

The Aposteriori Response-Dependence of the Colors

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What is it for colors themselves—as opposed to terms or concepts for them—to be response-dependent? Can their response-dependence—if there *is* such—be established on apriori grounds?

These are the two questions of this paper. In the first part (§§ 1–4), I present a general characterization of a response-dependent *property*; in the second part (§§ 5–8), I defend the view that it is *aposteriori* whether colors are response-dependent, in this sense.

1. The Original Purpose of Response-Dependence

The phrase ‘response-dependence’ occurred in the literature for the first time fifteen years ago in Mark Johnston’s ‘Dispositional Theories of Value’ (1989).

Some philosophers, including McDowell and Wiggins, had attempted to defend realism about value against those who claimed that value is not a genuine feature of certain things by analogy with secondary qualities, and color in particular.

Consider a view according to which (say) redness is (say) the disposition to produce in perceptually normal humans an experience as of red in normal viewing conditions. Predications of a predicate signifying it, (say) 'is red,' would then generally (vagueness and the like aside) be evaluable in terms of truth and falsity, and some of them would be true. Furthermore, something could be red, according to the view, independently of the subjects actually eliciting the responses and—to the extent that we consider the relevant subjects, responses and conditions as they *actually* are—even independently of what the relevant subjects might be like and of whether they exist at all. If values were analogous to colors, at least as so conceived, then certain antirealist positions concerning the evaluative could be rejected. Something like this line of argument is what, according to Johnston, the “analogists” pursue for defending realism about value. As he put it, “the leading idea of the analogist has been to show that by the same standards of genuineness it would follow that color is not a genuine feature of surfaces.” (Johnston 1989, 139).

There seems to be important disanalogies between values and secondary qualities (basically depending upon the fact that arguably there is no sense in which values are *perceptible*, see *ibid.*, 142–4). But these did not preclude, according to Johnston, there being a further analogy capable of doing the work in defending realism the analogists wanted it to:

The most plausible, if highly generalizing, way of taking the analogy is this: evaluational concepts, like secondary quality concepts as understood by the analogists, are ‘response-dependent’ concepts. (Johnston 1989, 144)

Before proceeding to mention his original characterization of ‘response-dependent’, it is worth noting two *prima facie* contrasting features. The first is that the project for which the notion of response-dependence is introduced is straightforward *metaphysical*: to provide a way of explicating the (possible) analogy between secondary qualities and values by means of which “a realism about value” (*ibid.* 139) could be defended, and thus explicating the qualified realism [which philosophers have urged about many areas of discourse], asserting both that the discourse in question serves up genuine candidates for truth and falsity, and that, nonetheless, the subject matter which makes statements true or false is not wholly independent of the cognitive or affective responses of the speakers in the discourse. (Johnston 1989, 144)

The second is that, all this notwithstanding, ‘response-dependent’ as used here by Johnston qualifies *concepts* for properties like secondary qualities and values, and not those very *properties* themselves.

As we will see shortly, this is arguably more than a *prima facie* contrast—and thus an alternative characterization of response-dependence is required, if the original metaphysical project for it is to be pursued.

2. *Response-Dependent Concepts*

So far, Johnston's motivation for introducing the notion. As to his original characterization of it, he writes:

How then are we to demarcate the response-dependent concepts?

If *C*, the concept associated with a predicate 'is *C*', is a concept interdependent with or dependent upon concepts of certain subjects' responses under certain conditions then something of the following form will hold apriori

x is *C* iff In *K*, *Ss* are disposed to produce *x*-directed response *R*

(or

x is such as to produce *R* in *Ss* under conditions *K*)

... [W]hen for a given *C* we have substantial or non-trivializing specifications of *K*, *R*, and the *Ss*, and the resultant biconditional holds apriori, then we have a concept interdependent with or dependent upon a concept of subject's reactions under specified conditions. Such will be a response-dependent concept. (Johnston 1989 145–6)

Not all philosophers writing on response-dependence stick to precisely this characterization. But the core of the one most of them use can be captured as follows. Let me say then that if *F* is a (predicative) concept, a *response-dependence-giving* (or *rd*, for short) biconditional for that concept is a substantial biconditional of the form:

x is *F* iff x has the disposition to produce in subjects *S* the mental response *R* under conditions *C*

or the form

x is *F* iff subjects *S* have the disposition to issue the *x*-directed mental response *R* under conditions *C*

where 'is *F*' is a predicate expressing *F*, and 'substantial' is there to avoid "whatever-ittakes" specifications of either *S*, *R* or *C*.¹ Now,

(RD₀) A (predicative) concept is response-dependent iff there is an *rd* biconditional for it which holds apriori.

It is clear that without the previous requirement on substantiality, all concepts would turn out trivially to be response-dependent. For take any predicative concept *F*, and some arbitrary (substantial) specifications of mental responses, *R*, and conditions, *C*. Then the following would be a *rd* biconditional for *F*, which clearly holds apriori:

x is *F* iff x has the disposition to produce in those subjects, whatever they be like, such that something is disposed to produce in them responses *R* under conditions *C* iff it is *F*, the mental response *R* under conditions *C*.

Besides these, no further restrictions on the relevant specifications are imposed. In particular: the relevant subjects could be more or less the

¹ One such "whatever-it-takes" specification of, say, subjects *S* would be "those subjects, whatever they be like, such that something is disposed to produce in them responses *R* under conditions *C* iff it is *F*." *Mutatis mutandis* for the responses and the conditions.

very same possessors of the concept, or a subset of them, or an idealized subset of them, or some other disjoint set; the relevant mental responses may be cognitive (a certain belief or judgment), or experiential (the enjoyment of experiences instantiating a certain quale), or desiderative (valuing); the concept in question may figure in the relevant specifications, even inside the scope of attitudes attributed to the subjects; the specifications may contain rigidifying devices.

To illustrate, any of the following are rd biconditionals for the concepts expressed by the predicates in the respective left-hand side, and thus the holding apriori of any of them would make that concept response-dependent in the present original sense of (RD₀):

x is red iff x has the disposition to produce in perceptually normal humans the noninferentially-based belief that x is red under sunny daylight conditions;

x is red iff x has the disposition to produce in perceptually normal humans as they actually are the non-inferentially-based belief that x is red under sunny daylight conditions as they actually are;

x is red iff x has the disposition to produce in perceptually normal humans an experience instantiating a red' quale in normal viewing conditions;

x is a value iff we, whatever we are like, are disposed to desire to desire x under conditions of the fullest possible imaginative acquaintance with x;

x is a value iff we, as we actually are, are stably disposed to judge it so under conditions of increasing non-evaluative information and critical reflection.

x is possible iff and ideal conceiver could conceive x.

3. *The Ubiquity Argument*

Several philosophers, including Manuel García-Carpintero (2007), Frank Jackson (1998, Jackson & Pettit 2002), Philip Pettit (1991, 1998, Jackson & Pettit 2002), and Ralph Wedgwood (1998), have provided arguments that in my view compellingly show that a characterization along the lines of (RD₀) fails with respect to Johnston's original project for it.

The core of these arguments can be put straightforwardly: there are also rd biconditionals for concepts for—what we reasonably take to be—*primary* qualities which hold apriori. Or more generally, there are concepts that are response-dependent, in the sense of (RD₀), independently of whether they signify primary, fully objective, properties. If that is so, then the notion of a response-dependent concept of (RD₀) overgeneralizes—and thus, interesting as it might be for *other* reasons, it fails with respect to the project for which it was introduced.

Take a predicate signifying—what we reasonably take to be—a primary quality, like 'is hot' or 'is cubic.' It arguably does that in virtue

of being associated with some reference-fixing material that arguably would crucially involve the relevant mental responses of subjects like us in question. But then there will be rd biconditionals for the concepts expressed by the predicate in question such that their left-hand-side expresses that reference-fixing material, along the lines of:

x is hot iff x is disposed to produce the sensation of heat in normal humans in normal conditions;

x is cubic iff x has the disposition to produce in perceptually normal humans an experience instantiating a cubic' quale in normal viewing and tactile conditions.

But now the fact that the relevant material plays at least a reference-fixing role suffices for those biconditionals to hold apriori—analogously as it holds apriori 'the standard Paris meter is one meter,' assuming that the length of the standard Paris meter plays a reference-fixing role with respect to 'meter' (see Kripke 1980). But then, although 'is hot' and 'is cubic' signify—what we reasonably take to be—primary qualities, they express concepts that *are* response-dependent, in the sense of (RD₀).

Another way of putting the point is as follows. The concept *red* clearly seems a response-dependent concept in the sense of (RD₀). Suppose that this is so because the following holds *apriori*:

x is red iff x has the disposition to produce in perceptually normal humans an experience instantiating a red' quale in normal viewing conditions.

The acknowledging of this does not suffice for rejecting the so-called primary view on colors, according to which red is a primary, fully objective property. Defenders of the primary view are actually quite willing to accept that something like this may hold apriori. The reason can be put as before: even if 'red' signifies a primary quality, it arguably does so in virtue of being associated with some reference-fixing material that involves the relevant mental responses of subjects like us in question. That being so, there will be rd biconditionals for *red* expressing that material and thus holding *apriori*.

We can thus conclude that (RD₀) should be modified, at least insofar as the original project for which response-dependence was introduced is pursued.²

4. *Response-Dependent* Properties

Let me briefly take stock. The notion of response-dependence comes to the literature with the aim of appropriately generalizing (and hence

² According to the philosophers mentioned at the beginning of this section, response-dependence in the sense of (RD₀) is a *global* phenomenon—or at least, response-dependent concepts, in the sense of (RD₀), are *ubiquitous*. Although I tend to agree with the more general claim, it is worth noticing that for our present purposes it is enough to observe that *some* concepts for primary qualities would count as response-dependent according to (RD₀).

not over-generalizing) the notion of a secondary quality, but that that is something that the particular characterization originally offered, (RD₀), fails to accomplish given that it would make concepts for primary qualities response-dependent.

According to a more or less traditional view, secondary qualities are—or would be—not fully objective features of external objects in that it is essential for something having them that it bears a certain relation to responses of ours, at least as we actually are. It seems as if, for response-dependence to pursue the aim of appropriately generalizing that notion, it should better distinguish between properties themselves, and not concepts thereof, and hence require the relevant rd biconditionals to have certain *metaphysical* status, capturing the “essentialist” component alluded to.

One first thought in that direction will *not* do.

A property is response-dependent iff there is an rd biconditional for a concept signifying it which holds *necessarily*.

The reason is parallel to that just considered in section 3, in that the proposal would fail by covering primary qualities as well. Let ‘is F’ be a predicate signifying a primary, fully objective property which expresses a response-dependent concept in the former sense of (RD₀). Then take any particular true rd biconditional for them, and add to the specifications of the subjects, the responses and the conditions the rigidification device “as they actually are” as to have something with the form:

x is F iff x is disposed to produce in subjects S as they actually are the responses R as they actually are in conditions C as they actually are.

Now this biconditional, due to the semantics of ‘actually,’ will be *necessarily* true, and hence the property in question, primary by assumption, would count as response dependent!³

Indeed, this was my reason for not including, when characterizing (RD₀), the requirement that the relevant rd biconditionals should hold not only apriori but *necessarily*—a requirement which, although absent in Johnston’s 1989 characterization, is commonly added. That requirement, when rigidified specifications are allowed—but only then—is not a *further* requirement: whenever there is an apriori rd biconditional for a concept there is also a necessary and apriori (suitably rigidified) rd biconditional for it. (Conversely, when rigidified specifications are allowed—but only then—nothing changes if an existing necessity requirement is *removed*, *pace* Haukioja 2001.)

³ See Davies and Humberstone 1980, notice that such rigidified specifications were allowed in rd biconditionals.

According to García-Carpintero (2007) and Wedgwood (1998), the failure to capture the particular essentialist claims mentioned in terms of the modal notion of necessity is nothing but a special case of the general failure to capture essentialist claims in terms of necessity—a general failure which was strongly defended by Kit Fine (1994, 1995).

For my present purposes, Fine's view can be sufficiently illustrated with the help of the following examples. It is a necessary property of Socrates that he belongs to the set whose sole member is Socrates. That is a property which is impossible for Socrates to fail to have. But this property hardly is, it seems, an essential property of him: there seems to be nothing in the essence or the nature of Socrates which involves his belonging to any set whatsoever. As Fine puts it, "Strange as the literature on personal identity may be, it has never been suggested that in order to understand the nature of a person one must know which sets he belongs to." (Fine 1994, 5) Another example could help. It is a necessary property of Plato that he is not identical to Aristotle. That is again a property which is impossible for Plato not to have. But again it hardly seems to be an essential property of Plato. Otherwise Aristotle—and any different object, for that matter—would be involved in explicating the nature of Plato.

The moral drawn by Fine from related considerations is this: essence is a finer-grained notion than necessity, in that it is sensitive to the "source" of the latter, as it were. Even if it is necessarily the case that Socrates belongs to his singleton, this is not something that holds in virtue of the nature of Socrates—but arguably in virtue of the nature of the singleton. And again, even if it is necessarily the case that Plato is not identical to Aristotle, this is not something that holds in virtue of the nature of Plato—but arguably in virtue of both the nature of Plato and the nature of Aristotle.⁴

So let us come back to response-dependence. The proposal is then that in the case of response-dependent properties, the necessity of the relevant *rd* biconditional has its source in the very nature of the property in question, whereas nothing like this is true of the (also necessary) *rd* biconditionals corresponding to primary, fully objective, properties:

The reference-fixing responses in us *apriori* associated with a secondary property are constitutive of the essence of the property; the property is, constitutively, a disposition to actually cause those properties. It is here that the "subjectivity" which is also part of the tradition-

⁴ But what exactly does the claim that something holds in virtue of the nature of a given entity amount to? According to Fine, there is no answer to this question, to the extent that it is regarded as requesting for a reductive explication of this essentialist notion in terms of different notions, such as modal notions. Rather the concept of essence is conceptually basic. But that does not preclude there being an answer to the question, when it is not so interpreted, by illuminatingly systematizing truths involving it. There seems to be nothing especially mysterious in that: there could hardly be conceptual reductions of all concepts. Structurally the same arguably happens with conceptually basic logical concepts, such as that of conjunction.

al conception of secondary properties lies. For corresponding properties are not constitutive of a primary property; such a property is not constitutively a disposition to produce such responses. (García-Carpintero 2007)

The general characterization of a response-dependent property can then be put thus:

(RD) A property is response-dependent iff there is a rd biconditional for a concept signifying it which holds in virtue of the nature of the property.

Unlike (RD₀), (RD) seems to characterize a notion that is apt for pursuing the original project of behalf of the “analogue” vindication of (a qualified) realism concerning values. In my own view, and this notwithstanding, the notion of (RD) also ultimately fails. Telling a long story short: the general notion of a response-dependent property of (RD) is such that *both* secondary qualities and evaluative properties—and not *all* properties—fall under it. But the claim that a property is response-dependent in this sense falls short of constituting a vindication of realism concerning the property in question. This is so because the general notion comprises both what I call *rigid* and *flexible* response-dependent properties (given that the distinction can be drawn in terms of whether rigidifying devices are allowed to occur in the relevant rd biconditionals). I would argue that only the rigid variety of response-dependence supports realism, and that while colors are arguably *rigid* response-dependent properties, the most plausible views on values makes them *flexible* response-dependent properties.⁵

This view of mine is, however, neither here nor there. For what I want to argue in the remainder of this paper is that that defending the contention that colors are (rigid) response-dependent properties would involve aposteriori considerations.

5. *The Aposteriori Component*

In ‘The Aposteriority of Response-Dependence,’ Nenad Mišević (1998) argued that the relevant rd biconditionals for (say) *red* should not be required to be apriori for it to signify a secondary quality—for, according to him, they are *not* apriori. This is not the aposteriority component I just alluded to. As we have seen, a term or concept signifying either a primary quality or a (rigid) response-dependent property, will do so in virtue of being associated with some reference-fixing material which

⁵ I elaborate on the distinction and the argument against (RD) in my *Response-Dependencies: Colors and Values* (López de Sa 2003) and my unpublished ‘Rigid vs Flexible Response-Dependent Properties.’ See also David Lewis: “There is a longstanding attempt to make dispositional theories of value and of color run in parallel. But the analogy is none too good, and I doubt that it improves our understanding either of color or of value.” (1989).

arguably would crucially involve the relevant mental responses; and this suffices for the relevant rd biconditionals to hold apriori.⁶

Miščević further argues that “the constitutive relation to human response” (1998, 75) need not be—and indeed *is not*—built into our concepts of secondary properties. This is I think what gives his proper target. And this fits well with his introductory characterization of the view he wants to oppose, which, in the words of Jim Edwards (who wants to oppose it as well) that he quotes, can be characterized as that according to which

one who grasps a concept of a particular secondary quality, e.g. redness, can discover apriori by analysis that the conception is of a secondary rather than a primary quality. (Edwards 1992, 263)

In my terms: both primary and secondary qualities are such that there are apriori rd biconditionals for them. Now, in the case of secondary qualities, but not in the case of primary qualities, those biconditionals hold *in virtue of their natures*. The view Miščević seems to oppose after all is then that according to which it is, for secondary qualities, apriori that the relevant (apriori) rd hold in virtue of their nature.

I want to oppose this view as well.

6. *Colors Don't Look Like Dispositions...*

Let me call *objectivism* the view according to which colors are primary, fully objective properties, and *dispositionalism* that according to which colors are secondary, (rigid) response-dependent properties—after all these *are* dispositions to produce in (rigidly specified) subjects a certain mental response under (rigidly specified) conditions, see García-Carpintero 2007 and López de Sa 2003 & ms.

Let me start with what I take to be the less controversial part of our present issue: as a matter of fact, our terms and concepts for colors are such that they do *not* reveal by themselves the secundariness, or (rigid) response-dependence, of the properties they signify (if any such exists). Given the nature of the present perceptual case, this point can also be put thus: there is no relevant phenomenological difference between the way experience represents shapes and colors (assuming the latter are secondary properties), or again, there would be no relevant phenomenological difference in the way experience represents colors on the assumptions that they were primary or secondary qualities. As it is sometimes put, colors do not look like dispositions.

Although different people offer slightly different rationales for this, the core of them is, I take it, the point that has been already exploited in section 3: our concepts for primary and secondary qualities are on a par, and thus, there is nothing in the *concept* of redness that entails

⁶ Miščević actually mentions this consideration (*ibid.*, 76–7), and rightly observes, as we did in section 3, that if sound it would not distinguish primary from secondary properties.

that it signifies a secondary quality. As J Levin puts it, experiences of both colors and shapes remains *neutral* with respect to the issue as to whether they are indeed primary or secondary qualities (see Levin 2000, 157–60).⁷

As I said, I take that colors don't look like dispositions to be the less controversial part. On the face of it, Harold Langsam's 'Why Colours *Do* Look Like Dispositions' (2000) might be taken as opposing it. Appearances are here I think deceptive, and it will be instructive to consider why, as to distinguish the weaker (sound) claim that colors don't look like dispositions from the stronger and—as I will argue—ungrounded claim that colors don't look as they would if they were dispositions.

Even if he might have intended otherwise (see below footnote 9), Langsam in effect argues for the view that colors do look the way they would look *even if they were dispositions*. That this is so was indeed implicit in the previous claim concerning the phenomenological parity of colors and shapes, and it is certainly an important insight. But it is *not* in tension with the claim that colors do not look a way that reveals their dispositional nature (in case they have one). As Alex Byrne, commenting on Langsam's argument, aptly puts it, the "quicker ('Berkeleyan') way of raising suspicions [is]: this style of argument works equally well, or equally badly, for dispositionalism about shape. (Byrne 2001, 242). The relevant final bit of Langsam argument is:⁸

[W]e designate as colours those ... properties that present themselves to the subject via certain kinds of perceptual appearances; the appearances are therefore designated as appearances *of* colours. And what are the nature of these ... properties? Not surprisingly, they just are the properties of being *disposed* to present certain kinds of colour appearances in certain circumstances: they are dispositional properties. (Langsam 2000, 73)

But, as we have seen, exactly the same before the answer seems to happen *even if colors were primary properties*. Equivalently, consider the following:

We designate as shapes those properties that present themselves to the subject via certain kinds of perceptual appearances; the appearances are therefore designated as appearances *of* shapes. And what are the nature of these properties?

To answer 'dispositional properties' would certainly be surprising, and contrary to the primary view on shapes we take to be reasonable.⁹

⁷ Without apparently any argument, Levin moves from this to the claim that ordinary perception reveals colors and shapes to have the same status—being *both* primary or *both* secondary. That further move, it seems to me, it is not only unmotivated but undermined by precisely the phenomenological considerations that support the neutrality claim.

⁸ I have omitted the qualification 'objective' to the mentioned properties, for it has a special sense in Langsam theory, not to be confused to the one reserved for primary properties here.

⁹ I am not sure about whether Langsam would take himself to disagree with this. After all, he acknowledges that it is a consequence of his argument "that all

The slogan that gives Langsam's paper's title should then be read as something along the lines of "why colors *do* look like—the way they would even if they were—dispositions." And this is, I think, quite right.

7. ...*But Colors Look What Dispositions Would Look Like*

Some people think they find here the materials for an objection against dispositionalism: *if colors were dispositions*, the thought would go, *they would have to look like dispositions, in a sense in which they do not*. I want to make two related points in response.

First of all, it is not clear what it would be for experience to represent a property in a way that revealed that it is a *disposition*.¹⁰ Consider, for instance, what Johnston offers:

A basic phenomenological fact is that we see most of the colors of external things as "steady" features of those things, in the sense of features which do not alter as the light alters and as the observer changes position. (This is sometimes called "color constancy".) A course of experience as of the steady colors is a course of the experience as of light-independent and observer-independent properties, properties simply made evident to appropriately placed perceivers by adequate lighting. Contrast the high-lights: a course of experience as of the highlights reveals their relational nature. They change as the observer changes position relative to light source. They darken markedly as the light source darkens. With sufficiently dim light they disappear while the ordinary colors remain. They wear their light- and observer-dependent natures on their face. Thus there is some truth in the oft-made suggestion that (steady) colors don't look like dispositions; to which the natural reply is "Just how would they have to look if they were to look like dispositions?"; to which the correct response is that they would have to look like colored high-lights, or better, like shifting, unsteady colors, e.g., the swirling evanescent colors that one sees on the back of compact discs. (Johnston 1992)

observable properties", and hence primary properties as well, "must be perceptually represented via corresponding appearances" (Langsam 2000, 74). However, he nonetheless also adds: "[I]t does not follow that all observational properties must be represented solely as dispositional properties to present their corresponding appearances. Whereas all observational properties are presented as properties which are such as to (be disposed to) appear in a certain way, it is only secondary qualities that are characterized by experience solely in terms of how they are disposed to appear. The primary qualities are those observational properties that are also characterized by experience in ways that make no reference to their appearances. Thus while visual experiences presents both ... colors and shapes via corresponding ... appearances, and thus presents both colours and shapes as properties that appear in a distinctive way, it is only the colours that are presented solely as properties that appear in a distinctive way." (Langsam 2000, 74–5) Notice that, if there is to be an argument here from the previous and granted point about colors looking the way they would if they were dispositions to the claim that colors look a way that shows they are dispositions, all the work should be carried out by these other ways in which primary properties are here claimed to be characterized by experience, and hence not assessable at this stage. And as we are about to see, it is hard to see which these could possibly be.

¹⁰ I am indebted here to Manuel García-Carpintero.

But this will not do—unless it is assumed that the primary, non-dispositional properties experience represents need be “steady” features of the objects, an assumption that seems to lack any appropriate motivation. To put it the other way around, consider those dispositions which are, according to Johnston, the “swirling evanescent colors that one sees on the back of compact discs.” Suppose (probably implausibly) that it turns out that the categorical base of each of them is a primary, fully objective property, perfectly homogeneous microphysically. These categorical properties then could certainly be represented in experience. How would they be so represented? Precisely *in the same way* that the dispositions they ground are represented. Thus those dispositions do *not* “wear their light- and observer-dependent natures on their face.”¹¹

Maybe the thought is that it is in the nature of colors that if colors were dispositions *that could be settled on apriori grounds*. A claim like this has been referred to as *Revelation* since (I think) Johnston’s ‘How to Speak of the Colors’ (1992). In this paper he claimed that, although admittedly controversial, it was a belief “with a legitimate title to be included in a core belief” about colors, having something like the following content:

The essential nature of a color is fully revealed by a standard visual experience as of something having it.

Now it will be clear that if it was apriori that something like Revelation held, then there would indeed be the materials for an argument against the dispositionalist view according to which colors are secondary, (rigid) response-dependent properties. As Peter Ross (1999) has argued, in my view compellingly, most common objections to dispositionalist do rely on Revelation in the envisaged manner (see for instance Bogoshian & Velleman 1989 and McGinn 1996). (It is worth noticing, as was stressed by Johnston (1992, 224–5) himself, that also *objectivist* views according to which concerning the colors are *primary*, fully objective properties could also be rejected by appealing to Revelation, given that experiences of colors do not fully reveal the essential nature of color either—constituted, according to the view, by disjunctions of non-dispositional microphysical properties or light-dispositional properties like surface reflectances.¹²)

¹¹ Compare: “Meeting a friend in a corridor, Wittgenstein said, ‘Tell me, why do people always say it was natural for men to assume that the sun went around the earth rather than that the earth was rotating?’ His friend said, ‘Well, obviously it just looks as if the sun is going around the earth.’ To which the philosopher replied, ‘Well, what would it have looked like if it had looked as if the earth was rotating?’” Tom Stop-pard, *Jumpers*.

¹² Johnston famously held in that paper that nothing is colored, if colors are to satisfied Revelation and Explanation—the claim that colors sometimes causally explain visual experiences thereof—but that some things would be if we were to speak of colors not “ever so inclusively” but just “more or less inclusively” by giving up some of this core elements—in his preferred option, giving up Revelation itself and going dispositionalist. He might have changed his mind on colors more recently.

But is there any reason supporting Revelation? To the best of my knowledge, none has been submitted. Johnston (1992, 223–4) just *assumes* it—which is OK given his dialectical purposes, see previous footnote 12). McGinn (1996, 539) also just assumes it—which is *not* OK given *his* dialectical purposes). McGinn (1999) offers, not a reason *for* Revelation, but at least a reason against the neutrality claim I have been endorsing—having it that experience represents colors and shapes in a way that is compatible with their primary or secondary nature. But on the face of it, not a very good one, for it assumes (without argument) the false conditional that if one held the relevant neutrality thesis, one should then claim that experience does not represent colors as being instantiated by (external) objects or that it is one rather than another color that a particular experience represents.

Thus it seems that what one should do is just to reject Revelation, given that no ground for it has been provided and its incompatibility with the fact concerning the phenomenological neutrality of experience representing primary/secondary properties, see also Jackson (1998, 102–04) and Lewis (1997, 338–9).

8. Conclusion

Let me recapitulate. I have presented a general characterization of a response-dependence property, which serves to address the question of what is it for colors themselves—as opposed to terms or concepts for them—to be response-dependent. And I have also argued that, although there arguably will be rd conditionals for them which hold apriori, the response-dependence of the colors—if there *is* such—cannot be established on apriori grounds. Rather, aposteriori considerations are required. Let me close this paper by briefly mentioning those considerations, which do seem to favor a (rigid) response-dependent account of colors, after all.

Colors—as well as shapes, for that matter—are picked out by means of certain conceptions of them which relates them to certain responses, which guarantees that there will be apriori rd biconditionals for them. The ways colors appear—as well as the ways shapes appear, for that matter—have essentially certain properties and relations with each other which in turn characterize the appearing properties. Among them there are *similarity relations*: appearing yellow instances are more similar to each other than to appearing orange instances (with the same saturation and brightness), appearing yellow instances are more similar appearing orange instances than to appearing red instances, and so on. Furthermore, some appearing instances of yellow, red, green and blue appear as unitary hues, whereas others appear binary. Now aposteriori considerations suggest that there are no primary, fully objective properties that bear those relations with each other or that have those properties, and in particular surface reflectance properties do not (see Hardin 1988): rather those facts are explained by certain features

of our perceptual apparatus. Thus those considerations suggest that the relations colors bear to our ensuring the relevant response are true in virtue of their natures, and hence that they are (rigid) response-dependent properties. Defenders of the primary view concerning colors do not usually dispute these aposteriori considerations.¹³ Some of them point to the fact that the considerations just establish that certain *candidates* of primary, fully objective, properties do not conform to the pattern of relations and properties that characterize the colors, but that nothing excludes that *further* properties could be discovered to be so. In any case, my suspicion is that most defenders of the primary view rely on something similar to what Lewis (1997) states explicitly, according to which the relevant relations and properties could be exemplified by the colors via the corresponding relations and properties of the relevant responses; which is certainly right, but does not constitute a primary alternative to dispositionalism.

One perhaps surprising consequence of this is that dispositionalism about color comes out vindicating *the letter* of Revelation, if obviously not *the spirit*. This is so because if it turns out (aposteriori) that colors are *essentially* tied to issuing the relevant experiences, then having those experiences *does* give access to their, dispositional, nature. But that of course has nothing to do with the ungrounded claim that we knew apriori that color experiences were so revealing.¹⁴

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¹³ Byrne & Hilbert 1997 could seem an exception to this, but my suspicion is that they exemplify rather the latter alternative to be mentioned shortly.

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