally." Although the term "sensation" successfully conveys the close connection between sense-organs and the objects of our sensation, for Aristotle αἴσθησις is always about something, whereas some of the things we call sensations (e.g. pain) do not seem to be, making "sensation" unsuitable for my purposes.

without any destruction or loss of form. If some activity consists in a cognitive power possessing a form preservatively then that activity is essentially *about* the form that is possessed in this way. Based on this account and on the differences between perception and understanding, Aristotle argues that the activity of understanding cannot have a bodily organ. No physical structure could enable a bodily part or combination of bodily parts to act as an organ of understanding, producing or determining the full range of forms that the human intellect can understand. Further, some things that we understand do not have distinctive material characteristics and thus could not be cognized through a bodily organ, regardless of how this organ was constituted. Finally, for Aristotle, cognitive powers with bodily organs, such as perception, are always spatiotemporally limited, but the understanding is not. If our intellect had a bodily organ we would only be able to cognize the shapes of individual triangles; we could not understand what it is to be a triangle. Aristotle claims that our understanding is characterized by its universality: in understanding something we grasp its essential features, features that apply to all its instances. Given the range and characteristics of understanding, it cannot be mixed with the body. Although our intellectual activities are supported by certain bodily processes, these processes do not constitute understanding, even partially. Aristotle's own account allows him to avoid the difficulties he raises. The intellect in its nature is only "potential," it has no definite characteristics, spatiotemporal or otherwise. Thus nothing prevents it from being able to understand all things.

My interpretation presents a detailed reconstruction and defense of Aristotle's reasons, just summarized, for thinking that the intellect cannot have a bodily organ. This is in sharp contrast to most modern commentators. With few exceptions, commentators

have had difficulty in even understanding Aristotle's reasons for holding that the intellect does not have a bodily organ.⁴ As Charles Kahn puts it: "Aristotle's own arguments here are surprisingly weak and insubstantial, as if, surrounded by Platonists rather than materialists, he did not regard this position as controversial enough to stand in need of a real defence."⁵ Commentators often find this thesis an outright embarrassment for Aristotle. Many interpreters claim that his views on the intellect are in fact inconsistent with the rest of his psychology. Some hold that Aristotle's position on the intellect stems from a gross empirical mistake: his failure to appreciate the true role of the brain, a failure that leads Aristotle away from his philosophical principles.⁶ I argue below that Aristotle can account for the connection between brain activity and intellectual activity (see section 3 e). In brief, Aristotle thinks that understanding is always accompanied by activities of the imagination and that these activities employ a bodily organ. Thus certain material alterations in this organ (which Aristotle took to be the heart, but we would take to be the brain) would be correlated with activities of understanding without being constitutive of them. In a slightly different vein, both Werner Jaeger and W.D. Ross hold that Aristotle's position on the intellect is essentially Platonic and clashes with the views developed in the rest of the *De Anima (DA)*.⁷ Some interpreters downplay Aristotle's

⁴ Those who treat this argument more sympathetically include Jonathan Lear (Lear 1988, 122-6), Joseph Magee (Magee 2003), and Ronald Polansky (Polansky 2007, 434-445).

⁵ Kahn [1992] 1995 in Nussbaum and Rorty [1992] 1995, 375-6.

⁶ E.g. Hartman 1977; Wilkes 1978, 115f.; Sisko 1999, 253, 264-6. John Sisko explicitly claims that Aristotle's empirical mistakes about the brain lead him to go against his general scientific and metaphysical principles.

⁷ Jaeger 1934, 332-4; Ross 1957, 65-7.

statements, asserting that Aristotle only holds that the intellect can be conceived of without conceiving of the body, not that it actually operates apart from the body.⁸ Even those who have taken Aristotle's argument seriously have found it difficult to reconstruct and make plausible.⁹

I argue that Aristotle means what he says. He thinks that the intellect does not have a bodily organ and this claim does indeed follow from his other views. Aristotle's argument is not based on empirical errors or a confused vestige of Platonism, but on views about intentionality that are central to his account of cognitive activities. I start by explicating Aristotle's account of intentionality. I then reconstruct Aristotle's argument in *DA* III 4, where he advances his no-organ thesis, and address several objections to it. My aim throughout is to interpret Aristotle carefully and charitably. I believe that the arguments I consider are of enduring interest and value.¹⁰

2. Aristotle's Account of Intentionality

On my interpretation, Aristotle characterizes the cognitive activities of perception and thought by introducing the notion of a special sort of change (a special sort of

⁸ E.g. Wedin 1988, chapter 5.

⁹ For instance, Christopher Shields attempts to reconstruct Aristotle's argument but ultimately finds it unsatisfactory (Shields 1995, 320-30). D.W. Hamlyn also has difficulties (Hamlyn 1993, 135-6).

¹⁰ My purpose here is to explicate Aristotle's own view, not to reformulate it for contemporary debate (though this is, in my view, a worthwhile task). I address concerns that the argument rests on some clearly mistaken empirical claims or on a failure to recognize certain philosophical distinctions, but I am not attempting to show the soundness of each of Aristotle's premises.

μεταβολή), which I will call a preservative change.¹¹ In *DA* II 5 he distinguishes this sort of change from some sorts of change that are common to both living and non-living things, which I will call material changes.¹² For Aristotle these material changes are all motions of one sort or another along a range delimited by contraries: the substance or thing that changes goes from having one characteristic or accidental form to having a different accidental form at some other point in the relevant range, e.g. an apple ripens from green to red, a squirrel grows fat for the winter, a cloud darkens (*Physics* V 2,

¹¹ Some have taken Aristotle's discussion of change in *DA* II 5 to simply introduce a particular species of material alteration, not a different *kind* of change (Sorabji 1995, 2001), but I join Myles Burnyeat (Burnyeat 1995a; 1995b; 2002) and Hendrik Lorenz (Lorenz 2007) in thinking that Aristotle in *DA* II 5 is introducing a fundamentally different sort of change. This new sort of change is crucial to Aristotle's account of our cognitive activities, since it is preservative change that produces cognition. In adopting this interpretation I am not assuming from the outset that, for Aristotle, preservative change cannot consist in or be accounted for in terms of material changes. My claim is that in *DA* II 5 Aristotle is introducing a sort of change that is non-destructive, unlike material changes, and, further, is a type of change that can produce cognition. My interpretation of the distinction between preservative and material change leaves open the possibility that preservative change can be accounted for in terms of certain material changes or even consists of these changes. I will argue that Aristotle offers reasons for thinking that the preservative change that occurs in the activity of understanding cannot be identified with or explained in terms of material change. However, I leave open the question of whether, for Aristotle, certain preservative changes, such as those that produce perception, can be identified with or explained in terms of material changes.

¹² For Aristotle's presentation of these material sorts of change and his distinction between change (μεταβολή), which can be applied more broadly, and "motion" or process (κίνησις), which is restricted to the three categories of place, quality and quantity, see *Physics* V 1-2. For Aristotle's canonical definition of motion see *Physics* III 1-3.

226a23-226b9).¹³ I will call this sort of possession of a form, where the substance always possesses some form from the given range, *materially* possessing a form. A *material* change is a change in which a substance goes from possessing one form materially to possessing materially another form from the same range.

In contrast, the psychological subjects of cognitive activities are not always in possession of some form belonging to a certain range, which can then be replaced by another one from the same range. Instead, before I see red or hear middle C, there is no (relevant) form which I or my power of sight or hearing must possess. I have only the potential to receive the form in question, a state of receptivity that characterizes my power of perception and sense-organs.¹⁴ Aristotle contrasts material change, including change of quality, with the preservative change that produces perception:

one sort [of being affected; i.e. material change] is a destruction of some contrary by the opposite, another sort [i.e. preservative change] is rather the preservation of what is potential by what is actual and already like what is acted upon, as power is in relation to actuality.¹⁵ (*DA II 5, 417b2-5*)

¹³ Changes in the other categories (substance, relation, and agent and patient) are not motions because these categories do not divide into ranges delimited by contraries (*Physics V 2*). As Hendrik Lorenz has pointed out to me, Aristotle does not seem to think that every range involved in material change or alteration consists of a strict continuum. In some cases, such as color, the range is delimited by contraries (e.g. black and white) but there is not a complete continuum between these contraries (cf. *De Sensu 3, 439b17-440b27*).

¹⁴ This state of preparedness also depends on the condition of the physical organ of the sense in question.

¹⁵ Translations throughout are my own, except as noted; they reflect my consultation of published translations. For further discussion of this passage see Burnyeat 2002 and Lorenz 2007.

In material alteration one quality is always replaced by a contrary quality: sickness is replaced by health, hot by cold.¹⁶ The subject of material alteration always actually possesses some quality from the relevant range (e.g. temperature), but it has the potential to take on any of the other qualities in the range through undergoing the destructive process of material alteration, a process in which one quality is “destroyed” as a result of the alteration. In the changes characteristic of perception, by contrast, the person cognizing goes from (only) potentially cognizing to actually cognizing something. This is not a destruction of an already existing quality but rather a power being brought to fulfillment and activity: it is a preservative change.¹⁷ The power of sight does not become red, having previously been a different color, as the apple does in ripening. Nor does the intellect, when understanding what a horse is, become a horse, having been something else previously. The power need not possess any quality before it becomes active.

On Aristotle’s account, cognition results from preservative change. Our cognitive powers undergo preservative changes that result in these powers taking on a form in a distinctive way. Taking on a form in this distinctive way is sufficient for cognition. Whenever a cognitive power transitions in this preservative way from potentially

¹⁶ The change need not be from one extreme of the range to the other in order to count as a change from one contrary to its opposite: coming to possess a lesser degree of the quality in question will be change to its contrary while coming to possess a greater degree will be change from its contrary (*Physics* V 2, 226b1-9).

¹⁷ Of course in cases of consecutive thoughts or perceptions, one cognized form will be immediately replaced with another. This is not a problem for Aristotle, since the point of the contrast is that in material alteration it is always like this, whereas in perception and thought one often goes from being only a potential perceiver or thinker to actually perceiving and thinking.

possessing a form to actually possessing it, cognition is produced. I see red in virtue of my power of sight's coming to possess the form of red in this preservative way. I understand what it is to be a horse in virtue of my intellect's preservatively possessing the form of horse. The forms that I cognize can be either substantial forms, forms that make a substance what it is, or accidental forms, forms that make a substance have certain characteristics. This distinctive way of possessing a form is an intentional state or activity. In material changes and material possession of a form, a thing is itself straightforwardly characterized by the property in question. By contrast, in these preservative changes a subject, through its cognitive powers, actively cognizes a form—either in perception or in thought. In other words, if some activity consists in a cognitive power possessing a form preservatively then that activity is essentially *about* the form that is possessed in this way. Aristotle's account of preservative change allows him to account for the intentionality of cognitive activity and distinguish it from non-cognitive activity.

What is the relation between a form that is possessed materially and a form that is possessed preservatively? According to my interpretation of Aristotle, cognition of an object consists in a cognitive power preservatively possessing a form (e.g. that of an apple) that is the same in species or kind as the form possessed materially by the object of cognition (e.g. the apple).¹⁸ The form possessed preservatively is not numerically

¹⁸ In saying that the form possessed preservatively is the same as the form possessed materially Aristotle is considering the form as such and abstracting away from anything that does not belong to the form as such. In order to understand his claim we do not need to enter into the controversy over whether the primary substances that Aristotle discusses in *Metaphysics Z*, inter alia, turn out to be particular or universal. Even if primary substances turn out to be particular it is still true that individual substances such

identical with the form that the object of cognition possesses materially. Just as there are many different apples on a tree, all of which are the same in species, so there can be two forms, one possessed materially by a substance and one possessed preservatively by a cognitive subject, that are the same in species but are not numerically identical. The form of apple possessed materially makes some composite thing to be an apple, i.e. it makes that thing possess those features that make something an apple. The form of apple possessed preservatively makes something understand what it is to be an apple, i.e. it makes that thing grasp those features that make something an apple.¹⁹ The form in each case is the same in species or kind (it is the form of an apple, not of some other thing), but different in number.

as Socrates and Plato share the form of human being. On that interpretation, their substantial forms differ in number, but they will be the same in species or kind. If the form of something can exist both as a particular and as a universal, then the form as such is neither particular nor universal. If it were part of the essence of the form that it existed in one of these ways it could not exist in the other way. Thomas Aquinas helpfully points out the importance of the form as such, what he calls the nature considered absolutely, *natura absolute considerata*, to understanding the sameness involved in cognition (Thomas Aquinas, *De Esse et Essentia*, 2). If, alternatively, the form is always universal then there will be no difficulty in claiming that the form possessed cognitively is the same as the form possessed materially. Thus whatever Aristotle's views on the status of primary substances, there is a sense of form according to which we can claim that the form possessed preservatively is the same in species as the form possessed materially.

¹⁹ In the case of perception, the form possessed preservatively makes the perceiver aware of the perceptible quality in the material thing: the redness possessed preservatively makes the perceiver aware of the apple's redness. Although Aristotle uses the same model of cognitive change for both perception and understanding, it might be better to say that perception is *of* its objects, i.e. it consists in being aware of them, whereas understanding is *about* its objects i.e. it consists in understanding what they are.

Among cognitive activities, Aristotle sharply distinguishes perception from understanding.²⁰ Understanding, τὸ νοεῖν, is a special sort of cognitive activity that consists in having a cognitive grasp of *what a thing is as such*. It is to grasp in a general and universal way the essence of a thing. Fully grasping the essence of something is doubtless a rare accomplishment, but one can have *some* grasp of what something is without *fully* grasping its essence.²¹ This universal understanding (e.g. of what it is to be a triangle) can then be applied to particular instances (e.g. the particular triangle I am employing in my mathematical demonstration) (*DA* III 4, 429b9-22). Perception, in

²⁰ Aristotle divides cognitive activities into two families: the perceptual and the intellectual, with perception being fundamental to the perceptual family and understanding to the intellectual. *DA* II 5-III 3 focuses on the perceptual kind of cognition and III 4-8 on the intellectual kind. Human beings and animals share in perceptual cognition (with some animals possessing more cognitive capacities and others less), but only human beings are capable of intellectual activities. Aristotle accounts for more complex cognitive activities in terms of perception and understanding (e.g. *DA* III 3, 6; *De Memoria*; and *De Somno*).

²¹ There is a dispute over precisely what sort of achievement Aristotle takes the activity of understanding, τὸ νοεῖν, to be in the *DA*: is it an excellent and perfect activity, a complete understanding of the thing in question possessed only by the wise (as in *Posterior Analytics* II 19 and *Nicomachean Ethics* VI 6-7), or is it a less demanding cognitive achievement that many human beings accomplish? On my view, in the *DA* Aristotle is usually speaking of having some grasp of the essence of a thing, even if this grasp is limited and somewhat confused. For Aristotle, an understanding of what a triangle is that is not perfect or complete still counts as understanding and is essentially different from mere perception of some individual triangle. In *DA* III 6-8 Aristotle uses understanding as the basis for other intellectual activities that many human beings engage in, such as separating or combining forms and putting together chains of reasoning, and explicitly allows for errors in such activities. This suggests that when he refers to νοῦς and νοεῖν in the *DA* he is not speaking solely of completed scientific understanding but of a basic grasp of what something is.

contrast, is limited to cognizing the peculiar objects of the various senses, such as color, sound, and odor, and the objects common to multiple senses, such as the shape or size or movement of something (*DA II 6*). Aristotle does allow that we can also perceive things such as men and horses and the fearful and the pleasant, but he holds that we perceive these things “incidentally,” not as proper objects of sense-perception.²² Moreover, perceptions are always perceptions of instances of qualities and things. These perceptions do not in themselves have any universal character nor do they involve understanding what the object of perception is (*DA II 6*). For Aristotle, non-human animals can retain their perceptions in memory and can even anticipate what will happen through perceptual and imaginative associations.²³ But they cannot understand what they perceive. A sheep sees the greenness of the grass and associates its visual perception of green grass with a pleasant taste, but it cannot grasp what green or grass is. This difference between

²² Ibid. In Aristotle’s example, I see the son of Diares, but I see him incidentally, since he is not as such an object of perception: human beings, or sons, or sons of Diares, are not in their essential nature objects of perception, whereas colors and sounds are in their essential nature perceivable. I see a pale thing with a certain shape and this thing is the son of Diares, so in a way I perceive the son of Diares. Even when I am recognizing him as the son of Diares my perception of him is incidental since it comes from my perception of this pale thing with a certain shape. The cognitive activity of perception cannot, on its own, allow us to grasp what a man is or what a color is; for this we need the activity of understanding.

²³ For discussion see Lorenz 2006. Lorenz argues that, for Aristotle, both humans and animals can associate current perceptions with previous perceptions that are similar (or dissimilar or conjoined in some other appropriate way) through the perceptual powers of memory and imagination (Lorenz 2006, Chapter 11, “The Workings of *Phantasia*,” 148-73). If I associate this combination of sense-impressions with similar ones I have had in the past, then I can see this shape as the same as that one and hence see the son of Diares.

perceptual and intellectual cognition is crucial for Aristotle's view that the intellect cannot have a bodily organ.

3. Aristotle's Argument that the Intellect Cannot Have a Bodily Organ

a. Introduction

In *DA III 4* Aristotle presents his argument that the intellect cannot have a bodily organ. He begins by noting a key similarity between understanding and perception. Both of these sorts of cognitive activity centrally involve preservative change:

If, then, understanding is like perceiving, it would either be a case of being affected by the intelligible object or something else of that sort. It must therefore, (1) be impassive, but receptive of the form and potentially such as it, without being it, and (2) in the way that the power of perception is related to perceptible things, so must the intellect be related to intelligible things. (*DA III 4*, 429a13-18)

Aristotle seems here to be applying the model of preservative change introduced in *DA II 5* to the activity of understanding. Like the power of perception the intellect must be "receptive to the form and potentially such as it, without being it" as the change involved is a preservative one, not a material alteration. When a thinker grasps a composite substance in thought the intellect preservatively receives a certain intelligible form that is possessed materially by the object of cognition.²⁴

²⁴ Aristotle holds that we can understand both form-matter composites, such as composite substances, and forms themselves. Aristotle claims that when the object of understanding is a form, the form of the object is the same as the form possessed preservatively by the intellect (*DA III 4* 430a2-6). Aristotle's theory of cognition also explains why he holds that matter is not intelligible in itself. The matter of something can be understood insofar as it possesses some form of its own or insofar as it plays a certain role with respect to forms (as that which underlies the form and is capable of taking on several different

After noting the similarities between the power of perception and the intellectual power Aristotle immediately goes on to argue that there is a crucial difference between them. Unlike the power of perception, the intellect does not and could not have a bodily organ through which it operates:

It is necessary, therefore, since [the intellect] understands everything, that it be unmixed [with anything else], as Anaxagoras says, in order that it may master its objects, that is, know them. For what makes an appearance [in something] hinders and screens what is other than it. So [the intellect] has no nature of its own other than this, that it is potential. Accordingly, what is called the intellect of the soul (I mean by intellect that by which the soul thinks and judges) is actually none of the things that have being before it understands them. That is why it is reasonable for it not to be mixed with the body; this would result in its being of some quality, either cold or hot, and it would even have an organ as the power of perception does. But as it is, there is none... That the impassivity of the power of perception is different from that of the intellectual power is clear from the sense-organs and perception. Perception is incapacitated by an excessive object: thus it cannot hear sound after very loud noises, and after too powerful colors and smells it can neither see nor smell. But when the intellect has understood something extremely intelligible, it understands lesser things better, not worse. For the power of

forms). It cannot, however, be understood in itself, since as such it has no form; it is receptive of form but intrinsically without form (cf. *Physics* I 7).

perception is not without a body, but the intellect is separate.²⁵ (*DA* III 4, 429a18-27, a29-b5)

²⁵ ἀνάγκη ἄρα, ἐπεὶ πάντα νοεῖ, ἀμιγῆ εἶναι, ὥσπερ φησὶν Ἀναξαγόρας, ἵνα κρατῆ, τοῦτο δ' ἐστὶν ἵνα γνωρίζῃ, παρεμφαινόμενον γὰρ κωλύει τὸ ἀλλότριον καὶ ἀντιφράττει. ὥστε μὴδ' αὐτοῦ εἶναι φύσιν μηδεμίαν ἀλλ' ἢ ταύτην, ὅτι δυνατός. ὁ ἄρα καλούμενος τῆς ψυχῆς νοῦς (λέγω δὲ νοῦν ᾧ διανοεῖται καὶ ὑπολαμβάνει ἢ ψυχῆ) οὐθέν ἐστὶν ἐνεργεῖα τῶν ὄντων πρὶν νοεῖν· διὸ οὐδὲ μεμίχθαι εὐλόγον αὐτὸν τῷ σώματι· ποιός τις γὰρ ἂν γίνοιτο, ἢ ψυχρὸς ἢ θερμὸς, κἂν ὄργανόν τι εἴη, ὥσπερ τῷ αἰσθητικῷ· νῦν δ' οὐθέν ἐστὶν... ὅτι δ' οὐχ ὁμοία ἢ ἀπάθεια τοῦ αἰσθητικοῦ καὶ τοῦ νοητικοῦ, φανερόν ἐπὶ τῶν αἰσθητηρίων καὶ τῆς αἰσθήσεως. ἢ μὲν γὰρ αἰσθησις οὐ δύναται αἰσθάνεσθαι ἐκ τοῦ σφόδρα αἰσθητοῦ, οἷον ψόφου ἐκ τῶν μεγάλων ψόφων, οὐδ' ἐκ τῶν ἰσχυρῶν χρωμάτων καὶ ὁσμῶν οὔτε ὀρᾶν οὔτε ὁσμᾶσθαι· ἀλλ' ὁ νοῦς ὅταν τι νοήσῃ σφόδρα νοητόν, οὐχ ἦττον νοεῖ τὰ ὑποδεέστερα, ἀλλὰ καὶ μᾶλλον· τὸ μὲν γὰρ αἰσθητικὸν οὐκ ἄνευ σώματος, ὁ δὲ χωριστός.

There are two points where Aristotle's text could be translated in a significantly different way. The first concerns the sentence that I translate as "But as it is, there is none [i.e. there is no organ]." I take "organ" to be the implied predicate that is negated. Alternatively, one could take the intellect to be the implied subject of the sentence and translate "But as it is, it [i.e. the intellect] is not anything," as Burnyeat does (Burnyeat 2008, 34). These different translations do not affect the overall meaning of the text, since in either case Aristotle is picking up on an idea he had already expressed.

The other difference concerns the clause I have translated, following Vasilis Politis and John Dillon (Politis, 382), as "For what makes an appearance [in something] hinders and screens what is other than it." I have taken "παρεμφαινόμενον" as the subject and "τὸ ἀλλότριον" as the object. All commentators agree that this clause is supposed to explain why the intellect cannot be mixed with the body and I think this construal results in the reading that best supports Aristotle's claim. The idea is that if the intellect had some quality or bodily feature, this feature would hinder it from cognizing anything that was other than or opposed to that quality or feature.

There are several other possible construals that result in somewhat different interpretations. One could take "τὸ ἀλλότριον" as the subject with παρεμφαινόμενον qualifying it and then take the object to be implied: "for by being present in it something other than it hinders and screens [some object of potential

On my interpretation, Aristotle's argument depends on two sorts of considerations. The first concerns Aristotle's characterization of what it takes for something to serve as the bodily organ of a cognitive activity. The second concerns Aristotle's characterization of the activity of understanding.

b. Aristotle's Neutrality Condition

Aristotle thinks that most cognitive powers, such as the power of sight and, more generally, the power of perception, have bodily organs. While the powers themselves are not bodily (unlike, say, the power of flesh to be cut), the activities of perception have a

understanding].” (supporters of this reading include Ross 1961, 292 and Burnyeat 2008, 33) The difficulty with this construal is that on it Aristotle seems to be repeating, not explicating, his claim about the intellect being unmixed, as Politis points out (Politis, 381-2). One can also take νοῦς as the implied subject and “τὸ ἄλλότριον” as the object and then take “παρεμφαινόμενον” to modify either νοῦς, as R.D. Hicks and Caston do, “for by intruding its own form it [i.e. the intellect] hinders and obstructs that which is alien to it,” (Hicks 131; cf. Caston 2000), or “τὸ ἄλλότριον,” as Lewis does (Lewis 1996, 43), “for [the intellect] hinders and screens that which is foreign to it from intruding [its form].” This construal gives some further explanation but still makes the inference somewhat unclear: in one sense the intellect may be foreign to other things, but in another sense nothing is alien to it (cf. Politis 382). To make sense of this construal we need to understand the intellect as having some quality or bodily feature that would hinder it from cognizing anything that was other than or opposed to that quality or feature. Thus we end up with an interpretation similar to the one I adopt. In this sense, the general philosophical claim seems to be the same across different construals: if the intellect had a body or a bodily organ, the qualities that the body in question possessed would prevent the intellect from understanding some of its objects. For further discussion of the options for interpreting this clause see Hicks, 478-9 and Politis, 381-2.

bodily component.²⁶ Aristotle offers a general neutrality condition for all those sorts of cognition that have a bodily organ (*Aristotle's Neutrality Condition*):

the bodily organ of a cognitive power must be neutral with respect to the objects of that cognitive power in order to allow for reception of these cognitive objects.

If I perceive color through my eye, then my eye must be transparent in its own nature, not colored. What is the force of this condition and what are Aristotle's reasons for endorsing it? Aristotle mentions two phenomena in connection with this condition. The first is the phenomenon of cognitive blind spots: my hand can feel the heat of a warm mug or the cold of an ice-cube, but things that are the same temperature as my hand seem neither hot nor cold. Aristotle, on my view, holds that my blind spots are a consequence of the bodily

²⁶ There is heated dispute over the way in which, for Aristotle, the bodily organs of the sense-powers contribute to the activities of perception. Literalists, such as Richard Sorabji, interpret Aristotle as holding that in every case of perception the bodily organ must materially take on the form that is perceived: on this reading my seeing a color just *is* my eye's becoming colored with that color (Sorabji 1995 and 2001). Myles Burnyeat, on behalf of what has been called a "spiritualist" position, goes so far as to insist that the sense-organs are not materially affected at all in acts of perception: the sense-organs need to be in certain states of receptivity, which are conditions of the materials they are made of, but no material change occurs in them when there is an activity of perceiving (Burnyeat 2002). See Caston 2004 for an overview of the debate. Others such as Hendrik Lorenz take an intermediate position according to which the bodily organ is materially affected in some relevant way, but such affection is only the material component of perception, not the formal component that makes a perception the perception that it is (Lorenz 2007). I will focus my discussion of Aristotle's views on bodily organs around the intermediate position, as it strikes me as both the most plausible and the best grounded in the text. I will, at times, refer to the other interpretations and much of what I say can be applied to them.

nature of my organs: my hand must always have some degree of heat or cold.²⁷ My hand cannot, however, be affected by the degree of heat that it already possesses and is thus insensitive to that degree of heat (as long as it possesses it). The second phenomenon, which Aristotle describes in the passage quoted above, concerns extreme objects of perception. Some sounds are so loud that when heard they destroy the hearer's ability to hear, some lights are so bright that when seen they destroy the viewer's ability to see. Again, this is a failure of receptivity that comes from the physical structure of our bodily organs. Our ears are sensitive to vibrations within a certain range, but cannot handle extreme vibrations that fall outside of this range. Aristotle takes these phenomena as evidence that the bodily nature of our organs of cognition places limits on our ability to perceive.²⁸ Our sense of touch has a limited range because the constitution of our sense-organ of touch restricts the sense-organ's receptivity to tangible objects.

These phenomena help to explain why Aristotle formulates his neutrality condition, but they do not fully determine its force or why Aristotle is committed to it. Some have claimed that Aristotle puts forward the neutrality condition because he has a literalist theory of cognition—to cognize, an organ must literally take on the qualities that are cognized. I think that there is strong evidence that the literalist reading is false (although I will not argue that claim here), so I will set aside this proposal.²⁹ On my

²⁷ *DA* II 10, 423b30-424a15.

²⁸ *DA* III 4, 429a29-429b3.

²⁹ Here, in brief, is some of the evidence against the literalist interpretation: Aristotle repeatedly criticizes his predecessors' simplistic and literal accounts of perception (e.g. *DA* I 5, 409b24-410b15). He also contrasts the limitations of touch in comparison to sight and sound. While my hand must possess some temperature in such a way as to limit its cognitive range, my eye need not possess any color in such a way

reading of Aristotle, perception is not identified with any material alteration, but it does require material alteration as a necessary condition. Aristotle thinks that there are two conditions that must be met for something to serve as an organ for perception or understanding: the organ must be affected by the object of cognition (the *realist* condition) and the material alteration that the organ undergoes must determine the object of cognition cognized by the subject (the *conduit* condition). Taken together these two conditions serve as the basis for Aristotle's neutrality condition. The realist condition ensures that perception and understanding are of their objects. This condition comes from Aristotle's conviction that perception and understanding successfully take place and consist in grasping certain features of reality. I am seeing a red apple because I am being affected by the red apple (in some appropriate way). Given the realist condition, any organ of cognition must serve as an organ by being in contact with the object of cognition (again, in some appropriate way).

The second constraint is the *conduit* condition. For a certain bodily structure to count as the organ of a cognitive power it must be the means through which that cognitive power actually operates. The most plausible way for a bodily organ to mediate cognition is through its being materially affected in some relevant way by the object of cognition in order that the relevant cognitive power comes to cognize that object. Now

as to limit its cognitive range, nor my ear any sound (*DA* II 10, 423b30-424a15). If, however, the literalist interpretation is correct, Aristotle would be committed to maintaining that all sense-organs have a blind spot with respect to the qualities they currently possess, since in each case the sense-organ literally exemplifies some quality. Aristotle clearly rejects such a commitment. Aristotle's treatment of memory and imagination provides further evidence against the literalist interpretation (for discussion of this point see Caston 1998, 257- 279).

the qualities that are perceived through the affection of one sense-organ differ systematically from those perceived through each of the other sense-organs. The explanation for these differences must be found in the different material affections that the organs undergo and hence in the distinctive physical structure each organ possesses. Each different organ must have a distinctive physical structure that allows it to undergo distinctive material alterations brought about by the relevant objects of perception. In order to see light through the eye, for instance, the eye must have a physical structure that enables it to undergo certain sorts of material changes in response to light. This means that the eye's physical structure must be neutrally receptive: if the eye was not transparent, but colored, it could not be affected by the full range of light that we see. If by its nature the ear vibrated at a certain frequency or was not sensitive to the appropriate range of vibrations, we could not use it to hear. In sum, the material alteration that the organ of cognition undergoes must determine the object of cognition cognized by the subject. This is the force of the neutrality condition.

If, then, the intellect were to have a bodily organ, this bodily organ would have to undergo certain material alterations in response to the objects of understanding. These material alterations would determine the objects of understanding that I grasp. If I am to understand what it is to be a horse, some material alteration must take place in my body in response, in some appropriate way, to the form of horse. Aristotle's neutrality condition does not require that this change involve literally taking on the relevant form in question at the material level: the putative organ would not have to become a horse, only be affected in some relevant way by horse.

Whether this condition seems too strong depends on one's views on the nature of cognition and intentionality. On my interpretation of Aristotle, the form possessed by me when I understand what a horse is shares the same species as the form possessed by the horse Bucephalus. For Aristotle, this sameness of form gives perception and understanding their intrinsic intentionality. Aristotle's insistence on this sameness is a major factor in his rejection of a bodily organ. In this respect, Aristotle's theory sharply diverges from the representational accounts that predominate in contemporary philosophy of mind. On these accounts my perception or understanding of something needs only to represent that thing in some appropriate way. The representations that I possess when I perceive or understand something may fail to have many of the features that are essential to the things they represent—my representation of red need not literally possess the color red, nor does my representation of a horse need to literally possess equine characteristics. There is no longer *any* strong requirement for sameness between the representation and the thing represented.³⁰

This raises the question of whether there are any restrictions on the relation between the physical properties of the representation and the physical properties of the thing represented. The flexible nature of representation has led some commentators to worry that Aristotle's commitment to his condition stems from a failure to appreciate that there are less rigidly restrictive models of cognition.³¹ On the representational theory a bodily organ only needs to be able to literally take on, or exemplify, the qualities needed

³⁰ Though there may still be some requirement of sameness, if any representation involves sameness of some kind either in the representation or in the representation's relation to what it represents.

³¹ E.g. Christopher Shields 1995, 319-22, 327-330.

for it to serve as a representation: these qualities may be entirely unrelated to the qualities essentially possessed by the object that is represented. If there are no restrictions on the relationship between the characteristics that an organ exemplifies in representing and the characteristics of the thing it represents, a bodily organ need not be neutral with respect to the qualities that are cognized through it. Aristotle's neutrality condition would fail.

Contemporary scientific theories of perception and most representational theories of cognition, however, place restrictions on this relationship similar to Aristotle's. Although contemporary scientific accounts of perception differ significantly from Aristotle's, they still hold that the connection between the way in which the bodily organs are affected and the things that we perceive is explanatory—we hear sounds or see light precisely because the relevant sense-organs are affected by sound and light.³² In paradigmatic cases, our perceptions are produced by the contact between our receptive sense-organs and the stimuli we perceive.³³ Many representational theories of cognition,

³² On the contemporary account, seeing takes place because light waves, after passing through the transparent outer layers of the eye, affect our photoreceptors while hearing takes place because sound waves affect our inner ear. Our different sense-organs possess different physical structures that enable them to be materially altered with respect to the particular sense qualities that are perceived by their sense-powers. Our photoreceptors are extraordinarily sensitive to light—"rods are able to respond to a single photon of light"—while the hair cells in our inner ear are extraordinarily sensitive to vibrations—"a displacement of .3 [nanometers] is sufficient to give rise to the perception of sound...the proportional equivalent to the top of the Sears Tower in Chicago moving about 5 cm" (Foley and Matlin 2010, 55, 253). Even if perception centrally involves transformation and representation, the bodily organs of perception are still being affected by precisely those things that they are perceiving.

³³ Although a number of contemporary philosophical theories of perception take perceptual illusions and hallucinations to be cases of perception, some theories, such as disjunctivism, reject this

particularly causal theories, also employ something like Aristotle's neutrality condition. This limits the options for the way in which intellectual activities could have a physical organ—either understanding needs to be built up out of perceptions in some way or we need an account of how the objects of understanding, particularly those that are markedly different from the objects of perception, produce distinctive material alterations. I consider some problems with these alternatives below (section 3 e). These restrictions suggest that even if the intellect has a bodily organ, such an organ does not operate via literal exemplification, a point I return to at the end of section 3 d.

Are these restrictions strong enough for Aristotle's argument? The fundamental question is whether the distinctive intentionality of cognition can be accounted for in terms of material processes. On my reading, Aristotle thinks that a cognitive power preservatively possessing a form is both necessary and sufficient for cognition to take place. The representational theory allows for materially realized representations and thus looks like it might allow for a materialist explanation of cognitive intentionality. However, the necessary conditions for serving as a representation are much weaker than Aristotle's conditions for a cognitive power preservatively possessing a form. Something can represent without having the ability to cognize. Thermometers do not cognitively grasp temperatures and written words do not understand what they signify, but both represent. A proponent of the representational theory might respond by distinguishing between cognitive or original intentionality and derived intentionality.³⁴ Cognitive states

claim. Veridical perceptions are also more central to physiological and scientific accounts of perception, suggesting that they may reasonably be considered the paradigm cases of perception.

³⁴ As John Searle and John Haugeland do (Searle 1983 v-ix; Haugeland 1998, 128-30).

possess original intentionality: they are intrinsically about their objects. In contrast, things such as written words or thermometers possess only derivative intentionality. It is only in virtue of their relation to things with original intentionality, such as mental states, that they are about something.³⁵

The effectiveness of this response depends on whether original intentionality can be accounted for in terms of material processes. If the proponent of the representational theory can present material processes that provide necessary and sufficient conditions for original intentionality and distinguish it from derivative intentionality, this would provide good reason for thinking that all cognitive states can have bodily organs. Materialists, however, have found it difficult to account for original or cognitive intentionality in terms of material processes. A number of materialists have found cognitive intentionality so problematic that instead of explaining how cognitive activities such as believing and perceiving can be both material and intrinsically about something, they have claimed that such activities are not, in fact, intrinsically about something.³⁶ Some have attempted to give an account of the intentionality of cognitive activities in terms of some relation that material objects can have, employing causal, information-theoretical, or teleosemantic

³⁵ Their intentionality will depend on use, convention etc.

³⁶ Cf. P.M. Churchland's eliminative physicalism (Churchland 1989) and instrumentalists about intentionality such as D.C. Dennett (Dennett 1987). Dennett denies the distinction between derived and original intentionality and claims that attributions of intentionality are only instrumental. These attributions are justified insofar as they allow us to predict behavior, but they do not describe some intrinsic property of the thing. The activities of a human being doing sums and an adding machine are equally intentional.

accounts.³⁷ These attempts, however, have consistently failed to distinguish derivative intentionality from the cognitive intentionality of perceptions and beliefs.³⁸ There is no consensus among materialists as to whether any of these proposals show promise or might prove correct.

I cannot evaluate the prospects for these projects here. Perhaps the materialist can account for cognitive intentionality and distinguish it from derivative intentionality in a satisfactory way. Such an account would establish the representational theory as a plausible way of explaining cognition in terms of material processes. If so, this would call into question Aristotle's argument. If Aristotle is mistaken, however, his mistake is not an elementary one, such as simply failing to recognize the possibility of a representational theory. Aristotle's argument cannot be dismissed so easily. Accounting for cognitive intentionality is still one of the chief difficulties for contemporary proponents of materialism.

c. "The Intellect Understands All Things"

I have given an account of Aristotle's neutrality condition and offered some defense of it. In order to see the role it plays in the argument we need to turn to the second key consideration that Aristotle employs: his characterization of the activity that is understanding. At *DA* III 4, 429a18, in the passage quoted above, Aristotle strikingly claims that the intellect understands all things. I understand this to mean that the intellect

³⁷ Cf. Dretske's information-theoretic proposal (Dretske 1995), Fodor's asymmetric dependency theory (Fodor 1990), and Millikan's teleosemantic approach (Millikan 1984).

³⁸ For some criticisms of these approaches see Putnam 1988, McDowell 1994, Bonjour 2010, and Plantinga, who targets Dretske and Fodor in particular (Plantinga 2006, 11-17; Plantinga 2007, 105-113, 136-141).

is capable of understanding any thing, of receiving any form there is. This is not a practical claim about the number of things that an individual human being can understand, but is instead a structural claim about the relation between the intellect in itself and the things in the world. Aristotle is saying that there is no form or structure present in the world that the intellect is incapable of grasping.

What are Aristotle's grounds for this claim? I think that Aristotle puts forward this claim because of his belief that humans can systematically understand the different ways in which all the things that are have being. In *Metaphysics A* Aristotle claims that knowledge of first causes and of the way in which they serve as causes for everything else should be identified with wisdom. The person who comes to know the first causes of things will know all things, since everything depends on the first causes.³⁹ For Aristotle, understanding being involves grasping the entire structure of the universe. It requires seeing the ordered way in which different things depend on one another, with the being of accidents depending on the being of substances and the being of substances depending on the being of the eternal divine intellect.⁴⁰ Such a grasp gives us the key for understanding the being of any particular thing. If humans can achieve this knowledge and understand being as such, then it is plausible to think that we can understand all the different sorts of being that there are, both because we understand what it is to be and because we are able to understand the overall structure of being. The human intellect, in understanding being, can understand all things.

³⁹ *Metaphysics A* (I) 2, 982a21-3 (cf. 982a8-9).

⁴⁰ Cf. *Metaphysics Z* (VII) 1 and *Metaphysics Λ* (XII) 1 and 10.

Even if we weaken Aristotle's striking premise and do not insist that the human intellect can understand all things, his argument can succeed, as long as there are some things that we can understand but that we could not cognize through a material alteration of a bodily organ. In fact, Aristotle thinks that the range of perceptible forms does not exhaust the range of intelligible forms. Understanding would not cover all intelligible forms if it operated through a bodily organ that could only make perceptible forms available for understanding. Aristotle emphasizes the difference between intelligible forms (νοητά) and perceptible forms (αἰσθητά) at a number of points in the *DA*. In his summary of his account of cognition he says that the things which have being are either perceptible or intelligible, presenting these as two contrasting options.⁴¹ As I discussed earlier, Aristotle holds in *DA* II 6 that the only forms that are perceptible in themselves are the peculiar objects of the various senses, such as color, sound, and odor, plus perceptible qualities common to multiple senses, such as the shape or size or movement of something. This means that many of the objects of our understanding fall outside the range of perceptible forms. We can understand unity, matter, being, humanity, and evil, but none of these are perceptible forms that can be cognized through our bodily organs. This inability does not come merely from deficiencies in the distinctive set of bodily organs that belongs to human beings. Things such as unity, matter, and being do not possess some characteristic bodily or material form and thus there is no material or perceptible form that a bodily organ of any kind could latch onto or transmit. There is no

⁴¹ *DA* III 8, 431b22-24. On my interpretation, the perceptible forms are also in a way intelligible, when they are understood universally, not perceived individually, but intelligible forms cannot be cognized by perception. For further elaboration of this point, see my discussion of the distinctive characters of perception and understanding in section 3 f.

physical structure that an organ could possess that would allow its material alterations to result in our cognitively receiving the form of unity or plurality.

d. Aristotle's Argument and Its Conclusion

The ability of the intellect to understand all things, together with Aristotle's neutrality condition, implies that the intellect does not understand through a bodily organ. The intellect is a cognitive power that is capable of cognitively receiving all the forms in all the ranges of forms (or at least in an immense variety of ranges). Every body, however, must have some fixed and definite characteristics that it possesses in virtue of what it is. On Aristotle's account, bodies are form-matter composites. This means that any given body is composed of some matter that is able to be this sort of body (but is also able to be other things) and some form in virtue of which the body is the kind of body that it is. This form will involve the body's having certain sorts of fixed and determinate characteristics that it must retain if it is to continue to be that sort of body. As long as this body exists it must possess these characteristics and it cannot come to possess any form or characteristic that is opposed to these. Fire, for example, cannot lose its heat while continuing to be fire.

Thus, if the intellect had a bodily organ, it would not be able to understand all things. If intellect had a bodily organ this bodily organ would have determinate and fixed characteristics that would make it unable to transmit the full range of things that we understand. We can reconstruct the argument as follows:

1. The intellect can understand all things. (Premise)
2. If the intellect had a bodily organ, this bodily organ would have determinate and fixed characteristics. (Premise)

3. The determinate and fixed characteristics of a bodily organ prevent it from transmitting certain forms that are opposed to these characteristics. (Premise)
4. If the intellect had a bodily organ, this bodily organ could not transmit certain forms. (from 2 and 3)
5. If the intellect had a bodily organ, it could not understand all things. (from 4)
6. The intellect cannot have a bodily organ. (from 1 and 5)

I have just discussed Aristotle's reasons for holding the first two premises. Aristotle's Neutrality Condition, discussed in section 3 b, provides him with the grounds for the third premise. Aristotle raises both quantitative and qualitative problems for any putative organ of thought. First, no physical structure is capable of being materially altered by all the different sizes and shapes, colors and smells, noises and tastes that human beings are capable of understanding, while retaining the properties that characterize it. There are also some things that by their nature cannot produce characteristic material alterations. No bodily organ could be materially altered to take on the forms of dogs and cats, minerals and lakes, electrons and quarks while continuing to preserve its own physical structure.⁴² If the intellect had a bodily organ its range of cognition would be limited; but, in fact, the intellect's range is unlimited.

Aristotle's characterization of the intellect as "having no nature of its own other than this, that it is potential," allows him to avoid the problems that would arise if it had a bodily organ. Since the intellect, before it understands, is only a certain potentiality, a capacity for understanding things, there is no form that it intrinsically possesses. Since it

⁴² I will discuss this line of argument more below (section 3 e-f) in response to the objection I formulate.

does not possess any form there is no form that prevents it from taking on other forms. Thus the intellect is potential in a way that no material object, no form-matter composite, could be.⁴³ Even when the intellect comes to cognitively possess forms, these do not become part of what it is by nature, but rather part of its developed state or character (ἔξις). The intellect's stable possession of these forms does not prevent it from understanding other, new forms. Its exercise of the forms it possesses is limited, but in an unproblematic way. The intellect can only actually be understanding or contemplating one unified form at a time. This metaphysical limitation, however, fits with our epistemological experience and with Aristotle's own views concerning our intellectual activities.

Before I consider an important objection to premise 3 based around the idea of combining different bodily organs, I want to note one less controversial but important point that Aristotle's argument makes: a strictly literalist theory of understanding is implausible. The senses are directly connected to the objects of perception through their sense-organs. In contrast, if the brain, for instance, is the organ of thought, it is not because the brain is materially altered so as to take on the characteristics of the objects of thought in some straightforward and literal way. A number of Aristotle's predecessors, such as Empedocles and Anaxagoras, either identified thought with perception or conceived of thought as proceeding along exactly the same lines as perception.⁴⁴ Just as perception involves the sense-organ being altered and conformed to the object of

⁴³ It is not of course a free-floating purely potential thing; the intellect depends on something that is actual, the human soul, for its potentiality, in accordance with Aristotle's insistence on the priority of the actual to the potential (*Metaphysics* Θ [IX] 8).

⁴⁴ *DA* I 2, 404a25-405a19, I 5, 409b24-410b10, III 3.

perception, so too thought must consist in the organ of thought taking on the characteristics of the object of thought. Our thought of water or heat must involve our organ of thought becoming (or being) wet or hot. This view persisted to some degree in post-Aristotelian antiquity, but it has seen little revival in modern times, and for good reason.⁴⁵ The great variety and plasticity of our thought (as well as the interior location of the brain, the most plausible candidate for our organ of thought, and the brain's interconnection with the exterior sense-organs) makes it highly implausible that thinking consists in being materially altered in some direct or straightforward way by the objects of our thought. Though this view was advocated by some early philosophers, the considerations Aristotle advances against it give us good reason to move away from such a theory.

e. Objection: Combining Bodily Organs of Cognition

How then might the intellect have a bodily organ? The most plausible account is that the organ of thought operates in a different manner from the organs of perception. We do not receive the objects of thought directly through some straightforward material alteration of the brain, but instead produce the objects of thought by combining and separating the various perceptions that we do receive.⁴⁶ The brain is the organ that carries out this combination and separation that results in—or maybe even constitutes—thought. Hence the brain serves as the organ of thought.

The objector to Aristotle could concede that the intellect does not have the sort of bodily organ that the senses do but question whether this is sufficient for truly

⁴⁵ Cf. Lucretius, *De Rerum Natura*, III 350-05, 622-31.

⁴⁶ Cf. David Hume, *Enquiry into Human Understanding*, 19.

demonstrating that the intellect cannot have a bodily organ. We can think of the intellect not as possessing one particular sense-organ, but as a cognitive power that makes use of a combination of different organs. Even if each particular organ is limited in the range of forms it receives, if the different organs have different limitations, then a combination of them could overcome their separate limitations. If we can combine cognized forms from different organs using our brain then the intellect could still be able to know all things (or at least know the full range of things that we are plausibly able to know). This objection challenges premise 3 by trying to show how bodily organs could transmit the full range of forms even if they themselves still individually have certain determinate and limiting characteristics.

In *DA III 2* and *De Sensu 7*, Aristotle himself claims that there is some sort of combination of perceptions from different sense modalities with different organs into one central organ, perhaps even suggesting that there is ultimately one unified power of perception. What if the intellect was like this: a cognitive power that unified the different specific sense-organs using a special organ? In place of the heart, Aristotle's favored candidate for such a role, we could simply substitute the brain. The brain takes in the forms from the different sense-organs and is able to combine them in such a way as to make us capable of understanding and grasping all the forms that we are able to understand. This account allows us to address Aristotle's argument while fitting better with the empirical evidence of a close connection between the brain and intellectual activity.

Before addressing this objection directly, I should briefly explicate Aristotle's views on the relationship between the intellect and the body. Although Aristotle holds

that the intellect cannot have a bodily organ he thinks that the activity of understanding requires an exercise of our power of imagination, φαντασία, a power that does possess a bodily organ.⁴⁷ Since we employ images in our understanding of something, we would expect a correlation between certain material changes in certain regions of the organ of imagination (which Aristotle took to be the heart, but we take to be the brain) and different sorts of cognitive activity. For example, the sorts of imaginings that are useful for understanding what a triangle is are likely to be different from those useful for understanding what a lion or a subatomic particle is, but similar to those useful for understanding what a square or a line is, so we would expect material changes in the organ of the imagination to show certain patterns.⁴⁸

For Aristotle this exercise of the imagination is a precondition of understanding, not part of the activity itself, since it does not enter into the account of what understanding is. Further, unlike in the case of the sense-organs, the images that we employ do not determine what we understand. The same image can be employed to aid in understanding many different things and many different images can be employed in order to aid understanding the same thing. In coming to understand and grasp what a lion is I might make use of the lion's roar or of a visual image of a lion attacking its prey or of the word "lion," while the same image of a triangle may help me understand both figure and triangle and incommensurable. Thus Aristotle does not think that the bodily organ of

⁴⁷ *DA* III 7, 431a14-20, 431b2-19 and III 8 432a2-14.

⁴⁸ The reliance of understanding on the imagination also allows Aristotle to account for the way in which damage to the brain can affect intellectual functions. Since certain activities of the brain are necessary conditions for understanding, understanding cannot take place when the brain is seriously damaged.

imagination is, properly speaking, the organ of the intellect. The intellect's use of the bodily organ of imagination does not meet the Conduit Condition I laid out in section 3 b: although they play an important helping role, the alterations occurring in the imagination do not determine which forms the intellect takes on and understands.

Even if Aristotle himself does not think that the intellect's use of perception and imagination and their associated organs give it an organ, why is he entitled to deny that the brain or some combination of the brain and the sense-organs could serve as the organ of thought? To answer this objection we need to go beyond the considerations already presented. Aristotle's discussion of the differences between perception and understanding offers us two lines of response. The first response picks up on the difference between perceptible and intelligible forms. If the organ of understanding just combined the various perceptible forms that we can receive through our different senses, we could only understand perceptible forms. If, however, there are intelligible forms that we understand such as being, unity, matter, being, humanity, and evil, and these are not perceptible and cannot be composed out of combinations of perceptible forms, the intellect could not cognize these forms since they are not accessible to perception. The success of this response will, of course, depend on how plausible it is to think that our understanding of these intelligible forms could result from some combination and separation of different perceptible characteristics. Aristotle has a second response that aims to show that our activities of understanding cannot result from such combinations.

f. The Universal Character of Understanding

This response makes use of the universal character of understanding. Aristotle holds that the sort of cognition we get from cognitive powers with bodily organs is

always spatiotemporally limited. In contrast, understanding is universal, though it also applies to particulars. When we understand something we grasp the being of the form itself, not just a particular instance of that form. Since understanding is not spatiotemporally limited, while cognition from a bodily organ or combination of bodily organs is, the intellect cannot have a bodily organ. Aristotle holds that in understanding something we grasp what it is to be a thing of this sort. Merely combining individual perceptible qualities and quantities will not result in such understanding. To understand what a triangle is involves something further beyond seeing a bunch of shapes that happen to be triangles: it involves seeing what a triangle is and why all these shapes are triangles. If our understanding was not of triangle as such, but of triangle at a particular place and time, it would not be applicable to triangles at other places and times.

Aristotle denies that we can get this universal sort of understanding from cognitive powers with bodily organs. Aristotle repeatedly maintains that perception is necessarily of individuals: we perceive this triangularly shaped thing in this place at this time, not triangle as such.⁴⁹ His lengthiest discussion of this issue comes in a chapter of the *Posterior Analytics* where he discusses whether knowledge, ἐπιστήμη, could come from perception:

For even if perception is of what is such and such, and not of individuals, still one necessarily perceives an individual, and one at a definite place and time. But it is impossible to perceive what is universal and holds in every case; for that is not an

⁴⁹ Cf. *DA* II 12, 424a21-4; II 6, 418a20-5; *APo* I 18, 81b5-9; I 31, 87b29-33, II 19, 100a15.

individual nor is it at a time; for then it would not be universal—for it is what is always and everywhere that we call universal.⁵⁰ (*APo* I 31, 87b29-33)

Aristotle begins by allowing that perception is not simply of particulars, but “of what is such and such,” of color, for instance. Thus, in a qualified sense, perception goes beyond the particular, since it is always of some broad, non-particular range (e.g. the full range of colors). Any individual case of perception, however, will be of a particular perceptible object at a place and time. I do not just see red, I always see a particular patch of red in some definite space and at some definite time. This red patch at this time is different from that red patch at that time, even if the form of red is of the same kind in both instances. The form possessed by the power of perception shares the spatiotemporal features possessed by the object of perception. Aristotle in this passage seems to claim that the particularity of perception is not just a contingent feature of perception, but a necessary one.

On my reading, the ground for Aristotle’s claim lies in the fact that perception is a cognitive power with a bodily organ. We perceive as a result of our cognitive organs being affected in space and time. My cognitive organs are affected in a particular way at a particular place and time and the forms that I cognize through them retain that particularity. My eyes give me the form of this red here and now and my ears give me the form of this middle C sound here and now. In general, any bodily organ contributes to cognition by being spatiotemporally affected by an individual object and the particularity of that affection is preserved in the form that is received cognitively. Thus any cognitive

⁵⁰ Modification of Jonathan Barnes’s translation in the Revised Oxford edition (Barnes 1984).

power with a bodily organ or combination of bodily organs will be spatiotemporally limited.

Since Aristotle holds that understanding is not intrinsically spatiotemporally limited, it cannot have a bodily organ. We can reformulate the argument thus:

1. There are perceptible and intelligible forms. (Premise)
2. The intellect understands intelligible forms. (Premise)
3. Intelligible forms are not spatiotemporally individuated. (Premise)
4. Whatever forms a bodily part produces or determines must be spatiotemporally individuated. (Premise)
5. An organ of cognition must produce or determine the forms that are cognized. (Definition)
6. If the intellect has a bodily part or organ, the forms it cognizes must be spatiotemporally individuated. (from 4 and 5)
7. The intellect cannot have a bodily organ. (from 2, 3, and 6)

Many philosophers would object to premise 3, as it relies on the idea that what our intellects understand are universal, non-spatiotemporally individuated forms. I do not have the space here to either explicate or defend Aristotle's general theory of universals and understanding. Such a defense is unnecessary for my purposes, however, since my claim is simply that, given Aristotle's commitments (among which is a commitment to the existence of universal intelligible forms), Aristotle is correct to hold that the intellect cannot have a bodily organ.

On this construal of the argument, premise 4 is key. I believe that the passage I cited from the *Posterior Analytics* provides good evidence that Aristotle is committed to

this premise. It is certainly clear that Aristotle thinks that all the forms cognized through perception and imagination are spatiotemporally individuated, even the images employed by the imagination and made use of by the intellect. The intellect may make use of diagrams and figures in understanding some geometric truth, but the understanding achieved is not about the particular diagram but about the universal relationships between mathematical objects that the diagram is, at best, an instance of (*De Memoria* 1, 449b30-450a14).

The claim that any cognition that is produced or determined by some bodily organ must be spatiotemporally individuated also seems defensible in its own right. It is hard to conceive how a material alteration could ever produce or determine some form that was not spatiotemporally individuated. All the material alterations we can observe produce some particular, spatiotemporally individuated form. Similarly, all the cognitive organs that can be observed, whether in humans, bats, or dolphins, seem to produce particular, spatiotemporally individuated forms and cognition. To go beyond the particular a distinct and special power seems to be needed, a power that Aristotle postulates as being present in the human intellect. Aristotle thinks we human beings are able to draw out the universal from the particulars found in perception and imagination, but this cannot be accomplished using a bodily organ, as this would only result in more cognition of particulars. Aristotle, then, has a line of response to those who would attempt to mix the intellect with the body and give it some combination of bodily organs. The intellect and its activity must remain pure because any mixture with or use of the body in its activity would result in cognition of particulars, not universals, contrary to the very nature of the intellect.

4. Conclusion

I have reconstructed Aristotle's argument and defended some of its key premises. Aristotle presents a theory of intentionality based around preservative change. If some activity consists in a cognitive power possessing a form preservatively then that activity is essentially *about* the form that is possessed in this way. This account, when combined with Aristotle's neutrality condition and his claim that the intellect understands all things, leads him to hold that the intellect does not have a bodily organ. Aristotle's account, according to which the intellect in its nature is only potential, allows him to avoid the problems that would arise if the intellect had a bodily organ. On my interpretation, Aristotle holds that intelligible forms do not have any distinctive bodily or material characteristics and thus could not be cognized through a bodily organ, regardless of how this organ was constituted or how it combined different perceptions. Further, cognitive powers with bodily organs are always spatiotemporally limited, but understanding is not. Our understanding applies to all instances of the thing understood wherever and whenever they exist. If Aristotle's accounts of the intentionality and character of our intellectual activities are correct, then the intellect is not anything material. The intellect and its activity of understanding are unmixed with the body.⁵¹

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