Michael Arsenault*

Aristotle's Perceptual Objectivism

https://doi.org/10.1515/agph-2024-0010

Abstract: Objectivism about perceptible qualities like colors and sounds is the view that perceptible qualities are ontologically and conceptually independent from perception. We ordinarily think of Aristotle as an objectivist about perceptible qualities – even the arch-objectivist. Yet this consensus has long been threatened by various thorny passages, including especially *De anima* III.2, 425b26–426a28, which appear to suggest that Aristotle is no objectivist, but a subjectivist. I show that recent attempts to make sense of these passages by appeal to Aristotle's three-stage distinction between first potentiality, second potentiality/first actuality, and second actuality commit Aristotle to a subjectivism that he cannot consistently endorse. I argue for an alternative that vindicates Aristotle's objectivism.

Keywords: Aristotle, perception, perceptible qualities, color, qualitative physics

1 Introduction

Perceptual objectivists treat perceptible qualities like colors and sounds as features that are wholly independent of perception and perceivers, on all fours in this respect with properties like motion and extension. Subjectivists, by contrast, insist that perceptible qualities depend on perception and perceivers in a distinctive way, though there is disagreement about the manner of dependence. 'Ontological' subjectivists, like Berkeley, maintain that perceptible qualities depend on perception for their very existence, whereas proponents of 'definitional,' or 'conceptual,' subjectivism endorse only the claim that perceptible qualities cannot be understood, or defined, except by reference to their role in perception.[1]

We ordinarily think of Aristotle as the arch-objectivist, in stark contrast with the long line of subjectivists who have dominated our thinking about perceptible

1 For the clearest expression of definitional subjectivism, see Evans 1980, 94–107. See also Peacocke 1983, 29; McDowell 1985; Wiggins 1987. One also finds definitional subjectivism in more recent discussions, such as Shoemaker 1996; Byrne and Hilbert 2003; Noë 2004; Cohen 2020.

***Corresponding author: Michael Arsenault**, Philosophisches Seminar, Universität Tübingen, Tübingen, Deutschland, michael.arsenault@uni-tuebingen.de

qualities since at least the early modern period.[2] Yet scholars have long worried about certain thorny passages that appear to threaten that consensus, suggesting that Aristotle is no objectivist, but a subjectivist.

Chief among these passages is *De anima* (*An.*) III.2, where Aristotle claims that perceptible qualities like colors and sounds exist only 'in potentiality' when they are not being perceived, but are 'actual' in perception. As Burnyeat (1982) points out, Berkeley took this passage as evidence not only that Aristotle was an ontological subjectivist, but even that he was an idealist like himself (*Siris,* ¶ 312)! Few contemporary scholars subscribe to Berkeley's interpretation. It is clear from our perspective that Berkeley is simply reading his own subjectivism back into Aristotle, in no small part because we find Berkeley's subjectivism so outrageous.

Seeking to avoid a reading like Berkeley's, many contemporary scholars take a different tack, appealing to a distinction that Aristotle draws elsewhere between three different stages of potentiality and actuality: first potentiality, second potentiality/first actuality, and second actuality. Call this the 'Three-Stage View of Perceptible Qualities' (Three-Stage View). Though there are disagreements of detail, the Three-Stage View is common ground among many contemporary scholars, including the likes of Broadie (1993), Marmodoro (2014), Caston (2018), and arguably even Burnyeat himself (1982, 15 n13), among others.[3] The basic idea behind this view is that we can explain *An.* III.2 without attributing Berkeleian subjectivism to Aristotle if we suppose that perceptible qualities have two stages of actuality, one of which occurs only in perception, and the other also outside of it.

The Three-Stage View can look inevitable given other claims Aristotle makes about perceptible qualities. For example, Aristotle claims that "light makes potential color actual" in *An.* III.5 (430a16–17), or in other words that colors are actual in the light and potential in the dark (see section 3 below). Evidently, then, Aristotle associates (at least) two actualities with color: the actuality of color in conditions of illumination (*An.* III.5) and the actuality of color in vision (*An.* III.2). How do these two actualities relate? It is almost irresistible to answer that color is actual in the light precisely because it is visible in the light – that the actuality of color in conditions of illumination is a first stage of actuality on the way to a second actuality

2 As Hume has it, comparing the philosophy of his day with ancient philosophy: "The fundamental principle of [the modern] philosophy is the opinion concerning colours, sounds, tastes, smells, heat and cold; which it asserts to be nothing but impressions in the mind, derived from the operation of external objects, and without any resemblance to the qualities of the objects" (*Treatise,* I.IV.4).

3 Seidl 1971, 97–98; Kosman 1975, 513–514; Lloyd 1979, 136–138, 140, 148; Burnyeat 1982, 15 n13; Modrak 1987, 30; Lear 1988, 103–108, 111; Broadie 1993, 155; Horn 1994, 35; Johansen 1998, 266–267; Esfeld 2000, 327; Polansky 2007, 308; Marmodoro 2014, 130–144; Kalderon 2015, 85–88; Caston 2018, 51–58; Marmodoro and Grasso 2020, 68–70.

of color in vision, just as the Three-Stage View predicts. Why else should colors be actual in the light in particular?

It is one thing to criticize Berkeley for reading his own subjectivism back into Aristotle, and another to avoid doing so ourselves. For all its attractions, however, the Three-Stage View simply exchanges Berkeley's ontological subjectivism for a definitional subjectivism that is more to modern tastes. Treating the actuality of color in the light as a first stage of actuality on the way to a second stage of actuality in vision commits Aristotle to defining color in terms of vision, and so to definitional subjectivism. If this seems to many of us today like the only way of understanding what Aristotle means in speaking about the actuality of color in the light, that is because we have long since given up on the idea that colors might have genuine causal lives of their own, independently of perception and perceivers. Compare Evans' striking challenge to objectivists about color:

> We may ask a philosopher who claims to find intelligible the idea of an objective property extracted from our experiences of colour in this direct way, whether or not such a colour property can characterize an object in the dark. He can hardly say 'Yes', since it would be quite obscure how a 'colour-as-we-see-it' can exist when we cannot see it [...]. To maintain, on the other hand, that such colour properties cannot be true of objects in an unlit cellar seems to undermine the status of the property to being an objective property of a body, since it seems to depend for its existence upon the conditions necessary for the human perception of it. (Evans 1980, 99)

Evans makes (at least) two assumptions here. First, he assumes his readers will admit that 'color-as-we-see-it' cannot characterize an object in the dark, and that this admission immediately vitiates objectivism about color. This is because he also assumes, second, that one can make no sense of the connection between 'color-as-we-see-it' and light except in terms of the role that light plays in vision.[4] Notice that Aristotle seems to go part of the way with Evans here, inasmuch as he would agree with Evans' first assumption that 'color-as-we-see-it' – color in actuality – cannot characterize an object in the dark. But we should be alive to the possibility that Aristotle would reject Evans' second assumption. His conception of color is so fundamentally different from what we find in Evans (and most other modern treatments of color) that Aristotle does think he can make sense of a connection between color-as-we-see-it – actual color – and light that has nothing in particular to do with vision. If we are going to recognize Aristotle's conception of perceptible qualities for the radical and nowadays-unfamiliar position that it is, we will need to look again at what he says about perceptible qualities, and espe-

4 Of course, not everyone accepts Evans' argument. See the extended debate between Stroud (2004, 2018) and McDowell (2004, 2011), for example.

cially at *An.* III.2 and *An.* III.5, keeping our own subjectivist presuppositions in check.

This paper falls into two main parts. In the first I juxtapose Berkeley's subjectivist reading of Aristotle with the more popular Three-Stage View and show how the latter commits Aristotle to subjectivism too (section 2–3). Then I argue that Aristotle explicitly rejects both ontological and definitional subjectivism, and consequently that the Three-Stage View cannot be correct (sections 4–5). In the second part of the paper, I show that difficult texts like *An.* III.2 are perfectly consistent with Aristotle's objectivism and draw conclusions about the nature of Aristotle's objectivism (sections 6–7).

2 Berkeleian Ontological Subjectivism

The first sign of encouragement in *An.* III.2 for Berkeley is the suggestion that the actuality of sound is one and the same with the actuality of hearing, albeit different 'in being,' or account:[5]

> The actuality of the perceptible is one and the same with the actuality of perception, but their being is not the same. I mean for example sound in actuality and hearing in actuality. For it is possible for someone who has hearing not to be hearing, and what has sound is not always sounding.
>
> ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθήσεως ἡ αὐτὴ μέν ἐστι καὶ μία, τὸ δ᾽ εἶναι οὐ τὸ αὐτὸ αὐταῖς· λέγω δ᾽ οἷον ὁ ψόφος ὁ κατ᾽ ἐνέργειαν καὶ ἡ ἀκοὴ ἡ κατ᾽ ἐνέργειαν· ἔστι γὰρ ἀκοὴν ἔχοντα μὴ ἀκούειν, καὶ τὸ ἔχον ψόφον οὐκ ἀεὶ ψοφεῖ.[6] (*An.* III.2, 425b26–30)

As Berkeley reads this passage, if sound 'in actuality' (*kat' energeian*) and hearing 'in actuality' (*kat' energeian*) are one and the same, then sounds are actual only when heard. What looks like even better evidence for the Berkeleian reading comes later in the passage, when Aristotle reflects on the relation between this doctrine that the actualities of perception and perceptible are one and the same and the view of certain 'earlier students of nature,' who are supposed to have claimed that there is no white or black without sight:[7]

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5 Note that two things can differ in definition without being independently definable. *Double* and *half* differ in definition, but Aristotle thinks they are defined in terms of one another.

6 Greek text of the *De anima* is from the edition by Corcilius (2017), which is based on that by Förster (1912). Translations are my own, unless otherwise noted.

7 These earlier students of nature, or 'physicists' (*physiologoi*), are usually taken to be the Megarians and/or the Protagoras of Plato's *Theaetetus* (Philoponus, *In An.* 475, 23). But I agree with Ross

> And since there is one actuality of the perceptible and what is such as to perceive, but their being is different, it is necessary that hearing and sound said in this way (*tēn houtō legomenēn*) be destroyed and preserved together, and also flavor and taste, and the others similarly. But the earlier students of nature did not put this well, when they thought that there could be no white and black without sight, nor flavor without taste. For in one way they spoke correctly, but in another way incorrectly. For perception and perceptible (*aisthēton*) are said in two ways, the one in potentiality (*kata dunamin*), and the other in actuality (*kat' energeian*); in the one case it happens as they said, but in the other it does not. Rather they spoke simply about things which are not said simply.
>
> ἐπεὶ δὲ μία μέν ἐστιν ἐνέργεια ἡ τοῦ αἰσθητοῦ καὶ τοῦ αἰσθητικοῦ, τὸ δ' εἶναι ἕτερον, ἀνάγκη ἅμα φθείρεσθαι καὶ σῴζεσθαι τὴν οὕτω λεγομένην ἀκοὴν καὶ ψόφον, καὶ χυμὸν δὴ καὶ γεῦσιν, καὶ τὰ ἄλλα ὁμοίως· τὰ δὲ κατὰ δύναμιν λεγόμενα οὐκ ἀνάγκη· ἀλλ' οἱ πρότερον φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν οἰόμενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ ὄψεως, οὐδὲ χυμὸν ἄνευ γεύσεως. τῇ μὲν γὰρ ἔλεγον ὀρθῶς, τῇ δ' οὐκ ὀρθῶς· διχῶς γὰρ λεγομένης τῆς αἰσθήσεως καὶ τοῦ αἰσθητοῦ τῶν μὲν κατὰ δύναμιν τῶν δὲ κατ' ἐνέργειαν ἐπὶ τούτων μὲν συμβαίνει τὸ λεχθέν, ἐπὶ δὲ τῶν ἑτέρων οὐ συμβαίνει. ἀλλ' ἐκεῖνοι ἁπλῶς ἔλεγον περὶ τῶν λεγομένων οὐχ ἁπλῶς. (*An.* III.2, 426a16–28)

It is striking that Aristotle – the supposed arch-objectivist – grants these unnamed students of nature *any* sense in which there is no white or black without sight. If one interprets this passage along Berkeleian lines, Aristotle's point is that his predecessors are correct insofar as nothing is white or black in actuality without sight, but incorrect insofar as white and black can exist in potentiality without sight.[8] Yet that hardly sounds like objectivism. In fact, it sounds like a version of Berkeley's own classic formula: their (actual) "*esse* is *percipi*" (*Principles*, 3).

Nonetheless, there is ample evidence that this Berkeleian reading must be wrong. In the first instance, it wreaks havoc on Aristotle's account of perceptual

(1961, 276) that it is unlikely Aristotle would refer to these figures as 'physicists'. [Ps.] Simplicius suggests Democritus instead (*In An.* 193, 27), but Aristotle usually treats Democritus as a response-independent reductionist about color and other perceptible qualities, in which case Democritus would have no reason to deny that white and black can exist without sight (cf. *Sens.* 4). Since the evidence is inconclusive, I prefer not to take a stand on the identity of Aristotle's interlocutors here.

8 Something like this reading has adherents besides Berkeley, including Ross 1924, 1:278; Hamlyn 1968, 123–125; Irwin 1988, 313; Taylor 1990, 140–141; Ricken 1991, 210–215; Gottlieb 1993, 112. Rather than ascribing Berkeleian ontological subjectivism to Aristotle, however, these authors typically suggest in a more guarded way that *An.* III.2 undermines Aristotle's realism, or what I am calling his objectivism. While Broackes (1999), by contrast, unambiguously reads Aristotle as an objectivist *overall*, he nonetheless admits that there are currents in Aristotle's thought that run in the opposite direction, especially in our key text from *An.* III.2 (cf. Broackes 1999, 62 n12). So while I am very much in agreement with Broackes' overall approach, I think we can also give an uncompromisingly objectivist reading of *An.* III.2 and other difficult passages like it.

causation. Aristotle is quite explicit that perceptible qualities like colors and sounds are efficient causes of perception.[9] Yet he also holds that no merely potential being can be the efficient cause of anything: efficient causes are always already actual.[10] So unless there is some way in which colors and sounds are already actual outside of perception, it is hard to see how they could ever make themselves seen or heard in the first place.

We need an alternative to Berkeley's reading of *An.* III.2 – one that reconciles it with Aristotle's claims about the causal efficacy of perceptible qualities and his claim in *An.* III.5 that colors are actual in the light. The Three-Stage View promises to do just that.

3 The Three-Stage View of Perceptible Qualities and Definitional Subjectivism

If perceptible qualities like colors are going to be efficient causes of perception, then they cannot be actual only in perception. There must also be conditions in which they are actual outside of perception. And indeed there are. Aristotle claims that colors are actual in conditions of illumination – that "light makes potential color actual" (*An.* III.5, 430a16–17). This is because Aristotle thinks of light as something that renders 'the transparent' in transparent bodies actual – he even says at one point that light *is* the actuality of the transparent (*An.* II.7, 418b9–10) – and "[e]very color is such as to move what is transparent in actuality, and this is the nature of it"

9 See, for example, *An.* II.5, 417b19–22; *An.* II.11, 424a1–5; *Insomn.* 2, 459a24–25; *Sens.* 3, 439a16–17; *Sens.* 6, 445b7–13; *Mete.* IV.8, 385a1–385a4. The last two passages deserve further comment. In both passages Aristotle says that special perceptible qualities are characterized, or are called what they are, in virtue of the role they play in perception, *in contrast with* other kinds of features. In *Sens.* 6 the contrast is with body (*sōma*), which in this context is a being in the category of quantity and a common perceptible – three-dimensional magnitude – whereas in *Mete.* IV.8 the contrast is with other features that are "more intrinsic" (*oikeioterois*) than the special perceptible qualities, and which are classed as "passive" (*tō(i) paschein*), like solubility and flexibility, etc. One might get the impression in both texts that Aristotle is committing himself to the claim that special perceptible qualities like colors are *essentially* perceptible. Not so. The point in both passages is rather about our classificatory practices. We distinguish as *active* qualities that affect us in perception, in contrast with 'more passive' qualities like solubility, etc. It does not follow that these active qualities affect only perceivers, or that they are essentially perceptible. It is just that we classify them the way we do in the first instance because of the way they affect us in perception. Compare both passages with *Cat.* 8, 9a28–10a10.

10 cf. *An.* II.5, 417a6–10, 418a3–6; *An.* II.11, 424a1–5; *Phys.* III.2, 202a9–12; *Phys.* VIII.5, 257b9–12.

(418b1–2). So whenever colors are illuminated – which is the same as their coming into contact with a medium like air or water that is transparent in actuality – they act straightaway upon this medium insofar as it is transparent. Note that while illuminated-but-unseen colors thus count as actual in their own right – independently of perception – it is easy to see how they might also figure subsequently in a causal explanation of vision. Colors act first upon media that are transparent in actuality, and then in turn upon our eyes, which are made of water so as to be transparent themselves, and so capable of receiving the activity of color (cf. *De sensu* (*Sens.*) 2, 438a12–14; *An.* III.1, 424b23–425a14).

In moving beyond the relatively simple Berkeleian reading, according to which colors are actual in vision but potential otherwise, the story has already gotten more complicated in two ways. First, there is no longer just one actuality associated with color, but two: the actuality of color in conditions of illumination, and the actuality of color in perception. Second, the claim that illuminated-but-unseen colors count as actual needs to be reconciled with the seemingly inconsistent claim in *An.* III.2 that colors are potential outside of perception.

It is in the hopes of dealing with these two complications that many contemporary scholars endorse the Three-Stage View, so-called because it applies Aristotle's three-stage distinction between different stages of potentiality and actuality to color and other perceptible qualities. Aristotle introduces this three-stage distinction by means of the example of linguistic knowledge in *An.* II.5 (417a22–b2):

	First Potentiality	*First Actuality/Second Potentiality*	*Second Actuality*
Linguistic Knowledge	Capacity to learn a language	Knowledge of a language	Exercise of linguistic knowledge
Color[11]	Red in the dark	Red illuminated (but unperceived)	Red perceived

11 There is a superficially different way of applying Aristotle's three-stage distinction to color in the literature. In the main text I have presented a version that makes essential use of light and dark in drawing the distinction between color in first potentiality and color in first actuality/second potentiality. The other way of applying Aristotle's three-stage distinction to color makes no explicit reference to light and dark. Instead, according to this alternative view, objects are red in potentiality if they are not yet red but can become it (say, because they are presently green but could be painted red), red in first actuality if they are already red but are not being seen, and red in second actuality if their redness is being seen (Caston 2018, 52–53). My argument against applying Aristotle's three-stage distinction to perceptible qualities works either way, and so to that extent the difference between them will not matter.

In effect, this three-stage distinction is just two iterations of a two-stage distinction between potentiality and actuality joined together like links in a chain. Going from left to right, a pre-linguistic child's capacity to learn a language stands to the linguistic knowledge they acquire as (first) potentiality to (first) actuality. In turn, the linguistic knowledge they acquire stands to its exercise in language use as (second) potentiality to (second) actuality. Notice that the middle stage – first actuality/second potentiality – consequently has a Janus-faced character: it is both the actuality of the capacity to learn a language, and the potentiality for using that knowledge.

Aristotle never explicitly applies this three-stage distinction to color, or for that matter to any other perceptible quality. Yet it is easy to see why many contemporary scholars are willing to do so on his behalf: the three-stage distinction seems tailor-made for dealing with the two complications identified above. First, the distinction between first actuality and second actuality explains how there can be two actualities associated with color. Second, treating the actuality of color in conditions of illumination as the *first* actuality of color explains how Aristotle can say both that colors are potential outside of vision in *An.* III.2 and actual in conditions of illumination in *An.* III.5, without courting contradiction. For the Janus-faced character of this middle stage of first actuality/second potentiality ensures that illuminated-but-unseen colors count as actual in one sense, but potential in another.

As tidy as the Three-Stage View is as a solution to the difficulties presented by our thorny passages, the application of Aristotle's three-stage distinction to perceptible qualities entails definitional subjectivism, and so the rejection of objectivism. Some proponents of the Three-Stage View might welcome this consequence (Marmodoro 2014, 140–141).[12] Others are committed to denying that it is one (Caston 2018, 60).[13] Yet it does follow, and so the only way to embrace the Three-Stage View consistently is to reject objectivism.

I will give a more formal version of the argument that the Three-Stage View commits Aristotle to definitional subjectivism in a moment. But it might help to begin with a quick sketch. Definitional subjectivism, recall, is the view that perceptible qualities cannot be understood, or defined, except by reference to their role in perception. Now there can be no doubt that the Three-Stage View commits Aristotle

12 Marmodoro compares her reading of Aristotle with the view expressed in the following passage from McDowell, who is explicitly channeling Evans: "Secondary qualities are qualities not adequately *conceived* except in terms of certain subjective states, and thus subjective themselves in a sense that that characterization defines" (quoted in Marmodoro 2014, 141, Marmodoro's emphasis).
13 "Since color is not defined in terms of vision, it can be specified independently of it. […] Color on Aristotle's view is thus *definitionally prior* to vision, even though it is intrinsically and necessarily visible" (Caston 2018, 60).

to supposing that the second actuality of a perceptible quality like color is defined in terms of perception. The second actuality of color just is *being seen* according to that view. The reference to perception – in this case to vision – is right on the surface of this account of the second actuality of color. Yet from there it is a short step to definitional subjectivism. All we need to add is the claim that first actualities are defined in terms of second actualities, and we get the claim that color is defined in terms of vision by way of its second actuality.[14]

Now for the more formal version of the argument, in two stages. First, I establish that it is a general feature of Aristotle's three-stage distinction that the first two stages – first potentiality and first actuality/second potentiality – are defined in terms of the third – second actuality. In other words, Aristotle is committed to the definitional priority of second actuality. Second, I show that the definitional priority of second actuality commits proponents of the Three-Stage View to definitional subjectivism.

The argument for the definitional priority of second actuality rests on two well-attested Aristotelian principles, The Priority of Actuality and Transitivity. It is standard Aristotelian doctrine that actuality is prior to potentiality in definition, or account (*Metaph.* IX.8, 1049b10–16). To say that A is *prior* to B in definition is just to say that A figures in the definition of B, or equivalently that B is defined in terms of A, but not *vice versa*, on pain of vicious circularity. Transitivity is the claim that definitional priority is transitive. So if A is prior to B in definition, and B is prior to C in definition, then A is prior to C in definition.[15] Given these principles, the definitional priority of second actuality follows straightforwardly:

(1) Second actualities are prior to second potentialities in definition (Priority of Actuality)
(2) Second potentialities just are first actualities
(3) [So:] Second actualities are prior to first actualities in definition (1 and 2)
(4) First actualities are prior to first potentialities in definition (Priority of Actuality)
(5) [So:] Second actualities are prior to first potentialities in definition (3, 4, and Transitivity)

14 I have sometimes encountered the following kind of resistance: the step from the Three-Stage View to definitional subjectivism is too easy. It must be that I am being uncharitable in some way. In response, I can only ask to be shown where I have gone wrong in the formal version of the argument to follow, and remind the reader of Berkeley, who knew his Aristotle well, but insinuated his own Idealism into Aristotle all the same.

15 Transitivity is presupposed by Aristotle's reasoning in various places, for example in the well-known argument that chains of *per se*$_2$ predications must be finite in *Anal. Post.* I.22 (especially 84a7–28).

According to the Three-Stage View, the second actuality of a perceptible quality is its being perceived. Given the definitional priority of second actuality, it follows that both the first potentiality and the first actuality/second potentiality of color are defined in terms of perception too. That is, by saying that the actuality of color in conditions of illumination stands to the actuality of color in perception as first actuality to second actuality, Aristotle would be committed to saying that the actuality of color in light is defined in terms of perception. On this view, it turns out that for colors to be actual in the light partly consists in their being visible.

As I say, proponents of the Three-Stage View might wish to resist this argument.[16] One strategy – and probably the strongest – is to try to block the substitution in (3). Such a response may concede the identity affirmed in (2) but deny that it justifies the substitution in (3). For example, it is well known that Aristotle rejects the intersubstitutivity of co-referring expressions *salva veritate* in cases in which the expressions reflect a merely accidental unity, as in the case of 'Coriscus' and 'the man who is approaching' in Aristotle's version of the Masked-Man Fallacy (*Soph. Elench.* 24).[17] So if the unity of first actuality and second potentiality in (2) is merely accidental in this way, then the substitution in (3) is illegitimate by Aristotle's own lights.

This strategy fails because the unity of first actuality and second potentiality is not accidental. And it is hard to see how else one could justify rejecting the substitution. Aristotle introduces the three-stage distinction by example, and so we have no choice but to look to his examples. I mentioned his most famous example – linguistic knowledge – in the table above, but Aristotle also applies this three-stage distinction to other cases, including perceptual capacities like vision (see section

16 Silverman occupies an interesting middle position. He rejects definitional subjectivism in Aristotle. Yet while he notices that the application of Aristotle's three-stage distinction to perceptible qualities entails the kind of definitional subjectivism he rejects, he insists on applying the three-stage distinction anyway (Silverman 1989, 272–273). In consequence, he is forced to say that Aristotle modifies the relation between first actuality and second actuality in this one case, so that the relation between first actuality and second actuality is merely accidental. While I sympathize with the motivations for reading this move into Aristotle, the result is incredible as an interpretation of Aristotle. Recall that Aristotle never explicitly applies his three-stage distinction to perceptible qualities. As a consequence, Silverman puts Aristotle in the awkward position of, first, applying a distinction to perceptible qualities without saying so, while also, second, modifying that distinction on the fly to make it fit, *again* without saying so. Surely it is more natural to suppose that Aristotle never wished to apply the three-stage distinction to perceptible qualities in the first place.

17 Here is the fallacious bit of reasoning: Suppose you know Coriscus, but not the man who is approaching because he is wearing a mask, or he is too far away, etc. Unbeknownst to you, however, the man who is approaching is Coriscus. So you both know and do not know the very same man!

4 below).[18] Suppose you want to give a definition of the first actuality of linguistic knowledge – to say what it is to possess knowledge of a language. Aristotle's answer is clear: it is to know how to use that knowledge in speech, etc. (cf. *An.* II.5, 417a26–30). The same goes for perceptual capacities like sight, which stands to seeing as first actuality to second. Here again, the first actuality is defined in terms of the second: sight is the capacity for the activity of seeing. The fact that the first two stages in Aristotle's three-stage scheme are defined in terms of the third is not an accidental feature of these examples but a prerequisite for applying the three-stage distinction in the first place. To identify something as a *first* actuality is precisely to locate it with respect to a further, second, actuality, which in this case means locating the actuality of color in conditions of illumination in relation to vision. There is no way around it: the Three-Stage View entails definitional subjectivism.

4 The Case Against Definitional Subjectivism in Aristotle

But Aristotle cannot consistently endorse definitional subjectivism. Quite the opposite is true: Aristotle insists that perceptible qualities like color are prior to perception in definition, which means that perception is defined in terms of perceptible qualities, but not vice versa. So the Three-Stage View must be false.

Consider the well-known methodological passage in *An.* II.4:

> If one must say what each of these is, for example what the intellectual and perceptual and nutritive capacities are, one ought to say first what thinking and perceiving are. For activities and actions are prior in account to capacities. And if it is necessary to have investigated the things opposed (*ta antikeimena*) even before these, then for the same reason we ought to determine about them first, for example about food and the objects of perception and intellection.
>
> εἰ δὲ χρὴ λέγειν τί ἕκαστον αὐτῶν, οἷον τί τὸ νοητικὸν ἢ τὸ αἰσθητικὸν ἢ τὸ θρεπτικόν, πρότερον ἔτι λεκτέον τί τὸ νοεῖν καὶ τί τὸ αἰσθάνεσθαι· πρότεραι γάρ εἰσι τῶν δυνάμεων αἱ ἐνέργειαι καὶ αἱ πράξεις κατὰ τὸν λόγον. εἰ δ' οὕτως, τούτων δ' ἔτι πρότερα τὰ ἀντικείμενα δεῖ τεθεωρηκέναι, περὶ ἐκείνων πρῶτον ἂν δέοι διορίσαι διὰ τὴν αὐτὴν αἰτίαν, οἷον περὶ τροφῆς καὶ αἰσθητοῦ καὶ νοητοῦ. (415a17–23)

18 Interestingly, all of Aristotle's explicit applications of the three-stage distinction involve cognition or the soul, as Corcilius (2016, 302–303 n20) points out, and Caston (2018, 56 n52) acknowledges.

This passage begins with the suggestion that if we want to study the capacity for perception (first actuality/second potentiality), then we should study the activity of perception (second actuality) first because activities are prior to capacities in account, or definition. That is just an application of The Priority of Actuality. Crucially, however, Aristotle adds that before studying the activity of perception we should study 'the things opposed' – the objects of perception (see below for this terminology) – first, *for the same reason*. If the reason is the same it is because the objects of perception are prior to the activity of perception in definition; that is, because perception is defined in terms of its objects, and not the other way around.

Many commentators fail to draw this last consequence from the passage, however, because they read it in a more deflationary way. It is often suggested that the 'priority in account' assigned to the objects of perception is nothing more than the familiar causal priority of agent over patient.[19] To say that the objects of perception are 'prior in account' is just to say that perceptible qualities like colors and sounds are already actual prior to, and so independently of, the perceptual activity they cause, just as fire is hot prior to, and independently of, the things it subsequently heats.

I do not think this deflationary interpretation does justice to the passage. The key is the peculiar technical terminology Aristotle uses for the objects of perception here: 'the things opposed' (*ta antikeimena*).[20] Aristotle distinguishes four uses of this terminology in *Categories* (*Cat.*) 10. There are 'things opposed' as (1) relatives, like the double and the half, as (2) contraries, like the good and the bad, as (3) privation and possession, like blindness and sight, and as (4) affirmation and negation, like "he is sitting" and "he is not sitting" (llb17–23). Only the first applies to perception and perceptible. Consequently, Aristotle's use of this terminology suggests that he is presupposing a doctrine that receives a more extended treatment only in the *Categories* and *Metaphysics* (*Metaph.*): perception and perceptible are *relatives*, or beings that belong to the category of relatives. If we read *An.* II.4 in the light of these explicit discussions of the claim that perception and perceptible are relatives, we will see that the deflationary reading of *An.* II.4 does not go far enough. Perceptible qualities like colors and sounds are not just causally prior to perception. They are prior in definition too. So Aristotle cannot consistently endorse definitional subjectivism or the Three-Stage View.

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19 Cf. Everson 1997, 22–29; Wedin 1988, 17; Johansen 1998, 37–38. But see Johansen (2012, 96–111) for a reading similar to my own, albeit defended on very different grounds.

20 One obvious problem with this deflationary reading is that it does not fit the initial case of activity and capacity. The activity of perception does not stand to the capacity for perception as agent to patient. Yet if it does not fit the initial case, it is unclear why we should apply it to the subsequent case of object and activity. Not only that, but I doubt that the efficient causal priority of agent over patient really counts as the right kind of priority, as we will see in section 5.

5 Aristotle on Relatives in *Categories* 7 and *Metaphysics* V.15

Relatives are beings that are constituted by a relation to something else. They are not relations themselves.[21] Standard examples include pairs like *the double* and *the half,* and *the large* and *the small*. These are said to be "just what they are" of something else, or in some way in relation to something else (*Cat.* 7, 6a36–37). That is, *the double* is said to be what it is – namely, double – of something else: a half. And vice versa for the half.[22]

This initial characterization of relatives suggests that co-relative pairs are not only ontologically *inter*dependent – there is no double without a half, and vice versa – but also definitionally *inter*dependent – double is defined in terms of half, and vice versa. Indeed, Aristotle claims that the definition of one relative 'embraces' (*sumperilambanein*) the other (*Top.* VI.4, 142a26–33).

Given this conception of relatives, does the claim that perception and perceptible are relatives not commit Aristotle to rejecting objectivism? On the contrary, Aristotle's discussions of perception and perceptible in this context constitute conclusive evidence of his objectivism. This is because he seeks explicitly to avoid this common consequence of saying that perception and perceptible are relatives, namely that they are interdependent. He claims instead that perception and perceptible belong to a special class of relatives (including thought and thinkable, and a few others), which are neither ontologically, nor definitionally, interdependent. Instead, Aristotle argues that the objects of perception are prior both ontologically and definitionally to perception.[23]

I will start with ontological priority. Aristotle argues that perceptible qualities are ontologically prior to perception in *Cat.* 7. He does so in the course of arguing that, unlike most other relatives, perception and perceptible are not "simultaneous by nature." Two things are simultaneous by nature if (a) "they reciprocate as to implication of existence," and (b) neither is the cause of the other (*Cat.* 13, 14b27–29). Perception and perceptible fail both conditions. We know already that they fail

21 Note that Aristotle is happy to use the expression 'relative' both for things that are constituted by their *bearing* a relation to something else, like the double and the half, and for the monadic relational properties these bearers possess in virtue of falling within the domain of a relation, like *double* and *half*.

22 For a defense of a constitutive view of relatives along these lines in Aristotle, see Duncombe 2020.

23 In the literature this special class of relatives is sometimes called the class of 'intentional relatives' (Hood 2004). I think this terminology is misleading, however, because I do not think that perception is primarily an intentional phenomenon in Aristotle. But that is a separate discussion.

(b) because perceptible qualities cause perception. Yet Aristotle also thinks they fail (a) because perceptible qualities like sweet and bitter can exist without perception, but not vice versa. In other words, perceptible qualities are ontologically prior to perception (*Cat.* 12, 14a29–35):

> The same holds in the case of perception. For the perceptible seems to be prior to perception. For when the perceptible is destroyed perception is destroyed with it, but [the destruction of] perception does not destroy the perceptible with it. For perceptions concern body and are in body, and when the perceptible is destroyed body is destroyed too – for body is among the perceptibles – yet if there is no body perception is also destroyed, so that [the destruction of] the perceptible destroys perception with it. But [the destruction of] perception, at any rate, does not destroy the perceptible. For when animal is destroyed perception is destroyed, but the perceptible will still exist, for example body, hot, sweet, bitter, and all the rest of the perceptibles.
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> ὁμοίως δὲ τούτοις καὶ τὰ ἐπὶ τῆς αἰσθήσεως ἔχει· τὸ γὰρ αἰσθητὸν πρότερον τῆς αἰσθήσεως δοκεῖ εἶναι· τὸ μὲν γὰρ αἰσθητὸν ἀναιρεθὲν συναναιρεῖ τὴν αἴσθησιν, ἡ δὲ αἴσθησις τὸ αἰσθητὸν οὐ συναναιρεῖ. αἱ γὰρ αἰσθήσεις περὶ σῶμα καὶ ἐν σώματί εἰσιν, αἰσθητοῦ δὲ ἀναιρεθέντος ἀνῄρηται καὶ σῶμα, – τῶν γὰρ αἰσθητῶν καὶ τὸ σῶμα, – σώματος δὲ μὴ ὄντος ἀνῄρηται καὶ ἡ αἴσθησις, ὥστε συναναιρεῖ τὸ αἰσθητὸν τὴν αἴσθησιν. ἡ δέ γε αἴσθησις τὸ αἰσθητὸν οὐ· ζῴου γὰρ ἀναιρεθέντος αἴσθησις μὲν ἀνῄρηται, αἰσθητὸν δὲ ἔσται, οἷον σῶμα, θερμόν, γλυκύ, πικρόν, καὶ τὰ ἄλλα πάντα ὅσα ἐστὶν αἰσθητά.[24] (*Cat.* 7, 7b35–8a6)

This passage is straightforwardly inconsistent with Berkeleian ontological subjectivism. It cannot be that "to be is to be perceived" for qualities like sweet and bitter if these qualities could still exist in a world without perceivers.[25] Yet it leaves open whether Aristotle subscribes to definitional subjectivism. For even if perceptible qualities like sweet and bitter could exist in a world without perceivers, it might still be the case that the only sense one could make of that existence is in terms of the effects they would have upon suitably situated perceivers, if only such perceivers existed.

Aristotle closes this gap in *Metaph.* V.15 by arguing explicitly that perceptible qualities are definitionally prior to perception. This text presents much the same account of ordinary relatives like double and half as *Cat.* 7. Crucially, however, *Metaph.* V.15 introduces a more fine-grained classification of these ordinary relatives into subtypes. It distinguishes between 'numerical' relatives, like double and half, and a newly identified class of ordinary relatives that Aristotle calls 'capacity' relatives, like 'able-to-heat' (*to thermantikon*) and 'heatable' (*to thermanton*). The

24 Greek text of the *Categories* is from the edition by Minio-Paluello (1949).

25 Berkeley might respond that these qualities could still exist in a world without perceivers so long as they were being sustained in existence by God (cf. *Principles*, 48; *Dialogues*, 212–215). But Aristotle thinks no such thing.

introduction of capacity relatives, which we might also call 'agent-patient' relatives, is relevant to our present concerns in two ways.[26] First, whatever causal priority an agent might enjoy, the fact that *Metaph.* V.15 classifies agent and patient as ordinary relatives alongside double and half indicates that agent cannot be prior in definition to patient in any straightforward way, since ordinary relatives are definitionally interdependent. Second, even if there is some general way in which agent is definitionally prior to patient, Aristotle goes out of his way to argue that perceptible and perception are no ordinary pair of agent and patient:

> Things said to be numerical and capacity relatives are all relative because they are said to be what they are of something else, and not because the other thing is said to be relative to them. But the measurable and the knowable and the thinkable are said to be relative because another thing is said to be relative to them. For 'thinkable' signifies that there is thought of it, but thought is not relative to that of which it is the thought (for the same thing would have been said twice), and likewise sight is sight of something, but not of that of which it is the sight (although this is true to say, at any rate), but sight is relative to color or some other such thing. Otherwise, the same thing would have been said twice: 'sight is of that of which sight is.'[27]
>
> τὰ μὲν οὖν κατ' ἀριθμὸν καὶ δύναμιν λεγόμενα πρός τι πάντα ἐστὶ πρός τι τῷ ὅπερ ἐστὶν ἄλλου λέγεσθαι αὐτὸ ὅ ἐστιν, ἀλλὰ μὴ τῷ ἄλλο πρὸς ἐκεῖνο· τὸ δὲ μετρητὸν καὶ τὸ ἐπιστητὸν καὶ τὸ διανοητὸν τῷ ἄλλο πρὸς αὐτὸ λέγεσθαι πρός τι λέγονται. τό τε γὰρ διανοητὸν σημαίνει ὅτι ἔστιν αὐτοῦ διάνοια, οὐκ ἔστι δ' ἡ διάνοια πρὸς τοῦτο οὗ ἐστὶ διάνοια (δὶς γὰρ ταὐτὸν εἰρημένον ἂν εἴη), ὁμοίως δὲ καὶ τινός ἐστιν ἡ ὄψις ὄψις, οὐχ οὗ ἐστὶν ὄψις (καίτοι γ' ἀληθὲς τοῦτο εἰπεῖν) ἀλλὰ πρὸς χρῶμα ἢ πρὸς ἄλλο τι τοιοῦτον. ἐκείνως δὲ δὶς τὸ αὐτὸ λεχθήσεται, ὅτι ἐστὶν οὗ ἐστὶν ἡ ὄψις.[28] (*Metaph.* V.15, 1021a26–b3)

Aristotle begins this passage by emphasizing that in the case of ordinary pairs of relatives like double and half and able-to-heat and heatable, each member of these pairs counts as a relative by its very nature because it is essentially related to its counterpart. That is, what is able-to-heat is a relative by its very nature because it is essentially related to something else – the heatable – and vice versa for the heatable. By contrast, however, the perceptible (and thinkable, etc.) is not a relative by being related to something else in this way. It counts as a relative only because something else – perception – is related to it.

Note an apparent tension in this passage. While Aristotle begins by claiming that the perceptible is a relative only because perception is related to it, he con-

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26 Aristotle says explicitly that what I am calling 'capacity relatives' are relatives in the manner of agent (*poiētikon*) and patient (*pathētikon*) (1020b30; 1021a14–19).

27 Aristotle does not use the expressions 'perception' and 'perceptible' themselves here, though he does mention sight. This is no problem, however, because he does use them explicitly at 1020b32. So there is no doubt that perception and perceptible belong in this special class.

28 Greek text of the *Metaphysics* is from the edition by Ross (1924).

cludes by arguing that perception (sight) is not related to the perceptible (visible) after all! Instead, he says that sight is related to color, not the visible (as such). And presumably the same goes for perception in general: perception is related to color, sound, and body, etc., not the perceptible (as such).

This tension is merely apparent. According to Aristotle, when I call something 'double,' I am saying that, insofar as it is double, *it* is essentially related to something else – the half. Not so when I call something 'perceptible.' When I call something 'perceptible,' I am not saying that *it* is essentially related to something else. I am rather saying that something else – perception – is essentially related to it. So in calling color or sound 'perceptible,' we are not really characterizing color or sound in themselves. We are just applying an 'extrinsic denomination' to them, to use the scholastic terminology. Yet if that is all there is to calling something 'perceptible,' then Aristotle is surely right to insist that it is uninformative to say that perception is related to perceptible (though it may be true). Indeed, as Aristotle puts it, to say that is just to say the same thing twice: that perception is related to what perception is related to. So if we want an informative characterization of perception, and indeed if we want to capture what is really interesting about perception *qua* relative, then we need to make it clear that perception is strictly speaking related to objects like color, sound, and body, etc., and not the perceptible as such. In other words, we need to make it clear that perception is defined in terms of things – color, sound, etc. – that are not defined in terms of it. Strange as it might sound, perceptible qualities like color and sound are not essentially perceptible for Aristotle. And that means that *being perceptible* is one of their accidental features.

This last claim that *being perceptible* is an accidental feature of colors, sounds, and odors, etc. might seem to conflict with Aristotle's well-known claim in *An.* II.6 that special perceptible qualities like colors and sounds are perceptible (visible, audible, etc.) *per se*. Indeed, they are the *per se* perceptibles *par excellence* according to that chapter (*An.* II.6, 418a25–26). In fact, however, there is no inconsistency between *Metaph.* V.15 and *An.* II.6 because different uses of *per se* (and 'accidental') are in play.

Aristotle distinguishes four uses of *per se* in Posterior Analytics (*Anal. Post.*) I.4, together with four corresponding, and contrasting, uses of 'accidental.' When I say that color is visible accidentally for Aristotle, I mean 'accidental' in the sense that contrasts with the first use of *per se* identified in *Anal. Post.* I.4 ('*per se*$_1$' vs. 'accidental$_1$,' 73a34–37). To say that color is visible accidentally$_1$ is just to say that the property – visible – is not part of the definition of the subject – color. This is what Aristotle commits himself to in *Metaph.* V.15 and *An.* II.4, and it is what we would expect from an objectivist about perceptible qualities. By contrast, when Aristotle says that color is visible *per se* in *An.* II.6, he is using *per se* in a different sense, namely *per se*$_2$ (73a37–73b1). To say that color is visible *per se*$_2$ is just to say that the

subject – color – is included in the definition of the property – visible.[29] Put simply, then, there is no conflict between *Metaph.* V.15 and *An.* II.6 because the claim that color is visible can be accidental in one 'direction' (color is not defined in terms of the property visible) but *per se* in the other (the property visible is defined in terms of color). And the same goes for the properties perceptible, and audible, etc.[30]

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29 As various scholars have pointed out, and especially Sorabji (1971), there can be no doubt that Aristotle defines the senses partly in terms of their special objects, so that vision is defined partly in terms of color, and audition in terms of sound, etc. If that is right, then it follows straightforwardly that the property visible is also defined partly in terms of color, and the property audible in terms of sound, etc. This is because 'visible' just means 'what vision is of,' just as 'thinkable' means 'what thought is of,' as Aristotle suggests himself when he says in our passage from *Metaph.* V.15 that, strictly speaking, to say that thought is of the thinkable would be to say the same thing twice: that thought is of what thought is of. For this idea applied directly to the property visible, see also *An.* II.7, 418a27–28. Thanks to a reviewer for prompting me to clarify this point.

30 A reviewer points out that I should say something about *An.* II.7, 418a29–b1, which might seem to conflict with the views expressed in the last few paragraphs. In that passage, Aristotle says the following according to Miller's translation: "For the visible is colour, that is, that which lies upon what is visible in virtue of itself; and by 'visible in virtue of itself' I mean not that it is visible by definition, but that it possesses in itself the cause of its being visible." (τὸ γὰρ ὁρατόν ἐστι χρῶμα. τοῦτο δ' ἐστὶ τὸ ἐπὶ τοῦ καθ' αὐτὸ ὁρατοῦ· καθ' αὐτὸ δὲ οὐ τῷ λόγῳ, ἀλλ' ὅτι ἐν ἑαυτῷ ἔχει τὸ αἴτιον τοῦ εἶναι ὁρατόν; *An.* II.7, 418a29–b1). This is a difficult and important passage, which deserves a more extended treatment than I can give it here. Nonetheless, I hope to say enough to show how it might plausibly be read as supporting the views advanced in this paper rather than conflicting with them. Aristotle here suggests that it is not just color that is visible *per se*, but what color is on: the surfaces of three-dimensional magnitudes/three-dimensional magnitudes. This is no great surprise, since magnitude (*megethos*) is one of the common perceptibles mentioned in *An.* II.6 (just a few lines before this passage in *An.* II.7), and common perceptibles are *per se* perceptibles. Stepping back for a moment, the crucial question is: What does *per se* mean here in *An.* II.7? I suggest that both colors and surfaces/three-dimensional magnitudes are visible *per se* in the second sense of *per se* identified in *Anal. Post.* I.4, at 73a37–73b1 (*per se*$_2$). This is the sense in which the properties even and odd belong to number *per se*: Even and odd are defined in terms of number as their *hupokeimenon*, and yet number is not defined in terms of them. Turning back to *An.* II.7, when Aristotle says that surfaces/three-dimensional magnitudes are visible *per se*, but not because they are defined in terms of the property of being visible, it is just like the case of even and odd and number: even and odd are defined in terms of number, but not vice versa. Now you might wonder: if surface/three-dimensional magnitude is the/a *hupokeimenon* for the property of being visible, where does color fit in? To make a long story short, I suggest that what lies behind and informs our passage in *An.* II.7 is a chain of *per* se$_2$ predications linked together by Transitivity: the property visible is defined in terms of color as its *hupokeimenon* ('the visible is color'), and then because color is itself defined in terms of surface/three-dimensional magnitude as *its hupokeimenon* (*Metaph.* V.18, 1022a14–19; *Metaph.* VII.4, 1029b, 13–20; *Metaph.* XII.4, 1070b19–21; *Sens.* 3, 439b11–12), it follows that the property visible is defined in terms of surface/three-dimensional magnitude too, by way of being defined in terms of color. There is no doubt that Transitivity can be applied to *per se*$_2$ predications in this way. It was introduced above by reference to a passage in which Aristotle applies it to just such a chain

Notice in passing that our key passage from *Metaph.* V.15 does not fit the kind of deflationary reading we encountered in connection with *An.* II.4 above. *Metaph.* V.15 makes it clear not only that perceptible qualities like colors and sounds are definitionally prior to perception, but also that this definitional priority is more than just a matter of causal priority.

In section 3 we saw that the Three-Stage View commits Aristotle to definitional subjectivism, or the view that perceptible qualities like colors and sounds are defined in terms of perception. Yet we have just seen that Aristotle explicitly rejects that view. In fact, he holds the opposite view: perceptible qualities like color and sound are prior to perception in definition. So the Three-Stage View is false. How then can we give suitably objectivist readings of the passages with which we began, and so come to terms with Aristotle's perceptual objectivism?

6 Revisiting *An.* III.2

An. III.2 presents an apparent problem for Aristotle's objectivism because it gives the impression that colors and sounds are actual only in perception. This impression is false. In fact, *An.* III.2 is not concerned with the actualities of color or sound themselves at all. Instead, it is concerned with the actuality of color *qua* visible, and the actuality of sound *qua* audible, etc. In consequence, we do not need a three-stage distinction to make sense of *An.* III.2. We just need a two-stage distinction between a perceptible quality's being *aisthēton* in actuality (its being 'perceived') and its being *aisthēton* in potentiality (its being 'perceptible'). This is all for the best, because Aristotle says explicitly in *An.* III.2 that *aisthēton* is said in two ways, not three.[31]

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of *per se*$_2$ predications: even + odd → number → plurality (*Anal. Post.* I.22, 84a14–17). When Aristotle says at the end of our passage in *An.* II.7 that surfaces/three-dimensional magnitudes are visible *per se* because they have the cause of their being visible inside them – namely color – I suggest he is saying simply that they count as visible *per se* precisely because of their association with color – because surface/three-dimensional magnitude is the *per se hupokeimenon* for color. In any case, the crucial point is just that if *per se* means *per se*$_2$ here, then this passage poses no problem for my view. It just says that the property visible is defined in terms of color and surface/three-dimensional magnitude, but not the other way around. And that is grist for my mill.

31 It is worth remarking that all of the major ancient commentators draw something like this distinction between the actuality of color and the actuality of color *qua* visible. For example, [Ps.] Simplicius (*In An.* 139, 10–22) says that 'actually' and 'potentially' sometimes refer to the existence of the objects, but sometimes they refer to them not as beings, but as perceptible objects. One finds similar points in Alexander (*In Sens.* 41, 17–18), Philoponus (*In An.* 356, 30–33), and Themistius (*In An.* 58, 27–59, 5). See Ganson (1997) for a helpful discussion of Alexander.

In the interests of confirming this reading, here is the relevant part of *An.* III.2 in full, divided into two paragraphs. Notice that Aristotle begins both paragraphs with the claim that the actuality of *the perceptible* is one and the same with the actuality of the perceptual capacity, not the claim that the actuality of color, or sound, is one and the same with the actuality of the perceptual capacity:

> The actuality of the perceptible (*to aisthēton*) and of perception is one and the same, but the being for them is not the same. I mean for example the actuality of sound and the actuality of hearing. For it is possible that what has hearing is not hearing, and that what has sound is not always making a sound, but whenever what is able to hear is hearing and what is able to make a sound is making a sound, then the actuality of hearing comes to be together with the actuality of sound, of which someone might say that the one is hearing (*akousis*), and the other sounding (*psophēsis*). If indeed the motion and the action are in what is acted upon, it is necessary that the sound and the hearing in actuality are in what is in capacity (*kata dunamin*). For the actuality of what is such as to act and to move comes about in the patient, which is why it is not necessary that what moves is moved. So then the actuality of what is such as to sound is sound (*psophos*) or sounding (*psophēsis*), and the actuality of what is such as to hear is audition (*akoē*) or hearing (*akousis*). For hearing is twofold, and so is sound. And the same account holds also in the case of the other senses and perceptibles. For just as acting and being affected are in the patient but not in the agent, so also the actuality of the perceptible and of what is such as to perceive is in what is such as to perceive. But in some cases both [actualities] have a name, like sounding and hearing, whereas in others one or the other is nameless. For the actuality of sight is called seeing, but that of color is nameless, and the actuality of taste is tasting, but that of flavor is nameless.
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> And since there is one actuality of the perceptible and what is such as to perceive, but their being is different, it is necessary that hearing and sound said in this way (*tēn houtō legomenēn*) be destroyed and preserved together, and also flavor and taste, and the others similarly. But the earlier students of nature did not put this well, when they thought that there could be no white and black without sight, nor flavor without taste. For in one way they spoke correctly, and in another way incorrectly. For perception and perceptible (*aisthēton*) are said in two ways, the one in potentiality (*kata dunamin*), and the other in actuality (*kat' energeian*); in the one case it happens as they said, but in the other it does not. Rather they spoke simply about things which are not said simply.

ἡ δὲ τοῦ αἰσθητοῦ ἐνέργεια καὶ τῆς αἰσθήσεως ἡ αὐτὴ μέν ἐστι καὶ μία, τὸ δ' εἶναι οὐ τὸ αὐτὸ αὐταῖς· λέγω δ' οἷον ὁ ψόφος ὁ κατ' ἐνέργειαν καὶ ἡ ἀκοὴ ἡ κατ' ἐνέργειαν· ἔστι γὰρ ἀκοὴν ἔχοντα μὴ ἀκούειν, καὶ τὸ ἔχον ψόφον οὐκ ἀεὶ ψοφεῖ. ὅταν δ' ἐνεργῇ τὸ δυνάμενον ἀκούειν καὶ ψοφῇ τὸ δυνάμενον ψοφεῖν, τότε ἡ κατ' ἐνέργειαν ἀκοὴ ἅμα γίνεται καὶ ὁ κατ' ἐνέργειαν ψόφος, ὧν εἴπειεν ἄν τις τὸ μὲν εἶναι ἄκουσιν τὸ δὲ ψόφησιν. εἰ δή ἐστιν ἡ κίνησις καὶ ἡ ποίησις καὶ τὸ πάθος ἐν τῷ ποιουμένῳ, ἀνάγκη καὶ τὸν ψόφον καὶ τὴν ἀκοὴν τὴν κατ' ἐνέργειαν ἐν τῇ κατὰ δύναμιν εἶναι· ἡ γὰρ τοῦ ποιητικοῦ καὶ κινητικοῦ ἐνέργεια ἐν τῷ πάσχοντι ἐγγίνεται· διὸ οὐκ ἀνάγκη τὸ κινοῦν κινεῖσθαι. ἡ μὲν οὖν τοῦ ψοφητικοῦ ἐνέργειά ἐστι ψόφος ἢ ψόφησις, ἡ δὲ τοῦ ἀκουστικοῦ ἀκοὴ ἢ ἄκουσις· διττὸν γὰρ ἡ ἀκοή, καὶ διττὸν ὁ ψόφος. ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων αἰσθήσεων καὶ αἰσθητῶν. ὥσπερ γὰρ ἡ ποίησις καὶ ἡ πάθησις ἐν τῷ πάσχοντι ἀλλ' οὐκ ἐν τῷ ποιοῦντι, οὕτω καὶ ἡ τοῦ αἰσθητοῦ ἐνέργεια καὶ ἡ τοῦ αἰσθητικοῦ ἐν τῷ αἰσθητικῷ. ἀλλ' ἐπ' ἐνίων μὲν ὠνόμασται, οἷον ἡ ψόφησις καὶ ἡ ἄκουσις, ἐπὶ δ' ἐνίων ἀνώνυμον θάτερον·

> ὄρασις γὰρ λέγεται ἡ τῆς ὄψεως ἐνέργεια, ἡ δὲ τοῦ χρώματος ἀνώνυμος, καὶ γεῦσις ἡ τοῦ γευστικοῦ, ἡ δὲ τοῦ χυμοῦ ἀνώνυμος.
>
> ἐπεὶ δὲ μία μέν ἐστιν ἐνέργεια ἡ τοῦ αἰσθητοῦ καὶ τοῦ αἰσθητικοῦ, τὸ δ᾽ εἶναι ἕτερον, ἀνάγκη ἅμα φθείρεσθαι καὶ σῴζεσθαι τὴν οὕτω λεγομένην ἀκοὴν καὶ ψόφον, καὶ χυμὸν δὴ καὶ γεῦσιν, καὶ τὰ ἄλλα ὁμοίως· τὰ δὲ κατὰ δύναμιν λεγόμενα οὐκ ἀνάγκη· ἀλλ᾽ οἱ πρότερον φυσιολόγοι τοῦτο οὐ καλῶς ἔλεγον, οὐθὲν οἰόμενοι οὔτε λευκὸν οὔτε μέλαν εἶναι ἄνευ ὄψεως, οὐδὲ χυμὸν ἄνευ γεύσεως. τῇ μὲν γὰρ ἔλεγον ὀρθῶς, τῇ δ᾽ οὐκ ὀρθῶς· διχῶς γὰρ λεγομένης τῆς αἰσθήσεως καὶ τοῦ αἰσθητοῦ τῶν μὲν κατὰ δύναμιν τῶν δὲ κατ᾽ ἐνέργειαν ἐπὶ τούτων μὲν συμβαίνει τὸ λεχθέν, ἐπὶ δὲ τῶν ἑτέρων οὐ συμβαίνει. ἀλλ᾽ ἐκεῖνοι ἁπλῶς ἔλεγον περὶ τῶν λεγομένων οὐχ ἁπλῶς. (*An.* III.2, 425b26–426a28)

One reason Berkeley and proponents of the Three-Stage View think Aristotle is characterizing the actuality of sound itself in *An.* III.2, rather than the actuality of sound *qua* audible, is that Aristotle sometimes speaks in an apparently unqualified way about "*the actuality* of sound" (e. g., in the second sentence; emphasis added). But notice that the immediate context suggests Aristotle is simply trying to illustrate his initial claim about the actualities of perception and *perceptible*. Indeed, Aristotle makes a concerted effort throughout the passage to focus his audience's attention on the joint activity that results when hearing and sound occur together, when "what is able to hear is hearing and what is able to make a sound is making a sound." Aristotle even introduces a specialized terminology for these coordinate actualities: "someone might say that the one is hearing (*akousis*), and the other sounding (*psophēsis*)."[32]

32 The situation with this terminology is as follows. *Akousis* ('hearing') appears to be Aristotle's own coinage, modeled (as he suggests himself) on corresponding terminology in other sensory domains, like *horasis* in the case of sight or seeing, and *geusis* in the case of taste or tasting, etc. At any rate, I have found no uses of *akousis* before Aristotle. The case of *psophēsis* is slightly different, and more interesting. A TLG search turns up one use of *psophēsis* before Aristotle (in a fragment of the comic poet Cratinus), and one use in testimony about Zeno. I suspect that in this case Aristotle is redeploying existing (but perhaps seldom used) terminology for a new purpose. In this connection it is interesting that there is no corresponding terminology in other sensory domains to draw from as far as the perceptibles are concerned, as there was existing terminology for Aristotle to model *akousis* ('hearing') on. For instance, there is no equivalent to sounding in the case of color, in English or in Aristotle's Greek (as he notes himself). The fact that this terminology does exist in the case of sound probably reflects the peculiar status of sounds, and in particular the fact that they are produced and then 'travel' in a way colors, at least, do not. (Notice that while we do say that cheese smells, and tastes, a certain way, these verbs characterize the cheese itself, rather than the odors and flavors it produces). In any case, the primary point is that even if Aristotle is deploying existing (albeit seldom used) terminology in the case of 'sounding' (*psophēsis*), he certainly seems to think he is putting it to a new use.

This focus carries right through the second paragraph. For after repeating that the actualities of the perceptible and of the perceptual capacity are one and the same, Aristotle concludes immediately that "hearing and sound said in *this way*" (my italics) exist together or not at all. I suggest Aristotle means that the actualities of hearing *qua* perceptual capacity, and sound *qua* perceptible, exist together or not at all. In turn, when Aristotle says that "the things said according to potentiality" can come apart, he means that hearing *qua* perceptual capacity, and sound *qua* perceptible, can come apart, albeit only in potentiality. Aristotle is highlighting the distinction between a sound's being heard and its merely being audible, not the distinction between an actual sound and a potential sound.

The significance of – and so the need for – this distinction is easily obscured in the transition from Greek to English. If we want to express the relevant distinction in English, it is natural to say that perceptible qualities count as *perceived* (seen, heard, etc.) only when they are being perceived, but remain *perceptible* (visible, audible, etc.) even when they are not. Notice that English has no need of further qualifications because it already uses two different expressions to mark this contrast – *perceived* vs. *perceptible*. This distinction is more easily missed in Aristotle's Greek, however, because there is just one expression that does double duty here: *aisthēton*.[33] Since *aisthēton* is ambiguous in this way, Aristotle needs to introduce additional terminology to disambiguate the different senses, and that is precisely why he introduces 'potentiality' and 'actuality.' That is, something is *aisthēton* in actuality when it is being perceiv*ed*, and *aisthēton* in potentiality when it is not actively being perceived, but is percept*ible*. This reading is confirmed by the fact that Aristotle uses the same terminology to mark the same distinction in other cases. *Diaireton* can mean either *divided* or *divisible*. When Aristotle wants to mark this distinction, he uses "*diaireton* in actuality" for the former, and "*diaireton* in potentiality" for the latter (e. g., *Phys.* VIII.5, 258a32–b3; *Sens.* 7, 449a10–13).

This brings us back to Aristotle's response to the earlier students of nature. It is clear from his response that Aristotle thinks they represent a cautionary tale of what can go wrong when one fails to observe this distinction. Aristotle does not tell us very much about their views, presumably because the details do not matter to the relatively narrow point he is trying to make. This point is just that when these predecessors claim that nothing is white or black without sight, one mistake they are making – though by no means the only mistake – is that of failing to distinguish something's being *horaton* ('visible,' or more generally *aisthēton*) in actuality on the one hand, and its being *horaton* (or more generally *aisthēton*) in potentiality on the

33 And the same holds for the corresponding sense-specific terminology: *horaton* (seen/visible), etc.

other. What Aristotle says he agrees with in their view – the kernel of truth in it – is just the claim that no perceptible quality is *aisthēton* in actuality without perception. *Pace* Berkeley, there is no reason to think that Aristotle wishes to endorse the stronger claim that nothing is *white* or *black* in actuality without perception too.

Summing up, we can see against the background of the *Categories* and the *Metaphysics* that there is no need to read *An.* III.2 as saying that the actuality of color itself, or sound itself, etc. depends on perception after all, either ontologically, or definitionally. Colors are actual in the light, full stop. It is not the actuality of color that is one and the same with the actuality of vision, but the actuality of one of color's accidental features, namely its visibility.[34] Put differently, it is the actualities of seeing and being seen that are one and the same, not the actualities of seeing and color. And likewise for the other senses and corresponding objects.[35]

7 Color, Light, and 'The Transparent'

This brings us to the actualities of perceptible qualities like colors and sounds themselves, and particularly the difficult case of color. If we cannot follow the Three-Stage View in defining the actuality of color in conditions of illumination in terms of the actuality of color in vision, how else should we understand it?

Aristotle's two most central characterizations of color make reference to something he calls 'the transparent' (*to diaphanes*). According to the first of these characterizations, it is (part of) the nature of color to "move what is transparent in actuality" (*An.* II.7, 418b1–2). According to the second, color is "the limit of the transparent in a determinately bounded body" (*Sens.* 3, 439b11–12).

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34 I can imagine someone responding as follows: If the actuality of vision is one and the same not with the actuality of color, but with the actuality of its visibility, does that mean that we do not see color, but only its visibility – whatever that would mean? It does not. Here we have a version of the apparent tension we saw in *Metaph.* V.15 above (section 5), which can be resolved in the same way. Let us consider a concrete example involving one of the other examples of non-reciprocal relatives Aristotle mentions in *Metaph.* V.15: measure and measurable. Fire is in the business of heating things, whether what it heats is a thermometer or something else. Nonetheless, when fire heats a thermometer something else happens besides just heating/being heated: the temperature of the fire is measured. Now just as the actuality of perception is one and the same with the actuality of the perceptible *qua* perceptible, so the thermometer's activity of measuring the heat of the fire is one and the same with the activity of the fire's heat being measured. Yet it does not follow that the thermometer is measuring the measurability of the heat of the fire, or anything other than the heat of the fire itself. The case of vision and color is no different.

35 Thanks to a reviewer for encouraging me to drive these points home.

The first thing to observe about these characterizations is that they make no explicit reference to perception. It is not only eyeballs that are transparent. Lifeless things like bodies of air and water are transparent too, and so affectable by color. Nonetheless, one might suspect that talk of 'the transparent' involves covert reference to vision after all. For we ordinarily think that a transparent body is something one can *see* through.

This suspicion might seem to be confirmed by the way Aristotle introduces the transparent in *An.* II.7:

> Every color is such as to move what is transparent in actuality, and this is the nature of it. It is for precisely this reason that it [color] is not visible (*horaton*) without light, but the color of each thing is seen in light. Hence we ought to say first what light is. Now, there is something that is transparent. By 'transparent' I mean what is visible, not strictly speaking visible *per se*, but because of the color of something else. Of this sort are air and water and many solids (*stereōn*).[36] [...] Light is the actuality of this, of the transparent *qua* transparent.
>
> πᾶν δὲ χρῶμα κινητικόν ἐστι τοῦ κατ᾽ ἐνέργειαν διαφανοῦς, καὶ τοῦτ᾽ ἔστιν αὐτοῦ ἡ φύσις. διόπερ οὐχ ὁρατὸν ἄνευ φωτός, ἀλλὰ πάντως ἕκαστον χρῶμα ἐν φωτὶ ὁρᾶται. διὸ περὶ φωτὸς πρῶτον λεκτέον τί ἐστιν. ἔστι δή τι διαφανές. διαφανὲς δὲ λέγω ὃ ἔστι μὲν ὁρατόν, οὐ καθ᾽ αὐτὸ δὲ ὁρατὸν ὡς ἁπλῶς εἰπεῖν, ἀλλὰ δι᾽ ἀλλότριον χρῶμα. τοιοῦτον δέ ἐστιν ἀὴρ καὶ ὕδωρ καὶ πολλὰ τῶν στερεῶν· [...] φῶς δέ ἐστιν ἡ τούτου ἐνέργεια, τοῦ διαφανοῦς ᾗ διαφανές. (418b1–b10)

Aristotle introduces not only the transparent, but also light, by reference to their role in vision here. But this is simply an artifact of the context. *An.* II.7 is about vision as much as it is about color, and so it is no surprise that Aristotle's discussion of the transparent in *An.* II.7 relates it to vision. By contrast, Aristotle gives what looks like a more fundamental – and from our perspective much stranger – account of the transparent in *Sens.* 3:

> But what we call 'transparent' is not a special feature of air or water or any of the other bodies we call this [i. e. 'transparent'], but a common nature and power, which cannot exist in separation, but belongs in these and in the rest of the bodies, in some more and some less.
>
> ὃ δὲ λέγομεν διαφανὲς οὐκ ἔστιν ἴδιον ἀέρος ἢ ὕδατος οὐδ᾽ ἄλλου τῶν οὕτω λεγομένων σωμάτων, ἀλλά τίς ἐστι κοινὴ φύσις καὶ δύναμις, ἣ χωριστὴ μὲν οὐκ ἔστιν, ἐν τούτοις δ᾽ ἔστι, καὶ τοῖς ἄλλοις σώμασιν ἐνυπάρχει, τοῖς μὲν μᾶλλον τοῖς δ᾽ ἧττον·[37] (439a21–25)

36 Unclear as it is, the admission that other bodies besides air and water are transparent in the familiar sense that one can see through them is significant, because it is not obvious that Aristotle's account can explain the fact that there are *determinate* bodies one can see through, like glass. See n40 below.
37 Greek text of the *De sensu* is from the edition by Ross (1955).

Notice that Aristotle expressly denies that *being transparent* is just a property of bodies one can see through, like air or water. It is a common nature found in all bodies, to one degree or another.[38]

The transparent in a body is actualized in the presence of light sources like fire (*An.* II.7, 418b3–13). In an indeterminate body – a body that lacks stable boundaries of its own, like air or water – the actuality of the transparent just is light. Strikingly, however, Aristotle claims that in determinate bodies with stable boundaries of their own, the actuality of the transparent just is color. The degree of the transparent in a determinate body thus determines the color of the body: the greater the degree of the transparent, the lighter the color (*Sens.* 3, 439b6–18). Light and color share a common nature inasmuch as they are manifestations of the transparent in different kinds of bodies – indeterminate and determinate bodies respectively.[39]

The transparent is present in bodies both inside and out, which means that determinate bodies are colored inside and out (439a31–b1). Nonetheless, Aristotle gives pride of place to the color of a body at its surface when he says, for example, that color is "the limit of the transparent in a determinately bounded body" (439b11–2). This emphasis on the color of a body at its surface makes good sense if we assume that when Aristotle speaks of determinate bodies, he is thinking primarily of bodies that are opaque, and so exposed to light only at their external surfaces.[40] So the color of a body is properly located at its surface because the transparent in it – and so its color – is actual only at its surface. While bodies are colored on the inside, then, they are colored on the inside only potentially. In this way, the colors inside bodies are like the (external) surface colors of bodies in the dark.

Since the transparent in a body is actual only in the presence of a light source, it follows that the color of a body is actual only in the presence of a light source too. This explains why Aristotle says in *An.* III.5 that "light makes potential color actual." Indeed, it also explains why he says in *An.* II.7 that "[e]very color is such as to move what is transparent in actuality, and this is the nature of it" (418b1–2). For whenever a light source activates the transparent in an indeterminate body like air or water, the colors of surrounding determinate bodies act straightaway on the transparent in the indeterminate body. Just as the boundaries of determinate bodies give shape

38 In these remarks I have benefited greatly from reading Ierodiakonou 2018.

39 Here Aristotle comes close to recognizing the distinction between surface and film color, for which see Katz 1935.

40 As Sorabji (2004) notes, glass presents a problem for Aristotle's view because it is both determinate and transparent in the ordinary sense that one can see through it, although the glass with which Aristotle was familiar was probably quite impure. There are other difficult cases too, such as opaque, colored, liquids like blood or milk.

to the indeterminate body they bound, so the colors of determinate bodies 'shape' the character of the transparent in the indeterminate body they bound.

Unfortunately, there is no space here to delve into the full details of Aristotle's accounts of color, light, and the transparent. Yet the key point is already clear. Even if Evans is right that we moderns cannot make sense of the role that light plays in our understanding of color except in terms of vision, Aristotle's understanding of color is quite different. Whereas we are accustomed to a mechanistic physics that leaves little work for colors except in connection with vision, Aristotle has no such commitments. He thinks he can make out a life of causal interaction for colors involving light and the transparent that has nothing in particular to do with vision. Colors are objective qualities of bodies for Aristotle. They are not causally inert, or redundant.[41] It is in the nature of colors to affect their environments, just as much as it is in the nature of *the hot* to heat and *the cold* to cool. More particularly, it is in the nature of color to affect the transparent in indeterminate bodies – light – because light and color share a common nature. So if it turns out that the illuminated transparent body a color acts on is an eyeball, that is an accident as far as the color itself is concerned, not its *raison d'être.*

Let us close this discussion of perceptible qualities by considering an instructive puzzle that Aristotle raises in *An.* II.12, which has sometimes been read as evidence for subjectivism. I have divided it into three parts, marked A, B, and C:

> [A] Someone might be puzzled whether what is unable to smell can be affected by odor at all, or what is unable to see affected by color, and similarly for the other senses. If the object of the sense of smell is odor, then if odor moves anything, it moves the sense of smell, with the result that what is unable to smell is not able to be affected by odor (and the same argument applies also in the other cases). And at the same time this is clear also in this way. For neither light nor dark nor sound nor smell affects bodies at all, but that in which they are does, as for example it is the air accompanying thunder that splits timber. [B] But tangible properties and flavors affect [bodies]. For if they did not, by what would un-ensouled things be affected and altered? Then will even those things [i. e., smell, color, sound] affect things? Or (*ē*) is it that not every body is such as to be affected by smell and sound, but the ones that are affected are indeterminate, and do not remain, like air (for it smells just as if it were affected in a certain way)? [C] What, then, is smelling beyond being affected? Or (*ē*), on the one hand (*men*), is smelling perceiving, while on the other (*de*), when the air is affected, it readily becomes perceptible?
>
> [A] ἀπορήσειε δ' ἄν τις εἰ πάθοι ἄν τι ὑπ' ὀσμῆς τὸ ἀδύνατον ὀσφρανθῆναι, ἢ ὑπὸ χρώματος τὸ μὴ δυνάμενον ἰδεῖν· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων. εἰ δὲ τὸ ὀσφραντὸν ὀσμή, εἴ τι ποιεῖ, τὴν ὄσφρησιν ἡ ὀσμὴ ποιεῖ· ὥστε τῶν ἀδυνάτων ὀσφρανθῆναι οὐθὲν οἷόν τε πάσχειν ὑπ' ὀσμῆς· ὁ δ' αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων· οὐδὲ τῶν δυνατῶν, ἀλλ' ᾗ αἰσθητικὸν ἕκαστον. ἅμα δὲ δῆλον

41 This is why it is sometimes said that while the physics we inherited from the early-modern period is purely 'quantitative,' Aristotle's physics is *also* qualitative.

> καὶ οὕτως. οὔτε γὰρ φῶς καὶ σκότος οὔτε ψόφος οὔτε ὀσμὴ οὐδὲν ποιεῖ τὰ σώματα, ἀλλ᾽ ἐν οἷς ἐστίν, οἷον ἀὴρ ὁ μετὰ βροντῆς διίστησι τὸ ξύλον. [B] ἀλλὰ τὰ ἁπτὰ καὶ οἱ χυμοὶ ποιοῦσιν· εἰ γὰρ μή, ὑπὸ τίνος ἂν πάσχοι τὰ ἄψυχα καὶ ἀλλοιοῖτο; ἆρ᾽ οὖν κἀκεῖνα ἐμποιεῖ ἢ οὐ πᾶν σῶμα παθητικὸν ὑπ᾽ ὀσμῆς καὶ ψόφου. καὶ τὰ πάσχοντα ἀόριστα, καὶ οὐ μένει, οἷον ἀήρ; [C] ὅζει γὰρ ὥσπερ παθών τι. τί οὖν ἐστι τὸ ὀσμᾶσθαι παρὰ τὸ πάσχειν τι; ἢ τὸ μὲν ὀσμᾶσθαι αἰσθάνεσθαι, ὁ δ᾽ ἀὴρ παθὼν ταχέως αἰσθητὸς γίνεται; (*An.* II.12, 424b4–19)

Proponents of the Three-Stage View have read this passage as evidence either that colors, sounds, and odors have no real effect on the world but the effect they have on perceivers (Broadie 1993, 146), or else that what effects they have must be understood in terms of perception (Burnyeat 1995, 24–25). Arguably, however, the passage expresses the opposite view.

As I understand it, the point of this passage is to counteract the suggestion in (A) that special perceptible qualities have no effect on the world but the effect they have on perceivers as a prelude to raising some difficult questions in (C) about the relationship between the perception-independent effects of perceptible qualities and the activity of perception itself. It is precisely the fact that perceptible qualities have perception-independent effects that makes the issues raised in (C) interesting and difficult.

Aristotle's response in (B) is what matters here. He appears to leverage the perception-independent causal efficacy of tangible and gustatory properties to suggest that colors, sounds, and odors have perception-independent effects too. Sounds may not split wood, but they (and colors and odors) do affect *indeterminate* bodies, like air and water.[42] This appeal to indeterminate bodies is just what we should expect given the account of the relationship between color, light, and the transparent in *Sens.* 3.

At this point a proponent of the Three-Stage View might fall back on Aristotle's description of the effect that odor has on indeterminate bodies at the end of the passage: odor makes them 'perceptible.' One might take this choice of vocabulary as evidence of Aristotle's commitment to the view that we can make no sense of the environmental effects of odors except in terms of perception. But that is far too much weight for a single word to bear. It is hard to believe that Aristotle would

42 There are other passages in which Aristotle ascribes perception-independent effects to perceptible qualities, helpfully collected by Broackes (1999, 107–108). For example, Aristotle claims that the odor of brimstone kills some insects (*Hist. An.* IV.8, 20). He also complains about the fact that certain opponents seem to assume that if there were a divine harmony, it would have no effect upon the world but the effect it has upon perceivers (*Cael.* II.9, 290b33), and he suggests that colors can stain mirrors (*Insomn.* 2, 459b23–460a23). The authenticity of this last passage is sometimes challenged, but for its authenticity see Woolf (1999).

make a fuss about assigning perception-independent effects to odors when he seems to have taken it for granted that gustatory properties have perception-independent effects.[43] This use of 'perceptible' has a more innocent explanation. Aristotle is asking after the difference between the effect that odor has on perceivers and the effect it has upon the air. We might wish that Aristotle had said more, but at least what he says is true: in the one case the effect is (or includes) a perception, and in the other it is an object of perception – the odor produced in the medium.[44] There is no reason why Aristotle should be committed to saying in addition that this object of olfactory perception is essentially perceptible. That is just our definitional subjectivism talking.[45]

8 Conclusion

We began with the worry that passages like *An.* III.2 seem to give aid and comfort to the likes of Berkeley, threatening our common understanding of Aristotle as an objectivist – even the arch-objectivist. The most popular contemporary alternative to Berkeley's reading fairs little better: the Three-Stage View is inconsistent with objectivism too.

The lesson is that it is no easier for us to appreciate Aristotle's conception of perceptible qualities on its own terms than it was for Berkeley. The context of Aristotle's discussion is so different from our own that some of his pronouncements can look like expressions of subjectivism when they are nothing of the kind. In *An.* III.2 he says that colors are actual in perception when he means that they are *visible* in actuality in perception. To us this looks misleading, but Aristotle's ancient

43 Here it may be helpful to recall that Aristotle often lumps touch and taste together. See for example *An.* II.3, 414b6–10; *An.* II.10, 422a9–12; *An* III.12, 434b12–20.

44 Does the smell-producer (e. g., some cheese) cause the medium to take on a smell of its own, in the same sense that the cheese has a smell? Not necessarily. Just as Aristotle draws a distinction in the case of sound (*An.* II.8, 419b5–21) between sound-producers (or what 'has' sound) – smooth (etc.) bodies that sound when struck – and what the resulting sound is 'in' – the medium – so we can distinguish between the smell-producer and what the smell is in. If that is right, then we are not forced to say that the cheese causes the air to *have* a smell in the way the cheese itself has a smell. The medium is not a smell-producer like the cheese. I address these issues in more detail in forthcoming work, including the relation between these claims and the claim in our passage that colors, sounds, and odors affect indeterminate bodies in particular.

45 A reviewer points out that we should be careful about trying to draw too much from this passage because it shows signs of tentativeness on Aristotle's part. I agree that we should be careful about drawing conclusions from the tentative remarks in (C). But I do not find (B) particularly tentative. I take the *ē* in line 15 to introduce Aristotle's favored view, as it often does.

commentators were not misled.[46] In *An.* III.5 Aristotle expresses a view about the relationship between color and light that looks like it comes straight out of Evans, when in fact Aristotle is describing a causal nexus that has nothing in particular to do with perceivers. Aristotle is an objectivist through and through. Any appearance of subjectivism is in the eye of the (modern) beholder.

Acknowledgments: I would like to thank Timothy Clarke, Klaus Corcilius, Tony Long, and Mike Martin for written comments, as well as audiences in Berkeley and Tübingen for their helpful feedback. I would also like to the thank the reviewers at this journal for patient and helpful suggestions. Remaining errors are my own.

This work was carried out with funding from the European Union (ERC, ADG, TIDA, 101053296). Views and opinions expressed are however those of the author 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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46 See the references in n31 above.

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