Ergo AN OPEN ACCESS JOURNAL OF PHILOSOPHY

Aristotle on Misperceiving

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Suppose Socrates is looking at a bright red apple in good viewing conditions, so that it looks to him the colour it is. Schematically, Aristotle's explanation of this "Good Case" is that the apple looks bright red to Socrates because he has taken on the perceptual form of bright red without the matter. But what happens if Socrates misperceives the apple instead and it looks purple? It is not at all clear how to apply Aristotle's account of perception to such a "Bad Case." Does Socrates still take on the perceptual form of the actual—bright red—colour of the apple in the Bad Case? Of purple? Neither? I argue that applying Aristotle's account of perception to this sort of Bad Case requires that there are different ways of being in perceptual contact with perceptible qualities like the colour of an apple, depending on how that perceptual contact is mediated by changes in the sense organs and perceptual medium.

Introduction

Suppose Socrates is looking at a bright red apple in good viewing conditions, so that it looks to him the colour it is. Schematically, Aristotle's explanation of this "Good Case" is as follows: the apple looks bright red to Socrates because he has taken on the perceptual form of bright red without the matter. While there is controversy about the details of this explanation, there is no great mystery about why the character of Socrates's visual experience reflects, or "matches," the bright red character of the apple, since his visual experience involves taking on (in some sense or other) the very quality that is being perceived.

Contrast this Good Case with a case of inaccurate colour perception, or misseeing (*parhoran*)—the "Bad Case." Suppose that Socrates views the same bright red apple from some distance, so that it looks to him to have a darker colour than it has in fact, say the purplish red of a red onion (cf. *Meteorology* (*Mete.*) III.4, 374b9–22). Prima facie, one would expect Aristotle to offer the same schematic explanation in this kind of case too, since an inaccurate perception is still

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https://doi.org/10.3998/ergo.7956

a perception: "[…] to mis-see or to mis-hear is to see or to hear something true (*alēthes*), yet not what one thinks" (*De insomniis* (*Insomn*.) 1, 458b31–33).[1]

The trouble is that it is not clear how to apply Aristotle's schematic explanation to the Bad Case. There seem to be just two options, and apparent problems with each of them. On the one hand, one might suppose that Socrates takes on the very same perceptual form in the Bad Case as he does in the Good Case—that of the actual bright red colour of the apple. On the other, one might suppose that he takes on a different perceptual form in the Bad Case—presumably that of purple. If the former, whence the seeming presence of purple? If the latter, how does the perceptual form of purple come to be involved, and why should a case in which Socrates takes on the perceptual form of purple count as a case of mis-seeing the bright red apple, rather than of seeing something else, or nothing at all?

There is virtually no discussion of this question in the literature. One reason for this lacuna is that Aristotle claims at least seven times that our "special perceptions"—our visual perceptions of colour, auditory perceptions of sound, olfactory perceptions of odour, etc.—are inerrant, or always true.[2] Scholars tend to respond to this surprising claim using one (or both) of two strategies.[3] Proponents of the first strategy take Aristotle at his word when he says that special perceptions are always true and insist accordingly that putative cases of mis-seeing colour will have to be explained in terms of the intervention of some further mental state, downstream of (special) perception. The most natural candidates are judgement—as might be suggested by Aristotle's saying that to mis-see is to see something, yet not what one thinks in *Insomn*. 1 (458b31–33)—or else what

1. All translations are my own, unless otherwise specified. I have sometimes encountered the objection that there is no reason to call my Bad Case a case of misperception/inaccurate perception. Why not say instead that this is just how things look at a distance? As it stands this objection overgeneralizes. Most people agree that the Müller-Lyer illusion is an illusion. And while not every case of inaccurate perception is an illusion, we tend to think that illusions are cases of inaccurate perception. So the Müller-Lyer illusion should count as a clear case of inaccurate perception. Nonetheless, one could easily respond to the Müller-Lyer illusion in the same way: why shouldn't we say that this is just how lines of equal length with contrasting open and closed "fins" look? Indeed, one could apply this line of reasoning to any putative case of inaccurate perception. In any case, what matters especially in the present context is that Aristotle could not consistently reason in the way suggested by this line of objection given his treatment of inaccurate perceptions in *Insomn.* 2, 460b22–27 (discussed in §1) and *De anima* (*An.*) III.3, 428a19–b10 (discussed in §3). The Bad Case counts for Aristotle as a case of inaccurate perception for the simple reason that it involves something (the bright red colour of the apple) appearing perceptually a way it is not (purple).

2. *An*. II.6, 418a1; *An*. III.3, 427b12; *An.* III.3, 428a11; *An.* III.3, 428b18–19; *An*. III.6, 430b29; *De sensu* (*Sens*.) 4, 442b8–10; *Metaphysics* (*Metaph*.) IV.5, 1010b2–3. Strictly speaking, inerrancy is not quite the same thing as always being true. Inerrancy is freedom from error, or mistake. So understood, inerrancy would be equivalent to always being true only given two further assumptions: 1) to be in error/mistaken in the relevant sense is to be false, and 2) true and false are the only options.

3. The two strategies are not mutually exclusive, though they don't fit especially well together.

Aristotle calls *phantasia*, a mental state he theorizes in *An.* III.3, and which some scholars have suggested was introduced there precisely to explain the possibility of error.[4] Proponents of the second strategy suggest that Aristotle doesn't really mean that special perceptions are always true. He just means that they are invariably true in normal/good/optimal perceptual conditions.[5]

I don't think we should be satisfied with either of these existing strategies and so I am going to argue for an alternative. The first strategy is unsatisfactory simply because Aristotle does not in fact explain putative cases of mis-seeing colour in terms of *phantasia* or judgement. The second strategy is unsatisfactory because it doesn't do justice to the fact that Aristotle says again and again that special perceptions are true—worse still always true (e.g. *An.* III.3, 427b12–13)—instead of saying what, according to this second strategy, he really means, namely that special perceptions are always true in normal/good/optimal perceptual conditions, or alternatively that they are true always, or for the most part (*hôs epi to polu*). In addition, this second strategy faces difficulties in explaining why the claim at issue—that a certain class of perceptions is (always) true—holds only for special perception, and not for common perception too (i.e. our perceptions of motion, shape, and size, etc.). I think we can do better.[6]

At bottom, the challenge is to make sense of the fact that Aristotle says again and again that special perceptions are (always) true, while being perfectly cognizant of the fact that we sometimes misperceive colour and other special perceptibles. I suggest that the best strategy for answering this challenge requires recognizing that Aristotle has more than one use of the expression "true" at his disposal, and indeed that he is using that expression differently when he affirms again and again that special perceptions are (always) true on the one hand, and when he allows that special perceptions are sometimes false (i.e. not-true) in discussing cases of misperception on the other. In the first way of using "true," our special perceptions are always true full stop—not just in normal conditions—in the same way, and for the same reason, that the noetic grasp of essences is always true: because special perception and the noetic grasp of essences constitute a kind of contact with their objects (cf. *Metaph.* IX.10). According to the second way of using "true" (and "false"), by contrast, Aristotle is perfectly happy to admit that special perceptions can be true or false, or more or less accurate. As we'll see, these two ways of assessing special perceptions for truth can coexist because

4. For the *phantasia* view, see Caston (1996), Scheiter (2012), and Twomey (2022).

5. Alexander *De anima* (*An.*) 41,13–42,3; (Pseudo (Ps.)) Philoponus *In Aristotelis De anima libros commentaria* (*In an.*) 491, 15–18; (Ps.) Simplicius *In libros Aristotelis De anima commentaria* (*In an.*) 127, 1–3; *In an.* 216, 2–4; Block 1961; Ben-Zeev 1984; Gaukroger 1981 and 1990; Charles 2000; Crivelli 2004; Gregoric 2007; Johnstone 2015; Koons 2019.

6. Henceforward I replace "normal/good/optimal conditions" with "normal conditions," for ease of expression.

there are different ways of being in perceptual contact with special perceptibles, depending on how that contact is mediated by our sense organs and physical environment. In some ways of being in perceptual contact with a special perceptible it appears as it is, and in some it doesn't.[7]

This paper falls into four sections. In §1 I develop the Bad Case in more detail, using Aristotle's account of the colours of the rainbow in *Mete.* III as a model. Then I argue that it is a mistake to think that Aristotle shifts responsibility for error in the Bad Case downstream of (special) perception, whether to *phantasia* (§2) or judgement (§3). If that's right, then we are immediately met with a further interpretive puzzle. If Aristotle recognizes that vision itself can be at fault in cases of inaccurate colour perception, what can he mean by insisting that our special perceptions of colour are always true? I answer this further interpretive puzzle in §4, drawing a distinction between two different ways of assessing special perceptions for truth. Finally, in §5, I bring these two ways of assessing special perceptions for truth to bear on the problem I began with, of explaining how Aristotle's schematic explanation of perception applies in the Bad Case.

1. The Bad Case and the Rainbow

Considering Aristotle's repeated insistence that special perceptions are (always) true, one might suspect either that he rejected the possibility of inaccurate colour perceptions out of hand, or else that he ignored it. On the contrary, I begin this section with evidence of Aristotle's interest in the Bad Case.

While I'm going to focus on cases of inaccurate colour perception caused by distance, it's important to emphasize that this is not an isolated case. Aristotle also discusses cases of inaccurate colour perception due to poor lighting (*Mete.* III.4, 375a27–28) and the effects of colour contrast (*Mete.* III.4, 375a7–27). In addition to these "environmental" causes of inaccurate colour perception, Aristotle discusses several cases of inaccurate colour perception due to the condition of the eye in *Generation of Animals* (*Gener. An.*) V.1.[8] He suggests, for example, that a subject will be prone to making inaccurate colour discriminations if a) they have too much liquid in their eyes, b) the liquid in their eyes is "impure," or c) the skin on their pupils is too thick (780b23–29). I'll come back to some of these

7. Notice that this way of explaining the fact that special perceptions can be true *or false*, or more or less accurate, does not apply to the noetic grasp of an essence, since the latter isn't mediated by any bodily organ or part of our environment in the way visual contact with colour, for example, is mediated by the eye and surrounding air/water. Moreover, this second way of using "true" (and "false") applies to all kinds of perception, including common and incidental perception, and not just to special perception.

8. See also *Metaph.* XI.6, 1062b36–1063a3.

other cases below. Needless to say, Aristotle makes similar claims in connection with other senses too (cf. *Gener. An.* V.2). For example, he begins his account of smell in *An.* II.9 by observing that our sense of smell is much less accurate than that of many other animals.

Aristotle's most explicit discussion of a case in which something looks darker at a distance occurs in his explanation of the colours of the rainbow in *Mete.* III.4. I want to stress that while this case is in many ways quite particular, the upshot of our discussion will nonetheless be quite general, because the explanatory resources to which Aristotle appeals in explaining the colours of the rainbow are general (as he indicates himself):

> We must keep in mind and assume, as has been said, first, that what is bright [deflected] in a dark surface or [seen] through a dark medium produces red, second, that vision, when stretched, becomes weaker and less effective, and third, that what is dark is a kind of negation [of sight], for darkness appears owing to the failure of sight. This is why objects at a distance appear darker: because our sight fails to get through to them. One ought to consider these [principles] in the context of the theory of the senses, for the account of them is proper to the theory of perception. At present let us say only as much about them as is necessary. It is for this reason, then, that things at a distance appear darker and smaller and smoother, as well as things in mirrors, and the clouds look darker in water than when one looks directly at them.

> δεῖ γὰρ νοήσαντας, ὥσπερ εἴρηται, καὶ ὑποθεμένους πρῶτον μὲν ὅτι τὸ λαμπρὸν ἐν τῷ μέλανι ἢ διὰ τοῦ μέλανος χρῶμα ποιεῖ φοινικοῦν, δεύτερον δ᾽ ὅτι ἡ ὄψις ἐκτεινομένη ἀσθενεστέρα γίγνεται καὶ ἐλάττων, τρίτον δ᾽ ὅτι τὸ μέλαν οἷον ἀπόφασίς ἐστιν· τῷ γὰρ ἐκλείπειν τὴν ὄψιν φαίνεται μέλαν· διὸ τὰ πόρρω πάντα μελάντερα φαίνεται, διὰ τὸ μὴ διικνεῖσθαι τὴν ὄψιν. θεωρείσθω μὲν οὖν ταῦτ᾽ ἐκ τῶν περὶ τὰς αἰσθήσεις συμβαινόντων· ἐκείνων γὰρ ἴδιοι οἱ περὶ τούτων λόγοι· νῦν δ᾽ ὅσον ἀνάγκη, τοσοῦτον περὶ αὐτῶν λέγωμεν. φαίνεται δ᾽ οὖν διὰ ταύτην τὴν αἰτίαν τά τε πόρρω μελάντερα καὶ ἐλάττω καὶ λειότερα, καὶ τὰ ἐν τοῖς ἐνόπτροις, καὶ τὰ νέφη μελάντερα βλέπουσιν εἰς τὸ ὕδωρ ἢ εἰς αὐτὰ τὰ νέφη. (374b9–22)[9]

Three warnings before we get into the details. First, much of the *Meteorology's* discussion of visual phenomena like the rainbow belongs primarily to the field of optics. Since optics treats physical phenomena *qua* mathematical, or as if

9. The Greek text of the *Meteorology* is from Lee 1952.

they were, or involved, mathematical objects (*Metaph.* XIII.3, 1078a14), we cannot expect a detailed physical, or natural-scientific, explanation of vision in the *Meteorology*, as Aristotle himself reminds us.[10] Second, Aristotle assumes extromissionism in the *Meteorology*, which he firmly rejects elsewhere. Extromissionism is the view that seeing depends on a visual ray that issues from the eye and alights upon the object of vision. This is why Aristotle speaks here of our sight reaching, or failing to reach, the object, rather than of the object's causal influence reaching, or failing to reach, the eye. I'll come back to the significance of this assumption below. Third, and finally, Aristotle's explanation of the colours of the primary rainbow (the ordinary rainbow with which we're all familiar, with red on top and violet on the bottom) faces certain geometrical difficulties, which are not relevant to the concerns of this paper. So I'm going to sidestep those difficulties by restricting myself to Aristotle's account of the colours of the rainbow as it applies to the secondary rainbow instead (375a29–375b8).[11] Assume that I am talking about the secondary rainbow unless otherwise noted.

According to the *Meteorology*, a rainbow is "[…] a deflection [*anaklasis*] of our sight to the sun" (373b33). In other words, rainbows occur when sight makes contact with an appropriate collection of water droplets in the air opposite the sun, and then is deflected by that collection of droplets to the sun itself. In effect, then, rainbows are the result of a distorted (because deflected) perception of the sun itself.[12]

If our sight is deflected to the sun when we see rainbows, why don't they appear sun-coloured? After all, the haloes that form around the sun are caused by a similar process of deflection, and they are sun-coloured. In answer to this question, Aristotle points out two crucial differences between rainbows and

10. On the place of intermediate sciences like optics, see also *Posterior Analytics* (*Anal. Post.*) I.13, 78b35ff. and *Physics* (*Phys.*) II.2, 194a6.

11. The secondary rainbow is the inverted rainbow—red on the bottom and violet on top—which accompanies the primary rainbow whenever there is a "double rainbow." In effect, the difficulty with any straightforward application of the visual principles introduced at 374b9–22 to the case of the primary rainbow is that the colours come out backwards (which is why the account fits the secondary rainbow better than the primary rainbow). See Sayili (1939) for a discussion of the difficulty. One explanation is that Aristotle was simply mistaken about the geometry of the situation, in which case he might have thought that applying his visual principles to the primary rainbow would get the right result. Another, more charitable, explanation is that he was aware of the difficulty and made a further move in compensation. In particular, he says at *Mete.* III.4, 375a1–4 that the outermost band of the primary rainbow presents the lightest colour—red—because vision is deflected most strongly from the greatest circumference. This additional principle is perfectly consistent with my overall reading of Aristotle's discussion of the rainbow, which emphasizes the notions of the strength/weakness of vision in the context of the extromissionism of the *Meteorology*, and the corresponding idea of the strength/weakness of colour in the context of the intromissionism of texts like *Gener An.* V.1. But it complicates matters in a way that is not useful, and so I stick to the secondary rainbow here.

12. For a nice discussion of the importance of this point, see Berryman (2012: 212).

haloes: 1) in the case of rainbows the deflection happens further from the sun, which means that sight must travel further to reach its object (the sun), and 2) the substance that does the deflecting in the case of rainbows is darker than the substance that does the deflecting in the case of haloes. In the former case it is water droplets, in the latter the air around the sun (373b33–374a3).

These differences between rainbows and haloes serve to introduce the visual principles discussed in our key passage from *Mete.* III.4. According to the first visual principle, what is bright "seen in" a dark surface, or through a dark medium, appears red. Since the water droplets that deflect our vision to the sun are dark, this fact together with the great distance vision must travel to reach the sun whenever one sees a rainbow explains why the lowermost band in the (secondary) rainbow appears darker than one might otherwise expect: red rather than sun-coloured. From here Aristotle appeals to the other two visual principles to explain what he takes to be the other two primary colours of the rainbow: "green" (*prasinos*) and "violet"/"blue" (*halourgēs*).[13] Working from the inside out, Aristotle holds that each band appears darker than the last, so that the middle (green) band is darker than the red band, and the outermost (violet/blue) band is darkest of all. The second and third visual principles explain why the bands appear progressively darker in this way: since the deflection happens further and further from the eye with each band, sight must travel further and further to reach its object. And we know that things appear darker the further sight must travel to reach them.[14]

The third visual principle—"what is dark is a kind of negation of sight"—is unusual as a characterization of "the dark"/"what is dark" (*to melan*) in Aristotle.[15] It makes sense in context, however, as a way of linking the other two principles together against the background of the *Meteorology's* extromissionism.

13. There are notorious difficulties in translating ancient Greek colour vocabulary into modern English, or any modern language. See Irwin (1974) and Lloyd (2007) for discussion. Consequently, these translations should be taken with a heap of salt.

14. Aristotle recognizes that this core account cannot explain the yellow/orange band that appears between the red and green bands, because it predicts that the yellow/orange band should appear darker than the red band, given that it appears further from the sun. In consequence Aristotle seeks to explain the yellow/orange band in a different way, namely as a contrast effect generated by our perception of the red and green bands (375a7ff.).

15. Though Aristotle uses the language of negation (*apophasis*) rather than privation (*sterēsis*), it might be tempting to think that he is alluding to one or both of two well-attested doctrines here, namely that black is the privation of white, and/or that darkness is the privation of light (*Metaph.* X.2, 1053b3). This cannot be quite right. The claim here is that what is dark is a negation of vision, not of white or light. While it is true that nothing in the Greek text corresponds explicitly to "of sight" in the translation, so that a word-for-word translation would read: "what is dark is a kind of negation," it is nonetheless plausible to carry the reference to sight forward. Compare Alexander, who adds both "of seeing" (*tou horan*) and the language of privation to his paraphrase: "what is dark is a kind of negation and privation of seeing" (*to melan hoion apophasis tou horan esti kai sterēsis*, *In Aristotelis meteorologicorum libros commentarium* (*In mete.*) 155, 13–14).

Consider the first principle again: why should what is bright seen in a dark surface, or through a dark medium, appear darker than it is? At first glance, one might assume that a kind of colour addition must be taking place on the surface/in the medium. That is, one might assume that what we really see in such cases is an image of the bright light in the dark surface, which consequently presents a colour that is the "sum" of the dark colour of the surface and the bright colour of the light. Similarly, if a bright light looks darker seen through a dark medium, one might assume that what we are really seeing is the combination of the dark colour of the medium with the bright colour of the light in the medium.

Yet this is not in fact how Aristotle reasons in the *Meteorology*. First, he speaks as though the true object of sight in cases of deflection is the object sight is ultimately deflected to—e.g. the sun—rather than the apparent object—e.g. the rainbow—at the deflection site. That is, when we see a rainbow we're seeing the sun in a distorted way, not merely seeing an image produced by the sun. Second, the simple colour addition story doesn't fit with the third visual principle, which tells us that "what is dark is a kind of negation [of sight]." For in the context of the *Meteorology's* extromissionism, the suggestion seems rather to be that what is dark takes away from, or interferes with, vision, weakening it. So it looks like Aristotle's account works not in terms of the addition of colours, but in terms of a kind of subtraction from vision.

Notice how understanding the first principle against the background of the third principle in this way serves to unify the first principle with the second. The first principle is really just an observation: when our vision is deflected from a dark surface or passes through a dark medium, things appear darker than they are. The third principle now explains why this is so: what is dark weakens vision. What's more, since it stands to reason that sight can also be weakened in other ways—for example when it is "stretched" over great distances (second principle)—one might predict that things will look darker at a distance too, just as they look darker in a dark surface or through a dark medium, and for the same reason: because vision is weakened in all these cases. We thus get a unified extromissionist explanation of all these cases in which things appear darker than they are, in terms of visual weakening rather than colour addition.

One might be inclined to dismiss this "visual weakness" account of the Bad Case precisely on the grounds that it presupposes extromissionism. That would be an overreaction, however, for two reasons. First, there are good textual grounds for supposing that Aristotle thinks he can give a similar account in intromissionist terms, simply by reversing the direction of causal influence. The result is a "colour weakness" account, rather than a "visual weakness" account. For example, when Aristotle explains why some animals can see further than other animals in *Gener. An.* V.1, he is careful to note that his explanation works whether one assumes intromissionism or extromissionism (781a2–12). The

explanation on offer begins with the observation that animals with a prominent brow (or recessive eyes) tend so see best at a distance. According to *Gener. An.* V.1's official, intromissionist, account, this is because that configuration helps to channel the incoming action of colour upon the eye (781a10–11). If one were to assume extromissionism instead, however, Aristotle explains that one could easily make the same point in the opposite direction, claiming that this configuration helps to channel the power of sight as it issues from the eye (781a4–7).

Other passages tend in the same direction. Aristotle claims in passing at *Mete.* III.4, 374a22–24, that the vision of subjects with "watery eyes" is easily deflected, because their vision is weak.[16] While he doesn't offer any further explanation in the *Meteorology*, he does give a corresponding intromissionist-friendly explanation in *Gener. An.* V.1: watery eyes are dark and so insufficiently transparent, which means they are insufficiently receptive to the incoming action of colours (780a5–9; 780a26–b36). Indeed, his explanation even appeals to the claim that "… this is what the dark (*to melan*) is, what is not transparent" (780a34–35), which is none other than the intromissionist counterpart of the third visual principle from the *Meteorology*. Whereas the *Meteorology's* extromissionism forces Aristotle to say that what is dark is a negation of sight, here in *Gener. An.* V.1 he is free to make the more familiar point that what is dark is not transparent—not something light and colour can easily "shine through." The key point is just that whichever direction the causal influence goes, the underlying maneuver is the same. According to the intromissionist story dark eyes blunt the impact of external colours, whereas according to the extromissionist story they blunt the power of sight as it issues from them. Given Aristotle's apparent flexibility, we can easily reframe the account of the Bad Case in *Mete.* III.4 to fit his official, intromissionist, account of vision as follows: distant objects appear darker than they are because their colour's causal influence weakens with distance, reaching perceivers in diminished form.[17]

The second reason we shouldn't ignore the *Meteorology* is that one can explain both why Aristotle might think he is free to "speak with the extromissionists" in this text, and why he might have wished to do so, whether or not he ever meant to endorse extromissionism in a full-throated way.[18] It is important to remem-

16. Interestingly, Aristotle claims in consequence that subjects with watery eyes are more likely to see rainbows around lamps in the winter, because their sight is more easily deflected by the surrounding air (374a21–24). By contrast, one would expect that subjects with stronger sight would experience less of the rainbow effect in these cases, or perhaps none at all, because their sight would succeed in bullying through the surrounding air.

17. This should not surprise us. Colours do not have infinite power to affect the medium, or else we'd be able to see them at any distance.

18. Of course, Aristotle might well have been an extromissionist at some point in the writing of the *Meteorology* and/or the *De caelo* (*Cael.* II.8, 290a20–24). But I do not wish to decide one way or the other between a developmental hypothesis and the view that Aristotle never really endorsed

ber at this point that the *Meteorology's* discussion of visual phenomena like the rainbow is primarily a contribution to optics. Since Aristotle thinks that optics deals with physical objects *qua* mathematical, he might well think that he has a certain latitude in offering different physical interpretations of the geometrical constructions at issue, depending on his purposes.[19] Why might he have wished to? Aristotle is not a geometer himself, and so he tends to borrow geometrical demonstrations from the professionals. Unsurprisingly, the demonstrations to which he had access tended to presuppose extromissionism, as did Euclid's *Optics* after them. Given that Aristotle wishes to borrow these demonstrations, it's easy to see why he might go along with their assumptions in the hopes of maintaining a simple and consistent story in the *Meteorology*, even if some of these assumptions run contrary to his considered views about the physics of vision, which he propounds elsewhere.

It's time to wrap this section up and to draw some initial conclusions. Aristotle clearly acknowledges the possibility of misperceiving colour. What's more, our investigation of *Meteorology* III.4 suggests the beginnings of an explanation of the Bad Case, with nary a mention of *phantasia* or judgement. The bright red apple looks darker than it is to Socrates at a distance because the causal efficacy of its bright red colour diminishes with distance. Notice, however, that Aristotle does not try to explain why diminished causal efficacy makes colours look darker in particular in the *Meteorology*. He simply exploits the (alleged) fact that they do look darker in a range of cases—at a distance, through a dark medium, and in a dark surface—to explain the rainbow. Yet an explanation is not far to seek.

Aristotle maintains that colours are arranged on a scale from light to dark, where white is the lightest colour and black the darkest. All the other colours are mixtures of white and black.[20] To understand why colours look darker at a distance, all we need to add to this simple account of colour is the plausible assumption that lighter—or brighter—colours are more powerful than darker colours: that they have a greater effect on their environments. One reason this

extromissionism. One issue is that it is difficult to assign a definite date to the *Meteorology*, given that some indications point early (e.g. the suggestion that the burning of the temple of Ephesus was recent (*nun*) at *Mete.* III.1, 371a31), whereas others point later (e.g. references to comets dated to 341–340 BC (*Mete.* I.7, 345a1) and 337 BC (*Mete.* I.6, 343b30)). See Wilson (2013: 8–10). For their part, Alexander (*In mete.* 141, 3–11) and Philoponus (*In an.* 333, 18–35) certainly reject the idea that Aristotle really commits himself to extromissionism in these texts. For more recent discussions of the issue, see Merker (2002) and Wilson (2013).

19. His ancient commentators thought the same, and indeed they even thought that Aristotle's intromissionist account was consistent with the more sophisticated optical theories of their day. Whether Aristotle and his commentators are right is another matter. On these issues see Berryman (2012).

20. *Sens.* 3, 439b14–18, 440b18–25; *Sens.* 4, 442a12–29; *Metaph.* XII.4, 1070b18–21; *Gener. An.* V.1, 780a34–36.

assumption is plausible is just that Aristotle thinks of black as the privation of white, so that lighter colours have more of the "active ingredient" in them than darker colours, namely white.[21] In that case, if a light colour has less than its full effect upon something, it will have the same effect on it as a darker colour would paradigmatically have (i.e. as a darker colour would have at "full power"). And the lesser the effect, the darker the colour will appear. So it's no surprise that the bright red apple looks to Socrates darker than it is, if it is affecting him in the way a darker colour would paradigmatically affect him.

Once this explanatory strategy is pointed out one can easily find parallels elsewhere in the corpus. For example, Aristotle observes that the shore sometimes looks to sailors to move as they sail past it (*Insomn.* 2, 460b22–27).[22] His explanation is much the same as I gave for the case of colour: their ships are moving, and this movement in their ships brings it about that their eyes are moved in something like the way they would be moved by the shore if it really was moving and affecting them accordingly. So there is precedent for this style of explanation outside the case of colour, and indeed outside the case of special perception, since motion is a common perceptible (cf. *An.* II.6).

So far this is just a sketch. There are various ways it might be developed, considered below (§§4 and 5). In the next two sections, however, I want to clear the way for that further development by confirming that *phantasia* (§2) and judgement (§3) really have no role to play in explaining the Bad Case.

2. Inaccurate Colour Perceptions and *Phantasia*

Phantasia is a verbal noun deriving from the verb *phantazesthai* —"to appear"— and so its basic meaning is "appearance."[23] So understood, *phantasia* is not a technical term and it has a very wide scope, ranging not only over memories of Socrates and dreams of centaurs, but also over ordinary perceptual experiences (*aisthēseis*), and even thoughts (*ennoiai*). This general use is evident for example at *An.* I.1, 402b22–25, where Aristotle suggests as a matter of methodology that anyone who wants to give an account of something should begin from its properties *kata phantasian, i.e.* according to appearance, or experience.[24] If this methodological remark is going to have any plausibility in context—*An.*

21. Note that this point generalizes to other special perceptibles too, since the spaces of sounds, odours, and flavours, etc., are structured in the same way.

22. See §5 below.

23. I owe the observation that *phantasia* derives from *phantazesthai* rather than *phainesthai* to Stephen Menn.

24. Bearing this general use in mind is a helpful corrective against the unwarranted assumption that every time Aristotle says that something appears—*phainetai*—a certain way, he must have the specific conception of *phantasia* that he develops in *An.* III.3 in mind.

I.1 is concerned especially with accounts of the soul—then the "appearances" at issue will have to encompass much else besides strictly perceptual appearances, including beliefs, etc. Understood in this suitably general way, this remark is just a variation on Aristotle's frequent refrain that our theorizing needs to respect the phenomena.[25]

While Aristotle sometimes uses *phantasia* in this very general sense, he also introduces a special and more specific use in *An.* III.3. It's easy to tell these two uses apart because they have very different extensions. Whereas sense perceptions—*aisthēseis*—count as *phantasiai* according to the general use, they do not count as *phantasiai* according to the more specific use.[26] In fact, Aristotle defines *phantasiai* in this more specific use in explicit contrast with sense perceptions, as motions that are caused by, and so must be subsequent to, sense perceptions (*aisthēseis*). They are like copies, or "echoes," of sense perceptions:

> But since it is possible when one thing is moved for another to be moved by it, and *phantasia* seems to be a motion and to come about not without perception, but in perceivers and of what perception is of, and it is possible that a motion comes about from the activity of perception, and necessary that this motion is like the perception, this motion [—*phantasia*—] would not be possible without perception nor would it belong to things that don't perceive, and it would be possible that what has it does and suffers many things in accordance with it, and for it to be true or false.
>
> Ἀλλ᾽ ἐπειδὴ ἔστι κινηθέντος τουδὶ κινεῖσθαι ἕτερον ὑπὸ τούτου, ἡ δὲ φαντασία κίνησίς τις δοκεῖ εἶναι καὶ οὐκ ἄνευ αἰσθήσεως γίγνεσθαι ἀλλ᾽ αἰσθανομένοις καὶ ὧν αἴσθησις ἐστίν, ἔστι δὲ γίνεσθαι κίνησιν ὑπὸ τῆς ἐνεργείας τῆς αἰσθήσεως, καὶ ταύτην ὁμοίαν ἀνάγκη εἶναι τῇ αἰσθήσει, εἴη ἂν αὕτη ἡ κίνησις οὔτε ἄνευ αἰσθήσεως ἐνδεχομένη οὔτε μὴ αἰσθανομένοις ὑπάρχειν, καὶ πολλὰ κατ᾽ αὐτὴν καὶ ποιεῖν καὶ πάσχειν τὸ ἔχον, καὶ εἶναι καὶ ἀληθῆ καὶ ψευδῆ. (*An.* III.3, 428b11–18)[27]

This passage begins with the guiding observation that *phantasiai* seem to be caused by sense perceptions (*aisthēseis*), and then draws various consequences from it. Since we are ultimately concerned with the suggestion that Aristotle introduces this special conception of *phantasia* in *An.* III.3 to explain the possibility of perceptual error, I will focus on the last consequence here—the claim that

25. See especially Owen (1961) and Nussbaum (1982).

26. There's a similar narrowing on the side of thought, though the reason is different. While thoughts count as *phantasiai* in the general use, they do not occur without *phantasiai* in the special use.

27. The Greek text of the *De anima* is from Corcilius 2017, which is based on Förster 1912.

phantasiai are true and false. It is explained in the immediate sequel to this passage, which I have divided into two parts (A and B):

> (A) This [*i.e.*, the fact that *phantasiai* are true and false] occurs as follows. Perception of the special perceptibles [*tōn idiōn*] is true, or contains the least falsehood. Second comes perception of the incidental perceptibles. Here already it is possible to be thoroughly mistaken. For that there is white, one is not mistaken, but whether what is white is this or something else, one is mistaken. And third is perception of the perceptibles that are common and follow the incidental perceptibles [to which the special perceptibles belong], I mean for example motion and rest, which are attributes of the perceptibles. Concerning these we are most likely to be mistaken in perception.
> (B) The motion that comes about from the activity of these three [kinds of] perceptions will differ. The first is true while perception is present, but the others might be false whether [perception] is present or absent, and most of all whenever the object of perception is far off. So then if the things we've said hold of nothing else besides *phantasia*, and this is as we say it is, *phantasia* would be a motion that arises from the activity of perception.
>
> (A) τοῦτο δὲ συμβαίνει διὰ τάδε. ἡ αἴσθησις τῶν μὲν ἰδίων ἀληθής ἐστιν ἢ ὅτι ὀλίγιστον ἔχουσα τὸ ψεῦδος. δεύτερον δὲ τοῦ συμβεβηκέναι ταῦτα· καὶ ἐνταῦθα ἤδη ἐνδέχεται διαψεύδεσθαι· ὅτι μὲν γὰρ λευκόν, οὐ ψεύδεται. εἰ δὲ τοῦτο τὸ λευκὸν ἢ ἄλλο τι, ψεύδεται. τρίτον δὲ τῶν κοινῶν καὶ ἑπομένων τοῖς συμβεβηκόσιν, [οἷς ὑπάρχει τὰ ἴδια] λέγω δ᾽ οἷον κίνησις καὶ μέγεθος, ἃ συμβέβηκε τοῖς αἰσθητοῖς, περὶ ἃ μάλιστα ἤδη ἔστιν ἀπατηθῆναι κατὰ τὴν αἴσθησιν.
> (B) ἡ δὲ κίνησις ἡ ὑπὸ τῆς ἐνεργείας γινομένη διοίσει [τῆς αἰσθήσεως] ἡ ἀπὸ τούτων τῶν τριῶν αἰσθήσεων, καὶ ἡ μὲν πρώτη παρούσης τῆς αἰσθήσεως ἀληθής, αἱ δ᾽ ἕτεραι καὶ παρούσης καὶ ἀπούσης εἶεν ἂν ψευδεῖς, καὶ μάλιστα ὅταν πόρρω τὸ αἰσθητὸν ᾖ. εἰ οὖν μηθὲν μὲν ἄλλο ἔχοι ἢ τὰ εἰρημένα ἡ φαντασία, τοῦτο δ᾽ ἐστὶ τὸ λεχθέν, ἡ φαντασία ἂν εἴη κίνησις ὑπὸ τῆς αἰσθήσεως τῆς κατ᾽ ἐνέργειαν γιγνομένη. (*An.* III.3, 428b18–429a3)

Notice that Aristotle begins with sense perception in section A and then turns to *phantasia* in section B, in keeping with the suggestion that *phantasiai* derive their character from, and so are posterior to, sense perceptions.

Section A presents a "fallibility hierarchy" within sense perception itself, independently of *phantasia*. Special perceptions are always true or are least prone to error. This is the one occasion on which Aristotle gives any hint of qualifying

his striking claim that our special perceptions are (always) true. I'll come back to this apparent qualification in §4 below.

By contrast with special perception, perceptions of "incidental perceptibles"[28] are notably prone to error, and perceptions of common perceptibles (motion, shape, size, etc.) are even more so. While section A presents various textual and interpretative difficulties, all that matters here is the uncontroversial point that there is an important difference where fallibility is concerned between special perception and other kinds of perception.

In section B Aristotle turns to *phantasia* and explains how *phantasiai* come to be true and false in a variety of conditions. Remarkably—and crucially for our purposes—he insists that *phantasiai* of special perceptibles are always true while accompanied by their occurrent causes in perception. In contrast, *phantasiai* of other things—incidental and common perceptibles—might be true or false whether accompanied by their occurrent causes in perception, or not. Given that Aristotle has just reminded us of his view that special perceptions are (always) true (or are least prone to error), it is natural to think that *phantasiai* of special perceptibles are always true while accompanied by the special perceptions that caused them precisely because they are copies of these special perceptions, and so inherit their truth values as well.[29] Likewise, since perceptions of incidental perceptibles and common perceptibles admit of being true or false in their own right according to section A—independently of *phantasia*—it is no surprise that the corresponding *phantasiai* turn out to be true or false too, whether or not they are accompanied by their occurrent causes in perception. Here again, the natural explanation is that these *phantasiai* are copies of the incidental and common perceptions that caused them, and so inherit their (initial) truth values as well.[30]

28. The interpretation of incidental perception and incidental perceptibles is vexed. For a recent discussion, see Perälä (2022). Officially, I wish to remain neutral on the interpretation of incidental perception here. My own view, however, is that incidental perceptibles are a motley bunch, with little that unifies them. Some things we perceive figure in the definition of perception, and some fall outside it. The special and common perceptibles figure in the definition of perception, whereas incidental perceptibles fall outside it. In the present context, Aristotle has substances like a man, or a tree, etc. in mind as examples of incidental perceptibles. Accordingly, his point is just that we can be wrong about what kind of substance the white thing is—whether it's a man, or a statue, or something else entirely.

29. One might wonder about the consistency of this claim with another claim Aristotle makes in *An.* III.3, namely that "most *phantasiai* come to be false" at 428a12. But notice that Aristotle says they *come to be* false—*ginontai*. I suggest he is thinking especially—though perhaps not exclusively—about cases in which *phantasiai* that linger after the relevant perceptions have ceased come to be false when the world changes. That's why Aristotle is careful to say here that *phantasiai* of special perceptibles are always true *while perception is ongoing*. Similar issues arise elsewhere in *An.* III.3, at 428b9, which helps to confirm that they are on his mind.

30. The fact that the truth values of these *phantasiai* do not come apart from the truth values of the sense perceptions that cause them might seem to make them redundant. And so they are redundant, at least as far as the perceptions from which they are copied are concerned. These

This passage seriously undermines the view that Aristotle introduces *phantasia* to explain the possibility of error in *An.* III.3. First, as Rapp (2001: 87–88) points out, the structure of sections A and B makes it clear that *phantasiai* cannot be the original source of error. Section A begins from the idea that sense perceptions are true and false in their own right, independently of *phantasia*, and then proceeds in section B to suggest that *phantasiai* simply inherit their truth values from the sense perceptions that cause them, so long as those perceptions are ongoing.[31] If Aristotle had intended to introduce *phantasia* to explain error, how could he have written something like this, and expect to be rightly understood?[32]

The difficulties facing the *phantasia* view don't stop there. It's also hard to see how it fits with what Aristotle says about distance perception in *Mete.* III.4 and *Gener. An.* V.1. Presumably, the *phantasia* view's explanation of the Bad Case would be that the bright red apple looks purple at a distance because a *phantasia* of purple intervenes. We've just learned from section B of *An.* III.3, 428b28–429a1 that this *phantasia* of purple cannot derive immediately from, or be a copy of, Socrates' ongoing visual perception of the apple. For if it was such a copy, then apparently it would match the ongoing perception and so share its truth value, in which case it could make no distinctive contribution to the explanation of error. So the intervening *phantasia* of purple must derive from a past perception.

So far so good. It's true that we retain *phantasiai* from past perceptions. They're there, waiting in the wings, but typically go unnoticed because they are pushed off to the side by present perceptions, which typically take centre stage. That is why remnants of past perceptions come to the fore in sleep as dreams, when ordinary perceptual activity is suspended (*Insomn.* 3, 460b28–461a8). In consequence, the most natural way to develop the *phantasia* view to fit *Mete.* III.4 is to suggest that when the *phantasia* of purple intervenes in the Bad Case, it is precisely because the perceptual activity caused by the bright red colour of the apple has been attenuated by distance. Thus weakened, the perception cannot hold the stage, and the *phantasia* of purple takes over.

For all its virtues, this explanation faces an obvious problem: why should distant colours consistently appear darker in particular on such a view? If a diminished perceptual motion leaves room for an otherwise unrelated *phantasia* to muscle in, why should it always be a *phantasia* of purplish red that makes the move, rather than *phantasiai* of different things on different occasions? Why not a

phantasiai are byproducts of perception that are useful downstream of perception proper in the explanations of memory and imagination, etc.

31. Once the relevant perceptions cease all bets are off, since the world might change without our noticing it, turning true *phantasiai* false, or false *phantasiai* true.

32. So why *does* Aristotle introduce the special notion of *phantasia* in *An.* III.3? To account for the flexibility of thought (*An.* III.3–III.8) and action (*An.* III.9–11), and especially the fact that we can think about, and act with respect to, things that are not in our immediate environments. I develop this suggestion in a manuscript on *An.* III.3, in progress.

phantasia of some other colour, or of something else entirely? No doubt Aristotle could have addressed this worry if he had any intention of advancing the *phantasia* view. But he didn't, because he had no such intention.

3. Inaccurate Colour Perceptions and Judgement

I can be quick with the judgement view—the view that putative cases of inaccurate colour perception are to be explained in terms of false judgement—since there is little to recommend it as a reading of Aristotle, however intuitive it might otherwise appear. Consider the following passage:

> But false things appear, at any rate, concerning which one has at the same time a true belief [*hupolēpsis*], as for example the sun appears [*phainetai*] a foot across, though one is convinced it is larger than the inhabited world.
>
> φαίνεται δέ γε καὶ ψευδῆ, περὶ ὧν ἅμα ὑπόληψιν ἀληθῆ ἔχει, οἷον φαίνεται μὲν ὁ ἥλιος ποδιαῖος, πεπίστευται δ᾽ εἶναι μείζω τῆς οἰκουμένης· (*An.* III.3, 428b2–4)[33]

Aristotle's target is the conception of *phantasia* sketched in Plato's *Sophist*, according to which *phantasia* is a "commingling" (*summeixis*) of perception and belief, or judgement (*Sophist*, 264a4–b4). The sun example is meant to undermine that view by suggesting that judgements occur downstream of the sun's looking smaller than it is—too late to explain the appearance.

As Barney (1992: 292–293) points out, however, this argument seems to have a blind spot where Plato himself is concerned. It leaves unaddressed the fact that Plato is happy to credit the lower parts of the soul with their own beliefs. So even if Aristotle is right that the judgements of the intellect arise downstream of the sun's looking smaller than it is, Plato is free to explain the sun's appearance in terms of a false judgment in the perceptual part of the soul.

This apparent blind spot in Aristotle's argument might lessen its force against Plato, but it helps my case against the judgement view. The most natural explanation of it is that Aristotle takes himself to have already ruled out the view that the perceptual part of the soul makes its own judgements. For he argues at 428a20–25 that judgement forms no part of perception or *phantasia* on the grounds that animals have perception and *phantasia* but lack judgement, which requires reason. Whatever one thinks of the value of this argument as an argument against Plato, the crucial point at present is just that it is evidently not the

33. Compare *Insomn.* 2, 460b16–20.

argument of someone interested in explaining inaccurate perceptions in terms of false judgements.

To sum up, Aristotle's argument against the conception of *phantasia* that Plato explores in the *Sophist* shows that he is no friend of judgement views of perceptual error. When the bright red apple looks purple to Socrates at a distance, it is not because of any false judgement on Socrates's part. The only judgments are the judgements of the intellect, and they arise downstream of the apple's looking purplish red—too late to do the relevant explanatory work.

I conclude that there is no reason to think that Aristotle wishes to explain the Bad Case by appeal either to *phantasia* or to judgement. Now we're faced with a further interpretive puzzle: if Aristotle recognizes the possibility of inaccurate special perceptions of colour (§1), what can he mean by claiming again and again that special perceptions are (always) true?

4. Special Perceptions Are (Always) True

As I've already noted in the introduction, many scholars argue in favour of weakening Aristotle's claim that our special perceptions are (always) true in accordance with the apparent qualification in *An.* III.3, according to which special perceptions are always true "or contain the least falsehood." The most common version of this strategy is to suggest that our special perceptions are always true for Aristotle only when perceptual conditions are normal. Alternatively, others suggest that special perceptions are always true with respect to the determinable one is perceiving—i.e. with respect to whether one is seeing a colour, or hearing a sound, etc.—but not always true with respect to the determinate colour, or sound, etc. one is perceiving (red, or purple, etc.).[34] In contrast with both views, I argue that we should distinguish two different ways of assessing special perceptions for truth. In one sense special perceptions are always true without qualification—thus Aristotle's refrain that special perceptions are (always) true—and in the other they can be more or less true, or accurate—thus his insouciance when it comes to rainbows and the inadequacy of the human nose, etc.

Both strategies for diluting Aristotle's surprising claim face difficulties. Some are common to both, others peculiar to one of them. Both face the initial worry that Aristotle says explicitly, and without qualification, that our special perceptions are (always) true at least seven times in the extant corpus.[35] Going just by the numbers, it would be better to explain away the lone occurrence of an apparent qualification in *An.* III.3 than to downplay the fact that Aristotle insists

34. Hamlyn 1968: 106; Marmodoro 2014: 86.

35. *An*. II.6, 418a1; *An*. III.3, 427b12; 428a11; 428b18–19; *An*. III.6, 430b29; *Sens*. 4, 442b8–10; *Metaph*. IV.5, 1010b2–3.

repeatedly that our special perceptions are (always) true. Indeed, if Aristotle had meant to restrict his claim either to normal perceptional conditions, or to determinables, he could easily have done so, or at the very least he could have avoided saying, or implying, *always*. For while there is no doubt that Aristotle makes claims like "Walking is good" even though he knows full well that walking isn't good for everyone in every circumstance, I doubt he would claim "Walking is always good" without further qualification.

Another worry for the normal conditions view is that it threatens to trivialize the claim that special perceptions are (always) true. This is because it is not clear how to spell out what counts as normal perceptual conditions in a non-trivial way, i.e. without slipping into an elaborate version of the claim that special perceptions are true except when they're not. Johnstone (2015) is keenly aware of this worry. He suggests we avoid it by adopting something like Alexander of Aphrodisias's negative characterization of normal conditions. According to Alexander (*De anima* 41, 13–42, 3), perceptual conditions are normal unless 1) the organ is unhealthy, 2) the object is not in plain view, 3) the distance is not appropriate, 4) the medium is not in a suitable condition (e.g. not sufficiently illuminated in the case of vision), or 5) the medium is disturbed by something (e.g. by a loud sound).

One problem with Alexander's list is that it is incomplete. Another is that it is not clear how to supplement it in a principled way, and so without starting off down the road toward triviality. One case that is missing is colour contrast (*Mete.* III.4, 375a7–28). In response, one might try to add a sixth member to the list to cover colour contrast. Yet it is hard to believe that Aristotle had a conception of his environment as having a normal level of colour contrast, which is violated when rainbows appear (since Aristotle uses colour contrast to explain the appearance of the yellow band in the rainbow—see fn. 14 above), by various embroidered patterns (*Mete.* III.4, 375a22–28), and presumably by various other configurations of things as well. Rather than adding to the list, one might insist that colour contrast is already covered, perhaps by (5): too much colour contrast disturbs the medium. That might be right, but it's not obvious, and the more we pack under Alexander's headings, the more it matters whether we're proceeding in a principled way.

Perhaps the best way to see the difficulty is to ask: if the normal conditions view is correct, why does Aristotle claim only that our special perceptions are (always) true, and not also that our common perceptions are (always) true (i.e. our perceptions of shape, size, and motion, etc.)? Why isn't it the case that our common perceptions are always true, unless the organ is unhealthy, or the object is not in plain view, or the distance is not appropriate, and so on? To avoid overgeneralizing, the normal conditions view needs a principled way of curating the list of abnormal conditions so as to preclude the possibility of inaccurate special

perceptions in normal conditions, while admitting the possibility of inaccurate common perceptions in normal conditions. I say "principled," because we want to avoid giving the impression that Aristotle is simply playing favourites, allowing special perception to cry "abnormal conditions!" whenever it lets us down, while refusing common perception the same license. We need to know what justifies treating special and common perception differently.

An example will help. Consider just Aristotle's claim that things look both darker in colour (special perceptible) and smaller in size (common perceptible) at a distance.[36] A proponent of the normal conditions view might press immediately for a distinction between what counts as normal conditions for colour perception and what counts as normal conditions for size perception, since we know that normal conditions will have to be relativized anyway, given that what counts as normal for visual perceptions of colour will differ from what counts as normal for olfactory perceptions of odour, etc. All the same, the challenge remains: what justifies drawing these distinctions so that every case of inaccurate special perception implies abnormal conditions, but not every case of inaccurate common perception does so? It's not at all clear how to respond, not least because Aristotle never shows any interest in such questions.[37]

Johnstone acknowledges the problem and responds that the normal conditions view doesn't apply to common perception because it involves a "further stage of perceptual processing" (2015: 335) carried out by "the common sense." This is not the place to wade into debates over the common sense. Here I can only register my concern that it is controversial whether there is any such higher-order perceptual power with special processing powers of its own in Aristotle, let alone whether it has any special role to play in the perception of common

36. Aristotle makes no effort to keep these cases separate in our key passage from *Mete.* III.4 (quoted in §1). In fact, he suggests they have the same explanation: "So it is for this reason that things at a distance seem darker and smaller and smoother."

37. One might be inclined to suggest that there are special teleological considerations in favour of treating special perception and common perception differently on the normal conditions view. For example, Koons (2019) suggests that special perceptions have to be incorrigible because we have (e.g.) just one way of perceiving colour—through vision—whereas we can (typically) check our visual perception of shape against our tactile perception of shape, for example. So perceptual infallibilism about special perception "… is necessary to avoid strengthening a skeptical challenge to the whole edifice of knowledge …" (417) in a way that perceptual infallibilism about common perception is not. Ingenious as this suggestion is, I don't see sufficient textual evidence for supposing that Aristotle thinks of nature as conspiring with him to block radical sceptical challenges in this way. I sympathize with Audi's suggestion that it is quite enough if we can check our perceptions of colour by looking again under different conditions (quoted in Koons 2019: 416 fn. 9), or by asking a friend, etc. I certainly grant that teleological considerations can be marshalled in support of the claim that our senses are generally reliable. But these considerations seem to apply indifferently to special perception and to common perception. In this connection see also Johnstone's argument (2015: 327–328) against teleological responses to the problem at hand, together with Koons's response (2019: 439).

perceptibles.[38] So rather than tying our understanding of Aristotle's claim that special perceptions are (always) true to the fate of the common sense and its putative powers of perceptual processing, I suggest we consider other options.

As for the determinable view, it has always struggled to explain the fact that Aristotle seems indifferent to the distinction between determinable and determinate precisely where he should be careful, if he is an adherent of the determinable view. Sometimes he says special perceptions of colour are always true with respect to white (*leukon*, *An.* III.3, 428b21), other times he says they're always true with respect to colour (*chrōma*, *An.* II.6, 418a15).

A final problem with both ways of diluting Aristotle's claim that special perceptions are (always) true is that neither fits with Aristotle's willingness to compare the inerrancy of special perception with the inerrancy of our noetic grasp of essences in *An.* III.6. I know of no text that suggests either that our noetic grasp of essences is always true only when conditions for *nous* are normal (whatever that would mean), or that such a grasp is always true only with respect to determinables. Here's the key passage:

> A statement [*phasis*] is something about something [*ti kata tinos*], like an affirmation, and every one is true or false. But not all intellection [*nous*] [is like that], but that which is of the "what it is" according to the "what it was to be" is true, and it is not something about something. But just as seeing a special object is true, but seeing whether what is white is a man or not is not always true, so also with what is without matter.
>
> ἔστι δ᾽ ἡ μὲν φάσις τι κατά τινος, ὥσπερ ἡ κατάφασις, καὶ ἀληθὴς ἢ ψευδὴς πᾶσα· ὁ δὲ νοῦς οὐ πᾶς, ἀλλ᾽ ὁ τοῦ τί ἐστι κατὰ τὸ τί ἦν εἶναι ἀληθής, καὶ οὐ τὶ κατά τινος· ἀλλ᾽ ὥσπερ τὸ ὁρᾶν τοῦ ἰδίου ἀληθές, εἰ δ᾽ ἄνθρωπος τὸ λευκὸν ἢ μή, οὐκ ἀληθὲς ἀεί, οὕτως ἔχει ὅσα ἄνευ ὕλης. (*An.* III.6, 430b26–30)

Aristotle begins by introducing a distinction between ordinary propositional cognition, in which one thing is affirmed, or denied, of another, and a special sort of cognition that we have when we grasp, or have *nous*, of an essence—signified here by Aristotle's peculiar phrase "what it was to be" (*to ti ēn einai*). The crucial difference between these two kinds of cognition as far as this passage is concerned is that whereas ordinary propositional cognition can be true or false, our noetic grasp of essences is always true. Finally, and most importantly for our purposes, Aristotle compares the way this noetic grasp of essences is always true with the way special perceptions are always true.

38. On "the common sense," see especially Gregoric (2007).

While I read this passage (and the next) as committing Aristotle to the view that our most fundamental grasp of essences isn't propositional, my argument in this paper does not rely upon that reading. I'm happy to assume, for the sake of argument, that grasping an essence involves grasping a special kind of proposition, whether it be an identity statement (e.g. Sorabji 1982), an existential statement (e.g. Crivelli 2023), or something else. The reason such decisions do not matter here is simply that it is implausible to think that perception is a matter of grasping an identity statement, or any other kind of statement, for Aristotle. How could animals do that without reason? So Aristotle's comparison between our noetic grasp of essences and special perception must turn on something else about these acts of *nous*, besides the (alleged) fact that they involve grasping a special kind of proposition. If it is objected that only propositional items can be true or false in Aristotle (cf. Crivelli 2023), I know of no better response than to point out Aristotle's willingness to ascribe truth and falsity to perception and *phantasia*.[39]

What is there, then, to the comparison between our noetic grasp of essences and special perception? In a well-known passage in *Metaph.* IX Aristotle suggests that our noetic grasp of essences is always true because it amounts to a kind of contact with them, where this contact is all-or-nothing in the following sense: either one succeeds in "touching" (*thigein*), or making contact with, the essence in thought, or one fails.[40] Yet to fail to make contact with an essence in thought is not to think falsely about it, but to fail to think (the relevant kind of thought)[41] about it in the first place. So there can be no falsehood here, only ignorance:

> About the incomposites [*asuntheta*], now, what is being or not being, and what is the true and the false? For it is not composite, so as to be when it is compounded, and not be if it is divided, such as the white log or the diagonal's being incommensurable; nor will the true and the false still obtain in a similar fashion in their case too. Or rather just as truth is not

39. One might insist that where *alēthēs* is applied to non-propositional items like perceptions and *phantasiai*, we simply shouldn't translate it by "true." Inasmuch as these scruples concern the use of the word "true" in English—scruples which I don't share, since I have no difficulty in understanding the claim that non-propositional acts of perception can be true and false—they seem largely irrelevant to our discussion of Aristotle. However we translate the word, we have to make sense of the fact that Aristotle says special perceptions are always *alētheiai*—the same word he says applies only to propositional items in *Int.* 1!—while simultaneously recognizing the existence of cases in which special perceptions are false, or inaccurate (if you prefer). My suggestion is that we reconcile these claims by distinguishing two different ways of assessing special perceptions for *alētheia* in Aristotle.

40. Perhaps this contact also involves grasping a special kind of proposition. Officially I am neutral on that question here.

41. One might succeed in having a lesser kind of thought about the essence, like a belief. But one fails to have *nous* of it.

> the same in the case of these [the incomposites], so too neither is being the same [for the incomposites], but truth or falsity is as follows, to grasp [*thigein*] and to speak of them [*phanai*] is truth (for affirmation [*kataphasis*] and to speak of something [*phasis*] are not the same), whereas ignorance is not to grasp them.[42]

> Περὶ δὲ δὴ τὰ ἀσύνθετα τί τὸ εἶναι ἢ μὴ εἶναι καὶ τὸ ἀληθὲς καὶ τὸ ψεῦδος; οὐ γάρ ἐστι σύνθετον, ὥστε εἶναι μὲν ὅταν συγκέηται, μὴ εἶναι δὲ ἐὰν διῃρημένον ᾖ, ὥσπερ τὸ λευκὸν <τὸ> ξύλον ἢ τὸ ἀσύμμετρον τὴν διάμετρον· οὐδὲ τὸ ἀληθὲς καὶ τὸ ψεῦδος ὁμοίως ἔτι ὑπάρξει καὶ ἐπ᾽ ἐκείνων. ἢ ὥσπερ οὐδὲ τὸ ἀληθὲς ἐπὶ τούτων τὸ αὐτό, οὕτως οὐδὲ τὸ εἶναι, ἀλλ᾽ ἔστι τὸ μὲν ἀληθὲς τὸ δὲ ψεῦδος, τὸ μὲν θίγειν καὶ φάναι ἀληθές (οὐ γὰρ ταὐτὸ κατάφασις καὶ φάσις), τὸ δ᾽ ἀγνοεῖν μὴ θιγγάνειν· (*Metaph.* IX.10, 1051b17–25, *trans*. Charles and Peramatzis 2016)[43]

Given the comparison in *An.* III.6 between the way our noetic grasp of essences is always true and the way our special perceptions are always true, we can extend the view described here in *Metaph.* IX.10 to special perception as follows: To see is at least to make contact with a colour, and to hear is at least to make contact with a sound, etc.[44] To fail to make contact with a colour is not to see falsely. It is not to see at all. This is why Aristotle insists that "… to mis-see or to mis-hear is to see or to hear something true (*alēthes*), yet not what one thinks" (*Insomn*. 1, 458b31–33). If, by contrast, one merely seems to be in perceptual contact with a colour, then one is not seeing, nor even mis-seeing. One is hallucinating, or dreaming (*Insomn.* 1, 458b33–459a5).

There is much to be said for extending this "contact account" of the sense in which our noetic grasp of essences is always true to special perception. First,

42. Compare *An*. III.7: "So then perceiving is like simple saying [*monon phanai*] and thinking. But whenever there is pleasure and pain, as if affirming [*kataphasa*] or denying [*apophasa*], it pursues or avoids." (431a8–10). Although Aristotle is not always fastidious in respecting this distinction between *phasis* and *kataphasis*, or *phanai* and *kataphanai*, it's clear why he uses these terms the way he does here. *Kataphanai* contains as a prefix the same preposition—*kata*—that Aristotle uses to describe ordinary propositional structure in *An*. III.6: *Kataphasis* is "saying something of something."

43. Greek text of the *Metaphysics* is from Jaeger (1957).

44. Granted, we do not usually see only colours. We almost always see shape too, for example. But there is at least one good example in the corpus in which Aristotle suggests that we see colours shorn of shape, and that is in connection with our old friend the rainbow in *Mete*. III.4. Aristotle's view is that the atmospheric droplets responsible for the appearance of the rainbow act as tiny mirrors that deflect our vision to the sun's colour, but not to its shape. These tiny mirrors fail to deflect our vision to the sun's shape because they are just too small—they're "indivisible to sense." So while the apparent colours of the rainbow are nothing but a distorted perception of the colour of the sun, our perception of the apparent shape of the rainbow is not a distorted perception of the shape of the sun. See also *An*. III.12, 435a6–10, where Aristotle clearly has the same phenomenon in mind.

it is well-known that Aristotle models his account of *nous* in *An.* III.4–5 on his account of special perception in *An.* II.5–III.2:[45]

> If indeed thinking [*to noein*] is like perceiving, it would consist in suffering some affection at the hands of the object of thought or something else of that kind. It is necessary, then, that the noetic part is unaffected (*apathes*), but receptive of the form and such [as the object is] in potentiality but not identical with it [i.e. the object], and it is related to the objects of thought in the way the perceptual faculty is related to the perceptibles.
>
> εἰ δή ἐστι τὸ νοεῖν ὥσπερ τὸ αἰσθάνεσθαι, ἢ πάσχειν τι ἂν εἴη ὑπὸ τοῦ νοητοῦ ἤ τι τοιοῦτον ἕτερον. ἀπαθὲς ἄρα δεῖ εἶναι, δεκτικὸν δὲ τοῦ εἴδους καὶ δυνάμει τοιοῦτον ἀλλὰ μὴ τοῦτο, καὶ ὁμοίως ἔχειν, ὥσπερ τὸ αἰσθητικὸν πρὸς τὰ αἰσθητά, οὕτω τὸν νοῦν πρὸς τὰ νοητά. (*An.* III.4, 429a14–18)

Just as perceiving involves taking on a perceptual form without the matter, so *nous* involves taking on an intelligible form without the matter (cf. *An.* III.8, 431b21–432a1). I say that Aristotle models this account of *nous* on special perception in particular because he introduces this talk of taking on perceptual form without matter in connection with special perception in particular. It is not clear that it is meant to apply to common or incidental perception, nor even that it could.[46] In any case, the important point at present is just that if the taking on of an intelligible form in *nous* constitutes a kind of contact with the object of thought according to *Metaph.* IX.10, then we can say the same about the taking on of perceptual form in perception, mutatis mutandis. There is additional evidence for this picture on the side of perception too, since Aristotle routinely insists that perception occurs by literal contact: "touch occurs by [direct] contact with its objects—that's why it is so-called. Indeed the other sense organs [*aisthētēria*] perceive by contact too, albeit through a medium" (*An.* III.13, 435a17–19).[47]

45. Cf. Charles (2000: ch. 5). Aristotle seems to be drawing on a rich tradition of understanding *nous* in a broadly "perceptual" way, which goes right back to Homer. See the classic discussion in von Fritz (1943; 1945; 1946).

46. One issue is that Aristotle models the taking on of perceptual form without matter on his account of qualitative affection, or alteration, in *Gener. Corr.* I.7. And according to that account, alteration takes place only between contraries. Since common perceptibles like shape, magnitude, and number have no contraries, it's hard to see how the kind of schematic explanation we began with could be applied to them in the first place. Moreover, whereas Aristotle thinks that colours, for example, are naturally such as to act on their environments by moving what is "transparent in actuality" (*An.* II.7), he never suggests that the round shape of an apple has any such effect on its environment. I discuss these issues more fully in a manuscript on common perception, in progress.

47. See also the proof for this claim in *Phys.* VII.2, 244b2–245a11.

Sorabji complains that Aristotle's frequent comparisons between *nous* and (special) perception break down because the contact involved in *nous* is supposed to be all-or-nothing, but "there are degrees of clarity in seeing" (1982: 298). This worry is useful but misplaced.[48] Contact *is* all-or-nothing, but that doesn't undermine the comparison between *nous* and special perception. Consider what Aristotle goes on to say in *An.* III.4, about the different ways *nous* and the perceptual faculty are unaffected:

> It is clear from consideration of the perceptual organs and perception that the perceptual faculty and the noetic faculty are not unaffected [*apatheia*] in the same way. For perception is not able to perceive after [*ek*] [perceiving] a strong perceptible, for example [it is not able to perceive] a sound after loud noises, nor can one see after [seeing] strong colours nor smell after [smelling] strong smells. But whenever *nous* thinks something that is exceedingly intelligible, it thinks less [intelligible] things not less well, but even better. For the perceptual faculty is not without body, but *nous* is separate [*chōristos*].
>
> ὅτι δ᾽ οὐχ ὁμοία ἡ ἀπάθεια τοῦ αἰσθητικοῦ καὶ τοῦ νοητικοῦ, φανερὸν ἐπὶ τῶν αἰσθητηρίων καὶ τῆς αἰσθήσεως. ἡ μὲν γὰρ αἴσθησις οὐ δύναται αἰσθάνεσθαι ἐκ τοῦ σφόδρα αἰσθητοῦ, οἷον ψόφου ἐκ τῶν μεγάλων ψόφων, οὐδ᾽ ἐκ τῶν ἰσχυρῶν χρωμάτων καὶ ὀσμῶν οὔτε ὁρᾶν οὔτε ὀσμᾶσθαι· ἀλλ᾽ ὁ νοῦς ὅταν τι νοήσῃ σφόδρα νοητόν, οὐχ ἧττον νοεῖ τὰ ὑποδεέστερα, ἀλλὰ καὶ μᾶλλον· τὸ μὲν γὰρ αἰσθητικὸν οὐκ ἄνευ σώματος, ὁ δὲ χωριστός. (*An.* III.4, 429a29–429b6)

There is no suggestion here that while *nous* involves all-or-nothing contact, perception does not. The point is rather that the (all-or-nothing) contact involved in perception is mediated by our sense organs in a way that the (all-or-nothing) contact involved in *nous* is not, since no bodily organ stands to *nous* as the eye stands to vision. I now want to suggest that this difference provides the key to the puzzle of explaining how Aristotle can insist that special perceptions are always true while acknowledging Sorabji's observation that there are degrees of clarity in seeing.

If we follow the comparison between *nous* and special perception in *An.* III.6 and apply the "contact account" of the sense in which our noetic grasp of

48. A reviewer has helpfully observed that one might respond to Sorabji's worry in a different way, namely by insisting that there are degrees of clarity in thought as well as in perception, on the model of *Phys.* I.1. I certainly agree that there are degrees of clarity in thinking generally, but it is not clear to me that there are degrees of clarity when it comes to our most fundamental grasp of essences in *nous*.

essences is always true to special perception, we can make good sense of Aristotle's willingness to say again and again that our special perceptions are (always) true, without qualification. For there is a perfectly good sense in which special perceptions involve a kind of contact with their objects that is all-or-nothing: either one makes contact with a colour in vision or a sound in audition, or one does not see or hear at all. Yet because this all-or-nothing perceptual contact with colours and sounds (etc.) is mediated by our sensory organs and the medium, it can take different forms depending on factors like the condition of the eye, as well as illumination, distance, and obstructions in the medium like smoke or fog, etc.[49] So while there is one sense in which our special perceptions always true—the sense associated with the all-or-nothing notion of contact—there is another sense in which our special perceptions can be more or less accurate, in keeping with Sorabji's suggestion that there are degrees of clarity in seeing.

I suggest that it is in recognition of this further sense in which special perceptions can be more or less accurate that Aristotle feels the need to qualify his claim that special perceptions are always true in *An.* III.3. The qualification is appropriate in that context because Aristotle is comparing the truth assessibility of special perception with the truth assessibility of common and incidental perception. Whereas the contact notion of truth is not meant to apply to common or incidental perception, these other kinds of perception can be assessed as more or less accurate, in just the same way special perceptions can be. Assessed in this way, it so happens that special perceptions are most accurate, followed by incidental perceptions, and lastly by common perceptions.[50]

As a concluding summary to this section, I wish to address a reviewer's concern that I have overplayed the differences between the normal conditions view and the view I defend.

The most straightforward difference between the normal conditions view and my view is that we give different verdicts about what Aristotle is saying when he says that "Special perceptions are (always) true," in two different ways. First, on the normal conditions view Aristotle is making a claim that has ultimately to be understood with reference to some conception of normal conditions for (special) perception, whereas on my view no such conditions are involved in

49. One finds something like this view in contemporary debates about perception in Martin (1998), and then in French & Phillips (2020), who build on Martin's discussion.

50. I don't think we should make too much of Aristotle's claim that common perceptions are less accurate than incidental perceptions. It probably just reflects an empirical observation that we're more often wrong about how big something is, or how far away it is, say, than about whether it's a human or a rabbit. A reviewer suggests that Aristotle may also have been impressed by Plato's discussion of the need for measurement in correcting for perceptual mistakes where shapes and sizes are concerned, for example in the *Republic* (e.g. 602c–e). As for the place of special perception in this hierarchy, Aristotle may just be relying on his contention that each special sense is "designed" to perceive its corresponding special perceptible quality.

the interpretation of this claim. I reject the claim that Aristotle had, or thought he had, a doctrine about what the normal conditions for (special) perception are, let alone that he relativized the claim that "Special perceptions are (always) true" to such conditions. Second, the normal conditions view and my view differ about what "true" means in the context of this claim. According to the normal conditions view, Aristotle must be using "true" in a way that admits of a corresponding notion of falsity, or else there would be no need to worry about abnormal conditions. By contrast, I argue that Aristotle is using "true" in the way he does in *Metaph.* IX.10, in which case there is no corresponding notion of falsity, and consequently no corresponding possibility of falsity. If that's right, then there isn't even room for concern about abnormal conditions when it comes to assessing the claim that "Special perceptions are (always) true."

Given what I've just said, one might worry that it is rather the second half of my view that collapses into the normal conditions view, when I argue that Aristotle also deploys a second way of assessing special perceptions (and every other kind of perception) for truth and falsity in the *Meteorology* and elsewhere. I certainly grant that Aristotle thinks there are cases of inaccurate special perception and consequently—and I think trivially—that there must also be conditions in which such perceptions occur. But I don't see how that commits me to the normal conditions view. There is a difference between thinking that there are cases of inaccurate special perception—and so conditions in which such perceptions occur—and thinking that one can give an interesting (i.e. non-trivial) characterization of these conditions, which does not apply to common perception, and so on.

With this alternative to the normal conditions view in hand, I turn now to the problem I began with, of explaining how Aristotle's schematic explanation is supposed to apply in the Bad Case.

5. Aristotle's Schematic Explanation and the Bad Case

In the last section I argued that while our special perceptions are always true inasmuch as they constitute a kind of contact with their objects, not all cases of perceptual contact are created equal. In particular, the fact that our visual contact with colours is mediated by the eye and the medium means that the quality of our contact with the colours of things is affected by the conditions therein.

Turning now to the Bad Case, the first question is: What is Socrates in contact with in the Bad Case? Presumably, there are two options: the actual bright red colour of the apple, or with purple (and so with something purple, because there are no free-floating colours in Aristotle). The former option is clearly correct, for two reasons. First, if Socrates is to count as (mis-)seeing the bright red apple in

the first place, then he must be in contact with its colour. Second, there is simply no purple thing for Socrates to be in contact with in the Bad Case.

Caston (2020) has recently argued to the contrary that there must be something purple in the Bad Case. Here's Caston describing that view:

> The presence of perceptible qualities close to the organ or in the surroundings alters or masks the effect of qualities further away and prevents us from perceiving an object's proper qualities. But our sense will still be accurately picking up the perceptible qualities *of something external* and will correctly instantiate its proportions. The mistakes perception is liable to make only concern whether a given quality belongs to this or that distal object, the same mistake Aristotle flags later in *Metaphys.* 4.5 (1010b20–21) and in *De anima* 3.3 (428b21–22). (2020: 46–48)[51]

The Bad Case looks like a counterexample to this account. It is widely agreed that the bright red apple doesn't literally turn the medium red in the Good Case. Consequently, we should all agree that the bright red apple doesn't literally turn the section of the medium nearest Socrates purple in the Bad Case either. So supposing there aren't any royal cloaks, or other purple objects, in Socrates's field of view, we have little choice but to conclude that there is nothing purple in Socrates's perceptual environment. It's not enough to insist that the perceptual

51. I should say a word about the cases Caston cites in favour of his view. He and I read a different Greek text at *An.* III.3 428b21–22. Caston reads *ei de touto leukon ē allo ti*, following manuscripts ECSVy*Ph*^{l}, whereas I follow Förster, Ross, and LUWy*Ph*^{p}, in reading *ei de touto* ***to*** *leukon, ē allo ti*. As Caston reads the passage—without the article *to*—it describes a case in which the perceiver is wrong about which thing the white quality belongs to. With the article, however, the passage is not about that kind of case at all, but about one in which the perceiver is wrong about what kind of thing the white thing is—whether it's a man, or a statue, etc. I think the article is amply justified by the parallels at *An*. II.6, 418a16–17; 2–25 and *An.* III.6, 430b30. It also makes better sense that the article should have dropped out in some manuscripts than that it should have been added into others. Without the article, "this" is the subject, and "white" the predicate, as one might ordinarily expect. But as Graeser (1978: 74) points out, Aristotle often works with an "inverse ontology" in perception, according to which the colour term acts as the subject in perceptual ascriptions, and the substance term—"man," for example, at *An.* III.6, 430b30—acts as the predicate. It's easy to imagine that a scribe might treat this inversion as a mistake in the text and seek to ameliorate the situation by removing the article. As for *Metaph.* IV.5, Caston suggests there is evidence for his view in Aristotle's claim that "[… a sense] does not dispute about the affection, at any rate, even at different times, but about what has it" (1010b19–21). I have a different reading of the passage. Aristotle goes on to explain that he is thinking about a case in which some wine tastes sweet at t1 and bitter at t2. To the extent that there is any dispute between the subject's perceptions at t1 and t2, Aristotle's point is that it is a dispute about the character of the wine, not about the character of sweetness itself. The perceiver can hardly be in doubt about whether sweetness is sweet or bitter! In any case, Aristotle says nothing here about mistaking the bitterness of something else for that of the wine. All he says is that when the wine tastes bitter at t2, it is either because of a change in the wine, or a change in the perceiver (1010b22).

form of purple is present in the medium, since that doesn't vindicate the claim that Socrates is right about purple but wrong about which thing has it. Whether the perceptual form of purple is present in the medium or not, Socrates is wrong about purple because nothing has it.[52]

In response, one might appeal to Aristotle's discussion of "borrowed colours" in *Sens.* 3:

> Both air and water appear coloured. For their brightness [*hē augē*] is like this. But in this case neither the air nor the sea has the same colour when one approaches and views it close by and from afar, on account of [these bodies] being indeterminate. But in [determinate] bodies, unless the surroundings should cause it to change, the appearance of the colour [*hē phantasia tēs chroas*][53] is definite.
>
> φαίνεται δὲ καὶ ἀὴρ καὶ ὕδωρ χρωματιζόμενα· καὶ γὰρ ἡ αὐγὴ τοιοῦτόν ἐστιν. ἀλλ᾽ ἐκεῖ μὲν διὰ τὸ ἐν ἀορίστῳ οὐ τὴν αὐτὴν ἐγγύθεν καὶ προσιοῦσι καὶ πόρρωθεν ἔχει χροιὰν οὔθ᾽ ὁ ἀὴρ οὔθ᾽ ἡ θάλαττα· ἐν δὲ τοῖς σώμασιν, ἐὰν μὴ τὸ περιέχον ποιῇ μεταβάλλειν, ὥρισται καὶ ἡ φαντασία τῆς χρόας. (439b1–2)[54]

Applying what Aristotle says about the sea to the section of the medium nearest Socrates, one might suppose that it is purple in a way after all, in virtue of taking on a borrowed (albeit distorted) colour from the apple.

This alternative doesn't work either. It is a sign of the fact that the sea has no proper colour (*chrōma idion*, 439b13) of its own, but "borrows" its colour from something else, that the colour of the sea varies with (even relatively small) changes in viewing distance. If we treat the section of the medium nearest Socrates in the same way, we'll be forced to predict that it too will vary in appearance with even small changes in viewing distance. But that just isn't true. It is Socrates's distance from the apple that explains the seeming presence of purple, not his distance from any part of the medium. Unlike the sea, the relevant section of the medium presumably doesn't look to Socrates to have any colour at all, borrowed or otherwise.

52. Another worry for this view is that it makes Aristotle out to be too much like the Protagoras of Plato's *Theaetetus*, and other figures with whom Aristotle disagrees, like Democritus. Aristotle accuses these figures of treating perception too much like simple alteration, which is why they are forced to maintain that all perceptual appearances are true (*Metaph.* IV.5, 1009a38–1010a1; *An.* III.3, 427a22–b6). In my view, Aristotle avoids this worry himself because he does not treat perception simply as an alteration in a sense organ, but as something more. Perceptions are beings in the category of relatives, which are partially grounded in alterations in our sense organs, but not identical with them.

53. Here is another interesting use of *phantasia*. Arguably, this is an "objective" use, which stands not for a mental state, but for a way of looking that belongs to an object.

54. Greek text of the *Parva Naturalia* is from Ross 1955.

I conclude that Socrates is not in contact with anything purple in the Bad Case. Instead, he's in contact with the bright red colour of the apple, just like in the Good Case. But if that's right, whence the seeming presence of purple?

As I already suggested above (§1), it is natural to answer that the apple looks purple to Socrates because its action upon his eye has been attenuated by distance in such a way that it moves his eye in the way a nearby purple thing would. One reason this suggestion is natural is just that Aristotle deploys something like it in other contexts. After pointing out that we are easily deceived in perception (*apatōmetha peri tas aisthēseis*) when strongly affected by emotions and sickness, Aristotle offers the following explanation:

> The reason one is deceived is that any kind of appearance may arise, not only when the perceptible object is the mover, but also when the sense is moved itself, if it should be moved in the same way as it would be by the perceptible object. I mean for example that the shore seems to move to those sailing past, when it is vision that is being moved by something else.
>
> τοῦ δὲ διεψεῦσθαι αἴτιον ὅτι οὐ μόνον τοῦ αἰσθητοῦ κινοῦντος φαίνεται ἁδήποτε, ἀλλὰ καὶ τῆς αἰσθήσεως κινουμένης αὐτῆς, ἐὰν ὡσαύτως κινῆται ὥσπερ καὶ ὑπὸ τοῦ αἰσθητοῦ· λέγω δ᾽ οἷον ἡ γῆ δοκεῖ τοῖς πλέουσι κινεῖσθαι κινουμένης τῆς ὄψεως ὑπ᾽ ἄλλου. (*Insomn.* 2, 460b22–27)

The foregoing suggests the following account of the Bad Case. Socrates is in visual contact with the bright red colour of the apple in the Bad Case, not with purple. There is nothing purple around. Nevertheless, the apple looks purple to Socrates because his visual contact with it is mediated by a change in his eyes that is like what happens when he is in visual contact with a nearby purple thing. Note that it does not follow from the fact that Socrates's eyes are being moved in the way they would be moved by a nearby purple thing that Socrates is enjoying the same kind of perceptual experience as he would be enjoying if he really was seeing, and so being affected by, a nearby purple thing. The motion in Socrates's eye is a necessary condition for his being in visual contact with something, but it is not sufficient. It clearly isn't sufficient, because it doesn't guarantee that there is anything purple around to be in perceptual contact with.[55] So when it comes to classifying Socrates's experience in the Bad Case, it turns out to be a deficient experience of red. It is not a misplaced experience of purple, which might have been true if only there had been something purple around to go with it.

55. I do not wish to argue that Aristotle is a disjunctivist about perception in the modern sense, but I disagree with Caston's claim that the discussion of the sailors in *Insomn.* 2 rules out such a reading. It begs the question against the disjunctivist to insist that there is no more to perception than a change in the eye that "can be characterized intrinsically, independent of the corresponding object" (1998: 277).

Thus far I've been speaking in terms of visual contact and motions in the eye. Where does Aristotle's talk of perceptual form without matter fit in? The answer to this question depends on the standing of that talk, and in particular on the question whether or not Aristotle's claim that perception involves the taking on of perceptual form is supposed to constitute a definition of perception (cf. Corcilius 2022). It would take another paper to decide that question, and so I will content myself with describing how my account of the Bad Case might be developed, whichever way that question is answered.

Suppose Aristotle's talk of receiving perceptual form without matter is a definition of perception—that it tells us what perception most fundamentally is. In this case we should not identify the reception of perceptual form with the motion in the eye. This is because it is not just the eye that the distant apple moves in the way a nearby purple thing would, but the section of the medium nearest Socrates. So, if we identify this change in the medium near Socrates with the reception of perceptual form and insist that this is just what perception is, then we would have to admit that the medium perceives along with Socrates! Consequently, if it turns out that perceiving just is a matter of taking on perceptual form without matter, then we should develop the account of the Bad Case on offer here as follows: Socrates takes on the perceptual form of bright red in the Bad Case, albeit in a deficient way. The reception is deficient because it is mediated by a change in Socrates's eyes that is like what happens when he sees a purple thing.

Suppose instead that we reject the definitional claim that perceiving just is taking on perceptual form without matter.[56] In that case I have no objection to identifying the movement in the eye with the reception of perceptual form, nor even to saying that Socrates's eye receives the perceptual form of purple in the Bad Case.[57] If this sort of view is correct, then we should develop the account of the Bad Case on offer here as follows: Socrates is in visual contact with the bright red colour of the apple, but that visual contact is deficient because it is mediated by the reception of the perceptual form of purple in Socrates's eyes. To repeat, to say that Socrates's eye receives the perceptual form of purple in this way is not to say that Socrates is seeing purple, nor even to say that he's enjoying the same kind of experience as he would be enjoying if he was seeing purple. For on this second way of developing our account of the Bad Case, the reception of perceptual form is necessary but not sufficient for perception.

Summing up, the basic idea behind this account of the Bad Case is that there are various ways of being presented with the colours of things in vision, depend-

56. Cf. Caston 2020.

57. A reviewer sensibly asks: if this second proposal is on the right lines, where does the perceptual form of purple come from in such cases? This is a difficult question. One suggestion exploits Aristotle's conception of colour space. Given that all the colours are mixtures of white and black, and that black is the privation of white, one might think of red as containing purple in the sense that purple is red minus a certain amount of white.

ing on how that presentation is mediated by broadly "physical" factors like position and the condition of the eye, etc. In some ways of being presented with the colours of things they appear as they are, and in others they don't. That's no great mystery, and indeed Aristotle expresses surprise that anyone ever thought otherwise: "it is worthy of wonder if they are puzzled about this, whether magnitudes are so great, and colours [*ta chrōmata*] are such, as they appear to those who are far off or to those who are near" (*Metaph.* IV.5, 1010b4–6).[58]

6. Conclusion

So far I have been focusing on a particular case—what I've been calling the Bad Case—but my account applies to other cases of inaccurate colour perception, and to other senses besides vision. With respect to other cases of inaccurate colour perception, the account applies wherever conditions in the eye and/or medium affect the way an external colour is presented in such a way as to create the misleading impression that one is seeing something one is not. This goes for other senses too, mutatis mutandis, since every sense has a corresponding sense organ and all perception occurs through a medium—even touch (*An.* II.11, 423b7).

Yet there are other kinds of case in which something "goes wrong" in perception, to which this account is not meant to apply. Consider subjects that have insufficient liquid in their eyes. Aristotle suggests that such subjects are overly susceptible to the action of incoming colours, which sometimes results in their being "blinded" by bright colours and lights. He compares these cases of temporary blindness to cases in which ordinary subjects cannot see what is before them either because they have just been looking at strong and bright colours, and consequently are experiencing afterimages, or else because they have moved recently from sunlight into darkness. In all such cases, Aristotle explains, "the movement which is already present in their eyes is so strong that it precludes the movement which comes from without" (780a12–13). If the movement from without is "precluded," and these subjects "cannot see," then my account does not apply, because these subjects aren't being presented with (relevant) external colours in the first place. If a subject experiencing an afterimage seems to see a red patch floating in the middle distance, that requires a separate treatment, perhaps involving *phantasia*.

In this paper I have not attempted to offer a general account of the nature of perception in Aristotle, but one is suggested by my account of the Bad Case. While

58. Compare Austin on the proverbial stick in water: "What is wrong, what is even faintly surprising, in the idea of a stick's being straight but looking bent sometimes? Does anyone suppose that if something is straight, then it jolly well has to *look* straight at all times and in all circumstances?" (Austin 1962: 29).

recent discussions of the nature of perception in Aristotle have been dominated by the idea that perception is a species of representation, I have made no use here of notions like "representational content," or "information," opting instead to emphasize the notion of perceptual contact. This talk of perceptual contact suggests a relational, or "naïve realist," conception of perception in Aristotle, rather than a representational conception, which accords greater weight to Aristotle's claim that perception belongs to the category of relatives (*Categories* 7, *Metaph.* V.15) than is typical. I leave the exploration of that account for future work.

Acknowledgements

I would like to thank Timothy Clarke, Klaus Corcilius, Tony Long, and Michael Martin for written comments, as well as audiences in Berkeley and Yale for their helpful feedback. Any remaining mistakes are my own.

Funded by the European Union (ERC, ADG, TIDA, 101053296). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Council Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

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