

Descartes on Colors-as-We-See-Them

Abstract

It's fairly common among both contemporary color theorists and historical commentators to assume that Descartes was a color eliminativist. However, Lawrence Nolan has recently argued that Descartes isn't a color eliminativist. This isn't because, for Descartes, bodies are colored. Rather, this is because there are no color properties at all, and color appearances are wholly non-perceptual. According to Nolan, bodies appear colored due to false habitual judgments. After clarifying the color eliminativist position with resources from the contemporary literature, we argue that Nolan's reading cannot be right because, most significantly, it delivers false predictions in cases of *known-illusions*—a point Descartes would recognize. This point generalizes to *any* such attempt to account for color appearances in terms of habituated judgments. Moreover, it has a deep consequence for Descartes' broader philosophical system: if bodies are not colored, and color appearances are not due to false habitual judgments, then God's status as a non-deceiver becomes less clear. We briefly explore this consequence at the end of the paper.

It's fairly common among both contemporary color theorists and historical commentators to assume that Descartes was a color eliminativist.¹ On color

¹For contemporary color theorists, see Byrne & Hilbert (1997: xx), Rubenstein (2006), Maund (2011: 382; 2018). For historical commentators see Buroker (1991), Chamberlain (2019), Cook (1996; 1987), Garber (1992: 75), Gaukroger (1995: 345), Maund (1991), Rozemond (1998: ch. 3; 1999: 452-3), Keating (2004), and Downing (2011).

eliminativism, bodies visually look colored, despite not being colored. However, Lawrence Nolan (2011) has recently argued that Descartes is *not* a color eliminativist. Interestingly, Nolan concurs with the eliminativist interpretation on one important score, viz., that bodies are not colored. However, for Nolan, this is because there are no color properties at all—he ascribes to nominalism—and color appearances are wholly *non*-perceptual. On Nolan’s reading, bodies appear colored due to false habitual judgments that arise from childhood sensory prejudices. After clarifying the color eliminativist position with resources from the contemporary literature, we argue that Nolan’s reading cannot be right. While our focus is on Nolan, the most significant reason why his reading fails—viz. because it delivers false predictions in cases of *known-illusions*—generalizes. From this two broader upshots follow. First: no account on which color appearances are due to (false) habitual judgments will be successful. Second: if bodies are not colored, and color appearances are not due to false habitual judgments, God’s status as a non-deceiver—a central plank in Descartes’ philosophical system and indeed a partial motivation for Nolan’s reading—becomes less clear. This latter issue is briefly explored at the end of the paper.

1 Color Eliminativism

The color eliminativist—henceforth, simply ‘eliminativist’—is concerned with our ordinary concept of color (Maund 2011). The ordinary concept of color

concerns what Mackie (1976) calls ‘colors-as-we-see-them’, or what we will call *phenomenal colors*.² P-color concepts are *recognitional concepts*. Employing a recognitional concept for F involves telling that x is F by the way x looks to you when one has an experience of x . This means that the application of color names will be fixed by the way objects visually appear, and the properties color terms (e.g. ‘green’) name is just a property that objects visually appear to have (Maund 2011: 365, cf. Byrne & Hilbert 2003). So what fixes the subject matter for the sort of color that is to be eliminated is whatever properties our ordinary color concepts and color naming practices (putatively) pick out (Ibid. 366). And these properties are p-colors.³

Defenses of eliminativism in the contemporary literature on color often proceed with lists of our common sense beliefs about p-colors (Johnston 1992, Pautz 2006, Maund 2011, Gow 2014). But inspection of these lists reveals that in all likelihood they are far from folk beliefs.⁴ There is also the worry of attributing (putatively) common-sense beliefs about color that, even if

²From hereon out, we will shorten the expression ‘phenomenal color’ to ‘p-color’, and refer to all determinate phenomenal colors by prefixing them with a ‘p’; p-red, p-green, and so. There will be cases where using ‘color’ will be unavoidable, either because using ‘p-color’ begs the question, or because ‘color’ is used in the source material. Context should make clear how, in those cases, ‘color’ is being used, and why the terminological regimentation is necessary. See Chamberlain (2019) for a similar terminological regimentation when discussing eliminativism in the context of Descartes and Cavendish; where he uses ‘sensuous color’, we use ‘p-color’.

³As we will see below, Nolan holds that for Descartes, there are no ‘color qualia’. But what he means by this is compatible with our claim that there are color experiences—experiences in which bodies look colored—and that we acquire the concept P-COLOR by means of these experiences.

⁴Consider, for example, *Revelation*, the claim that the intrinsic nature of colors is fully revealed in our experience of them. This strikes us as *far removed* from any ordinary, folk concept of color (cf. Hilbert 1987).

genuinely common-sense from a contemporary lens, are not so for Descartes. So caution is needed. For that reason, we will simply say the following: p-colors are those qualitative properties that are experienced visually, and that bodies—things like trees, grass, and tables—visually appear to have (*Principles* I.66 AT VIII A: 32/CSM I: 216).⁵ In this sense, everyone knows what p-colors are. They are amongst the things that unite ripe strawberries and matador capes visually. They are visually conspicuous. And they type our experiences phenomenologically by what it's like to have them. My experience of a stop sign that appears red and a stop sign that visually appears green differ phenomenologically, and so differ in what they are like, in virtue of the fact that the stop sign appears to instantiate different p-colors.

The eliminativist claims that we experience bodies as being p-colored—the surfaces of bodies visually appear to be p-colored. Technically, this claim does not itself require that p-color appearances are representational—i.e. that p-colors are represented properties—so eliminativism does not require attributing representationalism to Descartes. That said, we think Descartes *is* a representationalist, and for convenience, we will occasionally speak this way.⁶ And while our argument does not hang on any specific version of eliminativism, the version we favor does require representationalism, at least in the minimal sense that sensory experiences have some sort of *content*.

⁵We employ the following abbreviations for primary texts: 'AT': *Oeuvres de Descartes* (cited by volume and page); 'CSM': *The Philosophical Writings of Descartes*, Vols I and II (cited by volume and page); 'CSMK': *The Philosophical Writings of Descartes*, Vol III (cited by page).

⁶See, e.g., Simmons (1999), De Rosa (2007), Hatfield (2013), (redacted).

This base claim about p-color appearances is something everyone can agree upon. But then the eliminativist adds a further claim: scientific investigation, broadly construed, reveals that bodies do not instantiate any p-colors.⁷ Descartes has something like this in mind when he writes, given mechanism about bodies, that:

The nature of matter, or body considered in general, consists not in its being something which is hard or heavy or colored, or which affects the senses in any way, but simply in its being something which is extended in length, breadth and depth. (*Principles* II.4, AT VIII A: 42/CSM I: 224; cf.)

In essence, Descartes is claiming that the *nature* of bodies precludes them from instantiating p-colors.

Consider now the *physicalist* (e.g. Byrne & Hilbert 2003). She rejects eliminativism and identifies p-colors with spectral reflectance types, tokens of which are instantiated by bodies. Or consider the *dispositionalist* (e.g. Cohen 2009). She rejects eliminativism and identifies p-colors with dispositions to affect certain perceivers in certain ways in certain contexts, dispositions which bodies possess. Both positions deny that p-colors wear their natures on their

⁷Here is Byrne and Hilbert on this point: “At the start of enquiry, one would want to make a distinction between salt and sodium chloride...even though it may turn out that salt is sodium chloride...It may similarly turn out with phenomenal color and (a kind of) physical color. Although care must be taken to make this distinction at the outset, perhaps phenomenal and physical color are one and the same” (2003: 6). The idea is that, after thorough investigation, ‘physical color’—for Byrne and Hilbert, a set of spectral reflectances—might turn out to be p-color. The eliminativist says it won’t.

face. We do not experience p-colors as spectral reflectances or as dispositions. So the nature of p-colors is hidden from us experientially. But, the idea goes, it's this hidden nature that renders p-colors suitable for being instantiated by external bodies.⁸ The crucial point for our purposes is this: the eliminativist need not—and in practice, does not—deny that bodies instantiate spectral reflectances, or that they have these subject-involving dispositions (cf. Averill & Hazlett 2010: 761). So the eliminativist will (or can) grant that bodies have 'physical colors' and will (or can) grant that bodies have 'dispositional colors'. What she denies is that these are p-colors.

This point leads to an oddity in the secondary literature. A theory of color is in the first instance a theory of p-colors. It's not a theory of physical colors, except insofar as one may be inclined to identify p-colors with physical colors, nor is it a theory of dispositional colors, except insofar as one may be inclined to identify p-colors with dispositional colors. Now with the latter point in mind, consider this passage:

[W]e have every reason to conclude that the properties in external objects to which we apply the terms light, color, smell, taste, sound, heat and cold, as well as other tactile qualities...are, so far as we can see, simply various disposition in those objects which make them able to set up various kinds of motion in our nerves.

⁸There is no problem in having colors-as-we-see-them as one's object of inquiry yet it turning out that, on one's theory, colors-as-we-see-them have a hidden nature. It's true that we do not experience colors-as-we-see-them as (say) spectral reflectances, but it's also equally true that we do not experience colors-as-we-see-them as *not being spectral reflectances*. Experiences plausibly only report in the positive mode.

(*Principles* IV.199, AT VIII: 322/CSM I: 285)

This passage has led some—most notably John Cottingham (1989)—to argue that Descartes was a dispositionalist. This would lead one to think that, on Cottingham’s reading, Descartes identifies p-colors with dispositional colors. But this isn’t so. This passage does, of course, suggest that Descartes identifies *some* kind of color property—“are...simply”—with such dispositions. So let’s just suppose: bodies instantiate *dispositional colors*, and it’s these properties that are responsible for our color experiences. All of this is consistent with eliminativism, because, as we saw, it’s a further claim that dispositional colors are p-colors. And Cottingham denies this:

What is denied is the inherence of redness qua redness—redness construed as a certain sort of *sui generis* quality supposed to inhere in objects in a way that exactly matches our sensory awareness of it. (1989: 238)

What Cottingham is telling us is that there is nothing in bodies that is like the property of which we have sensory awareness.⁹ And this property of which we have sensory awareness is a property ‘supposed to inhere in objects’—it’s a property that bodies *appear* to have. These are p-colors. So, yes, there is a

⁹See fn. 4 and fn. 8. Again, the color eliminativist says that, properly understood, colors-as-we-see-them are not in bodies. This is what “exactly match[ing]” comes to: there is no property in bodies that has all the essential features of colors-as-we-see-them. This does not mean that we are aware of all the features of p-color. Suppose the eliminativist said that p-colors were instantiated in the visual system instead of bodies. It’s not as if by this claim the eliminativist would be claiming that p-colors *seem* to be instantiated in the visual system. It only means that of the features we do take p-colors to have, there is no property in bodies that matches a property of this description.

property F, a dispositional property, that bodies have, but there is this other property F*, of which we have sensory awareness, that does not match F. But of course that is just to be an eliminativist with respect to F*. In other words, it's to be an eliminativist with respect to p-colors.

Something similar is afoot in Margeret Atherton's (2004) reading. She contends that Descartes uses 'color' to pick out different properties in different contexts. For example, in the *Optics*, Descartes writes:

Colors are nothing other than the various ways in which the bodies receive light and reflect it against our eyes. (AT VI: 85/CSM I: 153)

This passage suggests one kind of physicalism: colors are spectral reflectances. Elsewhere, Descartes says:

Those which have a much stronger tendency to rotate cause the color red, and those which have only a slight stronger tendency cause yellow...green appears where they turn just a little more slowly and blue where they turn very much more slowly. (*Meteorology*, Eighth Discourse, AT VI: 333/Olscamp p. 337).

This passage too suggests another kind of physicalism: colors are tendencies for bodies to rotate in certain ways. But Descartes was not a *physicalist*—that is, he did not identify p-colors with any physical property. And here too Atherton admits as much:

What makes physical states have the character they have is not the same as what makes psychological states have the character they have. The green you see is not the same as and is not very much like the green in the world. (Ibid. 33)

The ‘green’ in “the green you see” is p-green. ‘See’ is a success-term. So if we see p-green, p-green exists. And we experience p-green as a property of bodies, despite the fact that—by Atherton’s own lights—bodies only instantiate physical green. So p-green isn’t physical green. Hence, since bodies still appear p-green, and *only* appear p-green, it follows that Descartes was an eliminativist. That bodies have physical colors is neither here nor there.

We are hesitant to give a firm diagnosis of what is going here. The matter could be terminological. It’s also possible that these commentators are simply confused about what eliminativism requires. Since neither option is charitable, we will punt. The main point, however, remains: the eliminativist need not deny that bodies have dispositional or physical colors. All she claims is that bodies (i) look p-colored, that (ii) bodies are not p-colored, and that (iii) bodies looking p-colored is a *perceptual* matter. That is, bodies look p-colored because they are represented to us as such in perception, or at least presented to us as such in perception. Call the conjunction of (i) - (iii) *bedrock eliminativism*. As we will see, Nolan really does target Descartes’ views on p-colors, and genuinely does reject bedrock eliminativism. But this is only because he rejects (iii). So Nolan is an advocate of what one might call ‘90% eliminativism’. Our claim is that his reading is only tenable once

the remaining 10% is conceded.

One final issue before we proceed. Bedrock eliminativism entails an error theory. Bodies look p-colored despite not being p-colored. Color experiences themselves exist. Yet they systematically attribute properties (viz. p-colors) to bodies that do not have them. We will return to the import of this point for Descartes towards the end of the paper. But for now, notice that in moving beyond bedrock eliminativism, there are three ways error theory can play out: *literal projectivism*, *figurative projectivism*, and *strong eliminativism*.¹⁰ The literal projectivist says that the p-colors we experience as covering the surfaces of objects are really properties of perceptual experiences themselves, or of the ‘visual field’. So p-colors are instantiated, just not where they appear to be instantiated. The figurative projectivist, by contrast, says that the p-colors we experience as covering the surfaces of objects are *uninstantiated*. P-colors exist, and appear to be instantiated in bodies. They just are not instantiated in bodies for the simple reason that they are not instantiated anywhere. Finally, the strong eliminativist agrees that bodies are not p-colored, despite looking so. But instead of simply saying (like the figurative projectivist) that p-colors are uninstantiated, she says that they do not exist at all—even as uninstantiated universals.

Officially, our thesis is neutral on what brand of eliminativism Descartes

¹⁰For the distinction between literal and projectivism, see Shoemaker (1990). Modern-day literal projectivists include Boghossian and Velleman (1989) and Averill (2005). Modern-day figurative projectivists include Averill (1992), Wright (2003), and Pautz (2006). Modern-day strong eliminativists include Hardin (1988).

held, although on balance we favor figurative projectivism. As such, it will be noted when its virtues are germane. As we will see, Nolan’s reading in fact has a close affinity with strong eliminativism, but again with that crucial qualification, viz., that p-color appearances are not a perceptual affair, but a product of habitual false judgment. This isn’t something Descartes can abide.

2 Nolan’s Nominalism

Nolan (2011) claims that Descartes is a color nominalist. Color terms are merely names; they do not express properties, be they properties of minds or properties of bodies.¹¹ It’s no accident that (especially in his scientific writings) Descartes prefixes his purportedly positive metaphysical claims about color with the expression ‘what we call’. For example, Descartes writes “You may perhaps even be prepared to believe that in the bodies we call ‘coloured’ the colours are nothing other than the various ways in which the bodies receive light and reflect it against our eyes” (*Optics* AT VI: 84/CSM I: 153). Insofar as our ordinary concept of color goes, Descartes agrees with the eliminativist; it’s a property that bodies visually appear to have.¹² But this is

¹¹Confusingly, Nolan occasionally (e.g. 2011: 82, 92, 106) says that colors are merely names, rather than ‘colors’. We will assume that the former isn’t what Nolan means, as it smacks of a category mistake.

¹²Nolan adds that “Descartes thinks that we ordinarily pick out the properties of bodies that cause or sensations on the basis of the sensations themselves” (Ibid. 106). In other words, by Nolan’s lights, Descartes would agree that our p-color concepts are recognitional concepts. While Nolan takes the ‘what we call’ locution to be Descartes’ warning to not be misled by our ordinary p-color concepts, this has no bearing on whether or not Descartes

simply a semantic claim about how the vulgar use color terms in ordinary discourse not how they *ought* to be used in light of philosophical reflection (Ibid. 83). Descartes employs the ‘what we call’ expression as a sort of hedge; it’s Descartes’ way of referring, in a metaphysically neutral manner to whatever it is in bodies that causes our color experiences, without committing to the claim that these causes are p-colors—without, that is, buying into the metaphysics of the vulgar. And if you buy Nolan’s story, the hedge is well-founded, since Nolan has it that Descartes actually *denies the existence* of p-colors.¹³ While bodies appear p-colored, these color appearances are not perceptual in nature, but entirely a function of (voluntary) false habitual judgments (Ibid. 84).

From an eliminativist perspective, there is no problem with Nolan’s contention about how the vulgar use color terms to refer to (putative) properties that bodies appear to have; indeed, the eliminativist concurs. From an eliminativist perspective, there is no problem with Nolan’s contention that Descartes would deny that bodies have these properties; indeed, the eliminativist concurs that bodies do not have these properties. There is moreover technically no problem with Nolan’s contention that Descartes would deny that these properties exist; indeed, as we saw, one could be a strong eliminativist and deny not only that there are p-colors instantiations, but that p-colors exist. But from an eliminativist perspective there is a problem with

thought that those concepts were recognitional in nature.

¹³Nolan says that p-colors are not qualities (i.e. properties). But we assume that if p-colors exist at all, they are qualities (i.e. properties).

Nolan's contention that, for Descartes, p-color appearances are not a perceptual affair. So, by Nolan's own lights, Descartes is only one step shy of eliminativism; to show that Descartes is an eliminativist, we need only show that Descartes did take color appearances to be perceptual—or perhaps more simply, that the reasons Nolan musters for thinking otherwise are unconvincing. We will go further, however, since the reason Nolan gives for why Descartes would deny the existence of p-color properties shows, at best, that Descartes would deny that there are p-color instantiations. The result is that Nolan's reading is best understood as advocating figurative projectivism.

Here is how Nolan describes the underlying motivation for Descartes' nominalism:

Descartes takes sense perception to be highly confused. The confusion is important because it means that, although our sense experience has a phenomenological character, or feel, it does not resolve neatly into discrete qualitative elements that can, in his terms, be clearly and distinctly perceived. Advocates of qualia take them to be 'given' in sense experience, but...on Descartes' view, most of what we [take] to be given is in fact the product of false judgments, including what contemporary philosophers call 'color qualia'. (Ibid. 95)

There are two claims of note here. The first is that color qualia—what we have been calling p-colors—are in some sense not 'given' in perceptual experience. This claim has a corollary: that bodies appear p-colored isn't a matter of

perceptual experience representing (or misrepresenting) them as being p-colored. It's not a "teaching of nature" that bodies are p-colored.¹⁴ This corollary suggests a question: if bodies appearing p-colored isn't a matter of perceptual experience representing them as p-colored, what is it? Why does this seem to be a teaching of nature even though it's not? The second point provides an answer: color appearances are due to voluntary (albeit habitual) false judgments. These judgments include *that bodies are p-colored*, but also *that p-colors are qualities* (Ibid. 107).

Let's begin with the first point. Nolan says that p-colors—or color qualia, as he puts it—are not given as 'discrete' elements in experience. The basic idea is that we never experience p-colors all on their own, independent and divorced from geometric properties and other primary qualities presented in experience (Ibid. 93). There are no perceptual experiences of *just* p-colors.

Nolan motivates this by example (Ibid. 93). Consider the visual experience one might have of a beach ball while sitting on the beach. Suppose that the beach ball looks p-red. Although one can discriminate the beach ball's (apparent) p-redness from its size and shape, our ability to do so does not require that we experience p-redness apart from these other qualities. P-redness is never given as such.

We are happy to grant that p-colors are not discrete in this way, and we

¹⁴To say that it's not a "teaching of nature" that bodies are p-colored is to say that the senses, as part of one's nature qua mind-body union, do not represent bodies as p-colored (Ibid. 96). By way of preview, Nolan is also denying—pace Hoffman (1996), Simmons (1999), and Wilson (1999)—that the senses even confusedly represent bodies as being p-colored (Ibid. 96). Surprise: we disagree.

are happy to grant Nolan’s contention that Descartes would concur (Ibid. 94).¹⁵ The eliminativist isn’t committed to the claim that p-colors are given discretely in experience. She is just committed to the claim that in experience p-colors appear to be properties of bodies (even though they are not).

It might be thought that if p-colors were not given discretely, this would show that p-color appearances—the appearances of bodies as p-colored—isn’t perceptual. Perhaps that’s what Nolan means when he says that p-colors are “non-sensuous” (Ibid. 94). The eliminativist could not grant this, but that p-colors are not given discretely shows no such thing. It would only show this if we had reason to believe that it’s a necessary condition on p-color appearances being perceptual that p-colors be given discretely. Nolan provides us with no reason to think this.

Nolan also seems to think that this idea establishes, or at least provides evidence of, the claim that p-colors are not even qualities—a contention supposedly buttressed by Descartes’ warning to Burman that we err if we attempt to ‘reify’ p-colors in any way (AT V: 152/CSMK: 337). We will look at Descartes’ discussion with Burman shortly. But again: the eliminativist can grant that colors are not qualities (instantiated or not), and so do not exist. Even so, that p-colors are not discretely given in experience provides no evidence for this. In fact, it does just the opposite; in describing how the

¹⁵We cannot think of any counterexamples; the closest are visual ganzfelds, which are cases in which, under certain conditions, one has a perceptual experience in which the visual field is permeated by an unstructured and undifferentiated colored expanse. But even here the p-color one experiences is (plausibly) experienced alongside something’s being extended.

apparent p-color of the beach ball isn't sensed *apart* from its other qualities, we are *still describing an apparent quality* of the beach ball.¹⁶

The second claim of note is that we mistakenly take p-color to be given in sensory experience—to be part of the teaching of nature—due to voluntary false judgments, habitual since childhood (cf. Ibid. 98). The senses themselves don't teach us that bodies are p-colored. We only ascribe p-colors to bodies because of these judgments (cf. Nolan and Whipple 2006: 37-8).

In considering this claim, here is one thing that is (hopefully) uncontroversial: we think bodies are p-colored because they appear to be p-colored. Perhaps this isn't the whole story, but surely it's part of the story. Our usage of 'appear' in this context is neutral; we do not assume that these appearances are perceptual, however natural that might be. But notice: if this is right, then on Nolan's account it must be the case that it's in virtue of these false judgments that bodies appear p-colored. For if these appearances were perceptual, then presumably that bodies are p-colored *would* be a teaching of nature. The problem here, however, is immediate: the view that bodies appear p-colored due to false judgments is false.

¹⁶It isn't entirely clear whether Nolan intended for the non-discreteness of p-colors alone to establish that p-colors were not given as a teaching of nature (i.e. in sense experience), or that p-colors are qualities at all. But immediately following his discussion of the beach ball case, Nolan asks "Why then do these other things *seem* to be taught by nature, if in fact they are not?" (ibid.: 97, emphasis in original). We will address Nolan's answer to this question momentarily. But the mere fact that Nolan asks this question when he does suggests that he thinks the non-discreteness of p-color appearances settles the matter of whether bodies appearing p-colored is a perceptual affair in the negative. As we have said, Nolan provides no discernible argument for this.

To see this, consider the Müller-Lyer illusion:

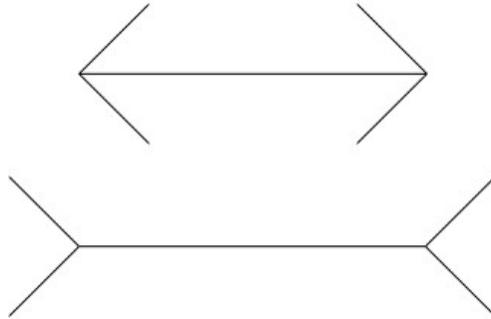


Fig. 1: The Müller-Lyer Illusion

The Müller-Lyer illusion illustrates what is sometimes called a *known-illusion*. These are cases where subjects have beliefs contrary to the way things appear to them in experience. In this particular case, the lines appear to be of different lengths even though they are not, and we believe as much. However—and this is the critical point—they *still* appear this way even when we learn that they are of different lengths. This is the hallmark of phenomenal uses of ‘looks’ and ‘appears’; even when a subject is rational, the way things appear remains stable in the presence of a defeater (cf. Chisholm 1957; Jackson 1977). Likewise, when we run through the *Meditations*, and shed our faulty habitual judgments, it’s not as if bodies no longer look p-colored. They still retain this appearance. So that bodies appear to be p-colored cannot be a matter of voluntary false judgments, habitual or not.

To be clear, the problem isn’t that Nolan is ascribing to Descartes a false view; we do that every time we say that Descartes is an interactionist

substance dualist. The problem is that this view would have readily been seen as false by Descartes. Its truth should be evident to anyone who successfully completes the *Meditations*.

This point generalizes. It shows that there can be no account on which p-color appearances are due to habitual judgments. It shows this because it's *essential* to such an account that habitual judgments are revisable. For otherwise that the judgments are habitual has no import. Habits can be hard to change. But we do not recognize any sense of the term 'habit' such that it's impossible to cease the behavior (in this case, making a judgment of a certain sort) in question. Thus, so long as it's possible to cease making the judgment, it should be possible to see that the p-color appearances won't change as a result.

This still leaves an important question unanswered, however. Why might Nolan be inclined to read Descartes this way? We surmise that the more fundamental reason Nolan takes p-color appearances to be the product of (voluntary) habitual false judgments is due to Descartes' distinction between a *genuine teaching of nature* and an *apparent teaching of nature* (Ibid. 96-97). It's natural to treat a genuine teaching of nature as a 'claim' made by our sensory experiences about bodies. The claims our sensory experiences make is fixed by their functional role. In the Sixth Meditation, Descartes writes: "the proper purpose of the sensory perceptions given me by nature is simply to inform [*significandum*] the mind of what is beneficial of harmful for the composite of which the mind is a part" (AT VII: 83/CSM II: 57). The function

of sensory experiences, then, is to help us navigate our environment in a way that ensures our survival. So any teaching of nature will be one which, when presented to us in sensory experience, will help us survive and thrive in a dangerous world. And to do *that*, the claim one's sensory experience makes must plausibly be about the bodies in one's ambient environment, at least in some sense.¹⁷

In contrast, there are many things that merely seem to be taught by nature, and so are only apparent teachings of nature. As Descartes puts it:

There are, however, many other things which I may appear to have been taught by nature, but which in reality I acquired not from nature but from a habit of making ill-considered judgments; and it's therefore quite possible that these are false. Cases in point are the belief that any space in which nothing is occurring to stimulate my senses must be empty; or that the heat in a body is something exactly resembling the idea of heat which is in me; or that when a body is white or green, the selfsame whiteness or greenness which I perceive through my senses is present in the body; or that in a body which is bitter or sweet there is the selfsame taste which I experience, and so on; or, finally, that stars and towers and other distant bodies have the same size and shape which they present to my senses, and other examples of this kind.

¹⁷Note that this is compatible with these claims being egocentric, as on Simmons' (1998) account. Claims about what bodies are like relative to us are still claims about what bodies are like.

(Sixth Meditation, AT VII: 82/CSM II: 56-7).¹⁸

But as Nolan would have it, it's only an apparent teaching of nature that sensory experiences make claims about what bodies are like—an appearance that, according to Nolan, is supplied by our habitual false judgments. In fact, sensory experiences do not provide any genuine teachings of nature about bodies at all. In defense of this, Nolan points us to this line:

My nature, then, in this limited sense, does indeed teach me to avoid what induces a feeling of pain and to see out what induces feelings of pleasure, and so on. But it does not appear to teach us to draw any conclusions from these sensory perceptions about things located outside us without waiting until the intellect has examined the matter. (Sixth Meditation, AT VII: 82/CSM II: 57)

The problem though is that, if we (following Nolan) take Descartes too literally here, it's not clear how our sensory experiences could fulfill their function. As Descartes claims, the function of sensory experiences is to *inform* us about beneficial and harmful bodies (AT VII: 83/CSM II: 57). To do so is plausibly just to make some kind of claim about bodies. And for a sensory experience to 'make a claim' about the nature of a body x is intuitively just for it to

¹⁸The distinction between an apparent teaching of nature and a genuine teaching of nature has been acknowledged by other commentators as well, though not in these terms. Rethy (2000: 665-6) distinguishes three teachings of nature, some of which should be accepted (what we're calling a genuine teaching of nature) and others which should be rejected (what we're calling an apparent teaching of nature). Kennington draws a similar distinction between a "practical teaching of nature" and a "theoretical teaching of nature" (1972: 87-88, 99).

attribute some property F to x . An example: a plausible sub-role for color vision specifically is the recognition of food sources, like ripe fruit and mature leaves. (Clearly, being able to recognize food sources would help preserve the health of the mind-body union.)¹⁹ Suppose one wants to identify ripe bananas. Ripe bananas, in normal lighting, look p-yellow. If color eliminativism is true, they are not actually p-yellow. So, when we have visual experiences of bananas, those experiences represent bananas as having a property they do not have. Yet that's not a problem, at least insofar as finding food goes. What *would* be a problem, however, is if one's experience represented the banana as p-yellow in context C , p-green in context C^* , p-magenta in context C^{**} , and so on, where C , C^* , and C^{**} are all tokens of the same context-type. In all contexts, one's experience would misrepresent. But it wouldn't, to use Angela Mendelovici's (2013) phrase, be misrepresenting *reliably*. And that, we submit, would be a bar to finding food in an optimal manner. But there is nothing about eliminativism that says p-color experiences misrepresent in an unreliable manner.

Moreover, note that most subjects, unless they go through the *Meditations*, would have no idea that the banana was not actually p-yellow. Our point though is that it's not clear how one *could* identify a banana as ripe if one's experience didn't attribute to it the property of being p-yellow, and this is true independent of whether the banana is p-yellow—that is, this is true independent of whether one's experience of the banana is accurate. And

¹⁹For some recent discussion, see Bompas et al (2013).

for one's experience to attribute the property of being p-yellow to a banana is just for one's experience to make a claim about what bananas are like.²⁰

What this shows is that a (genuine) teaching of nature can be false. This has a whiff of paradox, but it dissipates when we remember that teachings of nature are fixed by whatever the senses have the function of representing. But representing an object as having some property clearly does not require that the object have that property. So the actual mistake we make when we confuse an apparent teaching of nature for a genuine one—the mistake Descartes is so keen to warn us of—is *affirming* via a false habitual judgment that the claim made by our sensory experience (its content) is accurate. Descartes is forthright about this:

I misuse them [sensory experiences] by treating them as reliable touchstone for immediate judgements about the essential nature of the bodies located outside us; yet this is an area where they provide only very obscure information (Sixth Meditation, AT VII: 83/CSM II: 57-8).

The mistake would amount, in the present, to affirming that bodies are p-colored. This seems to be precisely what Descartes says above when he points to our erroneous belief that “when a body is white or green, the selfsame whiteness or greenness which I perceive through my senses is present in the

²⁰Rethy makes a similar claim, in the context of the passions, that a teaching of nature “is a teaching about object, but is not a teaching about objectivity: it’s a teaching about the object as useful or harmful” (2000: 665). As we understand it, Rethy is claiming that the passions make claims about bodies, but not claims that are metaphysically accurate; rather, they are claims about how bodies are harmful or useful relative to our well-being.

body”. (Notice how agonizingly close this claim comes to eliminativism all on its own: Descartes, it appears, is saying that colors-as-we-see-them are not in bodies.)²¹ We mistake an apparent teaching of nature for a genuine teaching of nature by assuming that our sensory experiences are accurate with respect to the claims they make about the bodies in our ambient environment (e.g. that these bodies are p-colored).

There is a remaining issue. In defending the claim that p-colors are not qualities, let alone qualities (discreetly) presented in experience, Nolan refers us to a curious passage in Descartes’ *Conversation with Burman*. The context is that Burman is asking for further clarification about Descartes’ view on the source of error as explained in the Third Meditation. There, Descartes claims the following:

The chief and most common mistake which is to be found here consists in my judging that the ideas which are in me resemble, or conform to, things located outside me. Of course, if I considered just the ideas themselves simply as modes of my thought, without referring them to anything else, they could *scarcely* [*vix*] *give me any material for error*. (AT VII: 37/CSM II: 26, emphasis added)

Here is Burman’s interpretation of this passage:

Since all error concerning ideas comes from their relation and ap-

²¹Again: it’s consistent with the eliminativist story that bodies have ‘physical colors’, like spectral reflectance properties. Descartes seems to get at this very point by talking of “when a body is white or green” (Sixth Meditation, AT VII: 82/CSM II: 56-7). Here ‘white’ and ‘green’ do *not* pick out p-white or p-green.

plication to external things, *there seems to be no subject-matter for error whatsoever* if they are not referred to externals. (*Conversation with Burman*, AT V: 152/CSMK: 337, emphasis added)

Burman is on the right track, but Descartes points out that he originally claimed that the ideas “scarcely give me any material for error” Strictly speaking, then, some ideas can be misleading even if we do not make a judgment about how the idea relates to external objects. Here is Descartes’ full response:

Even if I do not refer my ideas to anything outside myself, there is still subject-matter for error, since I can make a mistake with regard to the actual nature of the ideas. For example, I may consider the idea of color, and say that it is a thing or a quality; or I may say that the color itself, which is represented by this idea, is something of the kind. For example, I may say whiteness is a quality; and even if I do not refer this idea to anything outside myself—even if I do not say or suppose that there is any white thing—I may still make a mistake in the abstract, with regard to whiteness itself and its nature or the idea I have of it (AT V: 152/CSMK: 337)

Descartes seems to consider two possibilities regarding the mistake we can make about color:

- (1) ‘I may consider the idea of color, and say that it is a thing or a

quality’.

- (2) ‘I may say that the color itself, which is represented by this idea, is something of the kind’.

If we construe ‘idea’ in (1) formally, there is no mistake: ideas of p-color in this sense are modes of the mind. Nor is there any mistake if we construe ‘idea’ in (1) objectively.²² While an idea, considered formally, is a quality of the mind, an idea, considered objectively, is a quality of an idea, considered formally (i.e. as representational content).

This leaves (2): we mistakenly judge that the p-color itself, represented by the idea, is a thing or a quality. Here Descartes is talking about what is represented by the idea in virtue of its having representational content, that is, the “color itself”. So (2) can be understood in two ways. The face value reading of (2) is:

- (2*) P-color isn’t a quality *tout court*.

But another option is:

- (2**) P-color is an uninstantiated quality.

Which reading does Descartes have in mind? This is what Descartes says:

²²There are two aspects to a Cartesian idea: formal reality, and objective reality. Formal reality concerns the actual metaphysical status of a particular thing. In the case of ideas, ideas have the formal reality of being modifications of the mind. Objective reality, on the other hand, is the representational content of an idea. An idea of the actual sun contains the sun objectively, that is, insofar as it enters into the content of the idea (Third Meditation, AT VII: 40-1/CSM II: 28).

For example, I may say whiteness is a quality; and even if I do not refer this idea to anything outside myself—even if I do not say or suppose that there is any white thing—I may still make a mistake in the abstract, with regard to whiteness itself and its nature or the idea I have of it. (Ibid.)

Nolan claims that it's (2*) that Descartes has in mind, warning us that we would err if we “reify colors in anyway” (Ibid. 102-103). But to reify something is plausibly to treat that thing as *concrete*. But on (2**) colors are presumably not concrete—they are uninstantiated. Further, if p-color were to have any kind of reality in Cartesian metaphysics, it would be as a property (as opposed to an attribute or a substance), so (2*) implies that p-colors don't have any ontological status. That's problematic—or at least incurs a substantial cost—since one will still want to explain how bodies could appear p-colored despite this. On balance, then, we think what Descartes is clarifying for Burman is that it's a mistake to suppose that simply because p-colors are not instantiated in bodies, they are instantiated in the mind.

Taking (2**) seriously requires, of course, that Descartes was not an Aristotelian about properties. It requires, in other words, that Descartes would countenance uninstantiated properties. Can he? Consider what Descartes says in *Principles* I.52:

Thus, if we perceive the presence of some attribute, we can infer that there must also be present an existing thing or substance to which it may [*possit*] be attributed. (AT VIII A: 25/CSM I: 210)

It would be a mistake to take this as evidence against (2**), and by extension, a figurative projectivist reading. Three points draw this out. First: Descartes' claim is about attribution in perception. The figurative projectivist concurs in the sense that there is always an object to which we ascribe p-colors. They are precisely those objects which, in experience, appear to be p-colored. Their claim is only that these objects are not in fact p-colored. Second: even if we assume that Descartes means something stronger—something requiring, say, instantiation—he only says that there must be a thing to which the attribute “*may* be attributed” (emphasis added). The figurative projectivist need not deny that p-colors *could* have been instantiated by bodies, or that they are in a non-actual world. Third: an attribute is an essential feature of a substance. Suppose we take Descartes to be saying this: if we perceive an attribute, then we can infer that there exists some substance in which the attribute inheres. But even if so, it does not necessarily follow that, if we perceive some mode (a modification of a substance via its attributes) that there is a substance there which the mode inheres in. And that's all that matters, since p-colors are modes, not attributes.²³

In sum, what we are suggesting is that Nolan and the eliminativist are battling for the same team. Assuming that he is willing to do away with the

²³We realize that this doesn't settle things, of course. While treating Descartes as a Platonist about universals has a rich history in the secondary literature (e.g. Kenny 1970: 692; Wilson 1978: 171; Schmaltz 1991), it's not entirely uncontroversial (Nolan 1998). That said, while we have made clear that a figurative projectivist reading has its attractions, our overarching case does not require that Descartes was a figurative projectivist, even though we may favor it. For this reason, that Descartes' stance on the nature of properties is an unsettled interpretive question presents no worries for our argument.

(dubious) assertion that color appearances are a product of (voluntary) false habitual judgments, Nolan can get everything he wants by reading Descartes as a figurative projectivist. The figurative projectivist isn't committed to discrete color qualia or discrete color experiences. And the figurative projectivist does not 'reify' p-colors since the figurative projectivist denies that there are any p-color instances in the actual world.²⁴

3 Eliminativism in a Theistic World

Descartes was an eliminativist. Perhaps external bodies instantiate spectral reflectances. Perhaps external bodies instantiate particles with certain 'rotation-tendencies'. Or maybe external bodies have powers or dispositions to cause color experiences in certain circumstances. In other words, for all that has been said here, Descartes can concede that bodies have physical colors or that bodies have dispositional colors. He can concede this just like any eliminativist can concede this. What he denies is that these are p-colors. And although we have not staked our case on figurative projectivism, we do favor it. This view clearly has its benefits (Cook 1996: 24), but it does have its costs, since it requires that Descartes countenances uninstantiated prop-

²⁴We saw above that Descartes, in keeping with the Medieval scholastic tradition, assigns a degree of being ('objective reality') to things represented by the mind. Contemporary figurative projectivists will likely reject this move, instead insisting that if uninstantiated properties don't exist, then the p-colors don't exist, period. But notice that by simply granting that p-color appearances are perceptual—or simply that there are p-color appearances—we are not far from admitting that p-colors are represented. So by Descartes' own ontological commitments, that would entail that p-colors have being. Yet if they have being at all, surely they do so as a quality or property.

erties. While we have touched on this point, a full-dress defense of figurative projectivism requires more investigation than we can afford here.

Nolan’s nominalist reading is close to the eliminativist position, but as we have argued, not close enough. Descartes cannot allow that p-color appearances are non-perceptual. But this matter suggests another concern, that we will briefly discuss by way of closing.

Compare Nolan’s position with that of Alison Simmons (2003) and Sarah Patterson (2016). Simmons and Patterson both take color experiences to involve a false, perhaps unconscious, judgment to the effect that bodies are colored—what they call ‘constructive judgments’. Their point is not that we do not have false, habitual (voluntary) judgments; we do. Rather, constructive judgments are a *distinct kind* of judgement—one that is *not* habitual, but automatic and constitutive of sensory experience more generally.^{25,26} This has an important consequence.

First, note that the Simmons-Patterson line is actually compatible with known-illusions (Quilty-Dunn 2015). Suppose that after looking at the Müller-Lyer illusion, Mary learns that the lines are of equal length. So now her belief about the lines is true. If you ask her whether the lines differ in length, she

²⁵The view Simmons and Patterson are proposing is reminiscent of *dual component theory*, according to which perceptual experience is comprised of both a non-conceptual sensory component, and an assertoric propositional attitude (typically, a belief). Insofar as this makes Descartes a bit like Reid, this is somewhat surprising. However, there is a crucial difference: whereas Reid is often understood as treating the sensory component as non-representational, at least Simmons insists that this is not the case for Descartes.

²⁶Simmons and Patterson differ somewhat on the nature of this judgment; for Simmons, it’s issued by the intellect (2003: 565-6), for Patterson, it’s issued by the will (2016: 85, fn. 48). We tend to side with Patterson on this score.

will say ‘no’. But this does not block the formation of the false constructive judgment, or changes how the lines appear in experience (cf. Quilty-Dunn 2015: 557). For when Mary says ‘no,’ she is expressing her lack of endorsement for this constructive judgment. She is, in a way, undergoing a case of cognitive dissonance.

But Nolan cannot take his line. Recall: eliminativism entails an error theory: color experience attributes properties to bodies that bodies do not have. So color experience is systematically misleading; bodies look p-colored, and because of this, it’s plausible that we will naturally judge (falsely) that they are p-colored. Does this make God—having given us these systematically misleading sensory experiences—a deceiver? The idea isn’t far-fetched. You cannot readily explain away this sort of error akin to the way Descartes explains away dropsy. Dropsy is rare and a symptom of our finitude. It’s a ‘glitch’ that in some sense isn’t meant to happen. That’s not so with the error involved in color experience (assuming eliminativism). The attribution of p-colors to bodies is reliable and systematic and it’s conducive towards our health. It’s what’s *supposed* to happen. And critically, you also cannot readily explain away this sort of error away via the misuse of the will, and habitual judgments. For as we have seen, these judgments have no bearing on the p-color appearances themselves—the very thing that deceives us to begin with.²⁷ It’s no wonder then that Nolan (2011: 98) voices precisely this

²⁷The obvious riposte to make is that the sensory experiences that convey these p-color appearances are not clear and distinct, and so we violate some sort of norm when we affirm their content. But the point is that we *do* affirm them, it’s not clear that we *can help but*

worry, and is so keen to insist that p-color appearances *are* due to habitual judgments that we can revise. So Nolan cannot take the Simmons-Patterson line because it seems to lead to *the very worry* Nolan was trying to avoid to begin with; if God would *not* be a deceiver were p-color appearances a matter of false habitual judgments, making p-color appearances the result of automatic, false *non*-habitual judgments surely won't help.

Suppose now that eliminativism does have this implication. What then? To be clear, this conditional thesis—if Descartes were a color eliminativist, God would be a deceiver—is trickier than it's presented as being here, and we do not claim to endorse it, or that it follows from the Simmons-Patterson take on the role of judgment in our sensory lives.²⁸ Yet our view is that, even granting the conditional, what emerges is a project, not a problem, for the fan of the eliminativist reading. Descartes does, of course, repeatedly insist that God isn't deceiver. But the forms of deception are many, and Descartes does at times suggest that he may be open to allow that God may deceive us, but in ways that are *beneficial*. This comes out at least twice, albeit not in wholly unambiguous terms; once, in Descartes' response to Mersenne (AT VII: 126/CSM II: 90), and again, in Descartes' response to Hobbes (*Third Set of Objections*, AT VII: 195/CSM II: 136). And it's not unreasonable to see color experience as precisely this sort of case—a case where we are

affirm them—and this is especially so if we focus on Simmons and Patterson's irrevocable false constructive judgments—and the p-color appearances are no less deceptive for that.

²⁸Interestingly, Patterson (2016) does seem to endorse the conditional (or some version of it), arguing that false constructive judgments implicate God as a deceiver, and that Descartes does not have a solution to this problem. We are more optimistic.

deceived, yet benefited in the process. So any claim that Descartes was an eliminativist will, in the end, require making sense of what Descartes can and cannot say about the nature of God, the functional role of the senses, along with some broader epistemological concerns littered throughout Descartes' corpus. What we think this shows, above all, is that if Descartes is indeed an eliminativist, the implications are far reaching. So assuming the foregoing is correct, consider this conclusion a promissory note.

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