

## Naïve Color

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Color objectivism is the view that colors are properties of the external world. There are two kinds of color objectivism: *reductive objectivism* and *non-reductive objectivism*.

Reductive objectivism is by far the more popular of the two, identifying color with some underlying essence. There are two main kinds of reductive objectivism—physicalism and dispositionalism. According to physicalism, colors just are physical property of objects, usually a microphysical property of their surfaces. According to dispositionalism, colors just are dispositions to cause experiences in observers.

The less popular, and less understood, non-reductive objectivism has it that colors are not reducible to any other property. Non-reductive objectivism about color is also known as *naïve objectivism*.<sup>1</sup> But, just how is naïve objectivism meant to go?

Several papers have been written arguing for a non-reductive theory of color. The most interesting of these is Stephen Yablo's 'Singling Out Properties'.<sup>2</sup> He argues that problems threatening reductive objectivism of both forms could be avoided by a non-reductive theory of the colors. Naïve objectivism isn't a view that is taken too seriously by most. But Yablo contends that, if faced with a failure of reduction, it is a perfectly respectable and attractive position to take up.

This paper will have three sections.

Naïve objectivism is not well understood and, through a discussion of Yablo, we can come to a better grip of what the view *is*. In section I, then, I will set this discussion against recent debate in the philosophy of color and show why Yablo is compelled to posit naïve objectivism as an alternative to a reductive view about color. In section II, I detail a popular objection to naïve objectivism and then show how Yablo responds to the objection. In doing so, I fill in the details of his naïve objectivism. In section III, I draw attention to another objection to

naïve objectivism, one which, if successful, would show that Yablo's view does not present us with a real alternative to reductive views. I conclude by arguing that, rather than exposing a problem with Yablo's naïve objectivism, it points us to a serious problem with one of its rivals.

### *I Background: Why Naïve Objectivism?*

Yablo presents his version of naïve objectivism in part as a way of showing how we could deal with the serious problems faced by both physicalism and dispositionalism. In order to see how Yablo thinks that naïve objectivism could do this, we must look at the necessary background.

Color has dominated discussion of the perceptible qualities, past and present. Underlying this interest in color—this move to figure out what color *really is*—is the suspicion that our knowledge of that property is incomplete. Yablo tells us that philosophers have typically felt that an examination of our folk beliefs about color reveal only what we take color to be *like* and do not shed light on what color *is*. As a result, philosophers have been moved to identify the colors, “to single [them] out and elucidate [their] nature”.<sup>3</sup>

But these common-sense beliefs have a role to play once it is decided that we must seek after the ‘real essence’ of a property. Yablo tells us that the standard way of beginning this search is to hammer out some central preconceptions about the property—e.g. those characteristics without which a certain property could not *be* color. The task of identifying color, then, becomes the task of discovering “whatever it is [that meets] certain conditions”.<sup>4</sup> He tells us that, in the case of color, two of the conditions that must be met are:

**CAUSALITY:** color is a property of objects that causes a certain kind of experience in us.

**COMMONALITY:** for any particular color, *c*, *c* is a property of objects that paradigmatic instances of *c* share.

The importance of both CAUSALITY and COMMONALITY in our conception of color can be drawn out with an example.

I look at the bowl of ripe cherries in front of me on the table. They look red. Redness is one of the properties—arguably the most salient property—that is presented to me in that visual experience. The standard view among objectivists about color says that in order for the redness of the cherries to be *presented* to me in visual experience, there must be a causal connection between their redness and my visual experience.<sup>5</sup>

This view is held by the folk as well. If someone were to suggest that it was not the redness of the cherries that causes me to have this kind of experience, we would view them with raised eyebrows and look for some explanation as to why they have such a strange belief. The person who denies that the relation between color and color experiences is a causal one would be viewed as mistaken or confused—as holding a view that is foreign to common-sense.

CAUSALITY, then, is something that any account of color must respect.

Similarly, someone who, when faced with a bowl of ripe cherries, a British phone box, a ripe tomato and a fire engine, denied that these objects all have something salient in common would be viewed as having something wrong with them. Ripe cherries, British phone boxes, ripe tomatoes and fire engines quite clearly have a property in common. COMMONALITY, then, is also something that any theory of color must honor.

Armed with these two conditions, Yablo claims that the “standard operating procedure in metaphysics”<sup>6</sup> has been to set out in search of the property that meets the conditions. But it hasn’t been easy to find one that does.

Yablo tells us that the pursuit of identifying color has generally led to two competing reductive views: physicalism and dispositionalism. Again, physicalism is the view that redness just *is* a microphysical property of objects and dispositionalism is the view that redness just *is* a disposition of objects to cause a certain kind of experience in us.<sup>7</sup>

One of the first contemporary philosophers to advocate physicalism about color was David Armstrong in his *A Materialist Theory of the Mind*.<sup>8</sup> In this book, Armstrong holds the view that “[colours] are nothing but physical properties of physical objects or processes” and “by ‘physical properties’...[he means]...the sort of properties a physicist would be prepared to

attribute to those surfaces, the sort of properties that would figure in the 'scientific image' of the world".<sup>9</sup>

Armstrong's view was that science would surely uncover a microphysical property that all red things share and that causes our experiences of red. But this was too hopeful.

Physics tells us that the microphysical properties of objects, together with the properties of the incident light and the properties of the observer's visual system, are the causes of our experiences of color. This is the standard view of the cause of color experience. The microphysical properties of the cherries, together with the properties of the incident light and the properties of the observer's visual system, cause the experience of red I have when I look at them. The same is true, we are told, when we look at tomatoes, British phone boxes and fire engines. There seems to be no obvious problem, then, for physicalism to satisfy CAUSALITY. The microphysical properties of objects, the experts tell us, are causes of our experiences of color.

But there is trouble. For what this microphysical property *is* varies from case to case: there is no microphysical property that ripe cherries and tomatoes, British phone boxes and fire engines share.<sup>10,11</sup> The upshot is that, while it satisfies CAUSALITY, physicalism cannot respect COMMONALITY.

Physicalism won't do because it can't satisfy COMMONALITY. Next question: how does dispositionalism fare? Yablo tells us that a common reaction to this problem with physicalism has been to move to dispositionalism. With an eye to satisfying COMMONALITY, then, suppose that the property that all red things have in common is the disposition to produce experiences of red in us. Redness just is the disposition to cause characteristic experiences in observers. While the microphysical bases of these dispositions will be varied, all red things will be disposed to produce experiences of red in us in virtue of having various microphysical properties. The cherries on my table and British phone boxes will have varied microphysical properties, but, in virtue of having the microphysical properties that they do, both will have the disposition to cause experiences of red in me, and in others.

Unfortunately, as Yablo notes, in seeking to excel where physicalism has difficulties, dispositionalism has its own difficulties dealing with CAUSALITY. As Yablo claims, dispositions of objects do not cause experiences of color in us; “sensations of redness might be due to various properties of an object, but the property of having a property productive of such sensations is not one of them”.<sup>12</sup> A disposition will figure in the explanation of color perception only insofar as we are explaining, in some very general fashion, the fact that the object has certain properties which (together with properties of the observer’s environment) cause experiences of red. So, while according to dispositionalism all red objects share a common property—namely the disposition to cause experiences of red in us—redness can no longer be the cause of our experiences of red.

Yablo tells us that when faced with difficulties with reduction, philosophers have felt that the only other route available is to deny that color is an objective property. “Assume that all properties possess hidden depths, and [color], which refuses to reveal any (or indeed to reveal much of anything about itself not already imputed by common opinion), takes on the feel of a projective fantasy”.<sup>13</sup> Neither physicalism nor dispositionalism can honor two of our central preconceptions about the colors, so it must be that there is no such thing as color or, if there is, it is somehow ‘in the mind’. So the assumption goes, and so eliminativism about color appears to be the only alternative.

But Yablo argues that this assumption is mistaken. There is another alternative. Yablo suggests that we can conceive of redness, and its partner colors, as non-reductive properties of objects. Color is like shape. Squareness is not reducible to a disposition to look square; nor is it reducible to any particular complexes of the microphysical properties of objects. Squareness simply isn’t identical to any other property (or complexes thereof). It is non-reducible. ‘Why not the same for color?’ Yablo asks.

In support of this proposal, he says: “seeking after a property’s identity only makes sense of its identity is not yet known”.<sup>14</sup> But, Yablo urges, we should look at ourselves as already knowing what color is: “the way the rest of us [as opposed to the scientists, or the experts,] conceive [of redness] is the *right* way if you want to know what [redness] is”.<sup>15</sup> We

should look at ourselves as already equipped with the necessary resources for saying what redness is—as opposed to, simply, what it is *like*. We can take it that “[redness] is *itself* something familiar and known...[and] our ordinary non expert ways of conceiving it tell as good a story as any about what it is”.<sup>16</sup>

Yablo’s assessment of the debate and his resulting proposal can be summarized as follows, then. If the experts fail to reveal an interesting underlying essence, we must not conclude that colors *qua* objective properties do not exist. That’s a grave conclusion, and one that doesn’t give our folk beliefs about the nature of color the status that they deserve—as embodying an alternative conception of the nature of color to the reductive picture touted by most philosophers. To be sure, discovering an interesting underlying essence of color would be a nice further insight into the nature of color. But if this further insight is not to be had, then just like the case of squareness, we can, and ought to, think of color as a non-reductive, but still perfectly objective, property of objects.

## *II An Objection and Further Clarifications*

### *The Objection*

Further details of Yablo’s proposal emerge as he considers an objection that is commonly waged against naïve objectivism.<sup>17</sup> In particular, it becomes clear how he models his naïve objectivism in order to meet both COMMONALITY and CAUSALITY.

Even before he spells his view out in greater detail, we have an idea of how naïve objectivism deals with COMMONALITY. We can view naïve objectivism as built on COMMONALITY. According to the naïve objectivist, visual experience and our ordinary non expert ways of conceiving of redness is all that we need to consider in order to determine what red is. From visual experience alone we learn that British phone boxes, ripe tomatoes and fire engines typically appear to have a property in common. And on the basis of our observations we conclude that these objects share a common property—redness.<sup>18</sup> As we shall see in the

course of considering the following objection, Yablo has more to say about just what kind of property the naïve colors are, and why thinking of them as such gives us COMMONALITY.

Setting COMMONALITY aside for the moment, the most common objection to naïve objectivism claims that it is unable to honor CAUSALITY. The objection concludes that naïve colors cannot be the causes of color experience. I call the objection 'the argument from overdetermination'. The argument:

- P1 Any account of color must be able to give a causal explanation of color perception.
  - P2 Scientists give this explanation in terms of microphysical properties.
  - P3 The naïve objectivist gives this explanation in terms of color (non-reductive).
- Therefore, C If we suppose that both explanations are correct, then color experience is overdetermined.

Causal overdetermination is a bad result, the objector's intuition goes. So we must make a choice. For the objector, the only kind of causation is microphysical causation. Given the choice between these two explanations, then, the objector chooses the scientific story.

Having made that choice, the objector draws the additional conclusion:

- C\* Colors, as naïve objectivism takes them, are, if anything at all, epiphenomena.

Given (C\*), the objector claims that we must conclude, contrary to what the naïve objectivist must claim, that the naïve colors cannot have causal influence on our experiences of color. If colors exist at all, they are epiphenomena. And, if colors are epiphenomena, they are robbed of the crucial role that they are supposed to play in producing our experiences of them.

In order to answer the objection, the naïve objectivist appears to be burdened with a heavy task. The task: the naïve objectivist must hold that colors are non-reductive properties of objects *and* hold that color must play a role in an explanation of color perception. In order to achieve this, the naïve objectivist must explain away the appearance of overdetermination by

denying that all causation is microphysical causation. In particular, the naïve objectivist must claim that the right causal explanation of color experience is the one in terms of naïve color.

### *Yablo's Response*

Yablo characterizes the moral of the argument from overdetermination as: "if you want your colors causally active, better make them microphysical".<sup>19</sup> Not so, he argues.

But, Yablo also urges that we cannot simply ignore what physics tells us about the microphysical properties of objects. Even if they are not to be the causes of our visual experiences of color, these microphysical properties must play *some* role in an account of color.

Yablo suggests that the way to think of the relation between naïve color and these microphysical properties is as a relation between determinable and determinate. Yablo claims: "Fness is a determinate of Gness iff to be F is a *way* of being G. To have your molecules arranged *thusly* is a *way* of being red, so redness is a determinable of the given microproperty".<sup>20</sup> Because determinables aren't reducible to their determinates, we have a non-reductive conception of color.

If this is true, then redness is indeed a property that ripe cherries and tomatoes, British phone boxes and fire engines share. They all possess the determinable property redness. So, COMMONALITY is satisfied.

But, as we know, CAUSALITY is the belief that naïve objectivism must contend with. On Yablo's picture, determinable properties must do the causal work. Up until now, we have seen the causal privileges going to the microphysical properties of objects—Yablo's determinate colors. But, Yablo argues that sometimes the causal explanation in terms of the microphysical is not the right one. "[Sometimes] a determinable property, far from being preempted by its determinate, is often *better* placed to function as cause".<sup>21</sup>

Yablo argues for this by appealing to an analogy. He asks us to imagine a truck weigh station that is set up to sound an alarm at 70,000 pounds—"in a word, whenever a truck is *heavy*".<sup>22</sup> With this in mind, Yablo claims that the objector's intuition can be captured as follows:

Enter yourself, on an overloaded semi, and the buzzer sounds. Given how the scale is adjusted, it would seem that your truck's property of being heavy was highly relevant to the alarm's sounding. But think again. I forgot to mention that your truck was *barely* heavy, in the sense of weighing *just* over 70,000 pounds. With the truck's *bare* heaviness being itself sufficient for the effect, every *other* aspiring cause is left with nothing to do. Apparently, then the truck's heaviness...made no causal difference to the buzzer's sounding. Moral: if you want your weight-properties causally relevant, make them as determinate as possible.<sup>23</sup>

But, Yablo argues that the moral of this story simply isn't right. "To be heavy is part of what it is to be barely heavy; and how can a part be crowded out by its containing whole?"<sup>24</sup> In response, Yablo suggests that when properties are related as determinable to determinate—when having one property (determinable) is part of what it is to have the other (determinate)—the determinate property needn't oust the determinable property for causal honors. He suggests that a determinable property, far from being pre-empted by its determinate, might be better suited to act as cause. In order to show how, he adds to the example:

Imagine that the scale is constructed on a balance beam model; if a truck weighs enough to lift the 70,000 pound counterweight, then a circuit is broken and the buzzer sounds. So the mechanism is absolutely insensitive to weight differences above 70,000 pounds....While it is true that the truck's bare heaviness was sufficient for the effect, if we had to name a property as the one responsible, it would be the heaviness pure and simple. For the latter is *commensurate* with the effect, in the sense of including what the effect needed with a minimum of irrelevant extras.<sup>25</sup>

Yablo urges that cases like this, where a determinable property is better suited to act as a cause than its determinates, opens up the possibility that we might look at color in just the same way. He asks: "[c]ouldn't this be how it is with the tomato's surface microstructure and its surface redness"?<sup>26</sup> And he argues that it is. "[B]ecause color-properties would be better proportioned to our perceptual responses than their microphysical determinates—a rose whose color was otherwise microphysically implemented would look as red—they'd be better placed to play the role of cause."<sup>27</sup> Tying this to the truck example, surface redness—i.e. determinable redness— is *commensurate* with perceived redness in the sense that the property includes all the

effect needed with a minimum of irrelevant extras. To repeat, a rose whose color was otherwise microphysically implemented would be as red.

Yablo's naïve objectivism is very attractive. We have an account that can satisfy both COMMONALITY and CAUSALITY. COMMONALITY is satisfied because, for instance, ripe cherries and tomatoes, British phone boxes and fire engines have a determinable property in common. And CAUSALITY is satisfied because determinable properties are, in this case, better suited to act as causes than their determinate properties.

### *III A Worry?*

What are we to say about Yablo's proposal? Do we have a viable alternative to those views about color that we have considered so far—namely, physicalism, dispositionalism and eliminativism?

We know that it satisfies both COMMONALITY and CAUSALITY. That's good. And although Yablo's view claims to be a non-reductive view of the colors, it makes room for the physical properties of objects that physicists tell us are integral to any account of color. Rather than deny that microphysical properties have any role in an account of color because they are not the causes of color experience, Yablo claims that we can think of them as related to colors as determinate to determinable. The tomato's surface microstructure is a *way* of being red. In a world of scientific dominance and reductively minded philosophers, this is definitely more attractive than denying their significance altogether. It seems to be a nice compromise position.

As I indicated earlier, my aim in this section is to present another objection to Yablo's naïve objectivism. The objection hones in on the fact that, because Yablo makes a place for the microphysical in the way that he does, Yablo's naïve objectivism looks very much like Frank Jackson's brand of physicalism. 'Why should we think that the views are any different?', the objector asks.

We have reason to be very worried about the objector's concern: Jackson's view is supposed to be reductive and Yablo's non-reductive.

I want to rid us of this concern. In doing so I will argue that, rather than exposing a problem with Yablo's naïve objectivism, the objection only points us to a serious problem with Jackson's physicalism.

In order to see the similarity between the two views, we must first get Jackson's physicalism out on the table. Physicalists, including Jackson, have developed their views in light of the acknowledgement that COMMONALITY is a real stumbling block for physicalism. In his book *From Metaphysics to Ethics: A Defence of Conceptual Analysis*, and in particular the chapter entitled 'The Primary Quality View of Colour', Jackson advocates a brand of physicalism that he develops in two phases.<sup>28</sup>

Phase one of Jackson's view involves his arguing that we must accept physicalism over dispositionalism. CAUSALITY motivates Jackson's view; it is, as he tells us, a causal theory of color. According to Jackson, the prime intuition about color—in Yablo's terms, the central preconception that any account of color must satisfy—is that, for example, “‘red’ is the property of objects putatively presented in visual experience when an object looks red”<sup>29</sup>. In order for a property to be presented in experience, it must at least be the cause of that experience. So, colors must be the causes of our color experience. Scientists tell us that the microphysical properties of objects are the causes of our experiences of color (in conjunction with properties of the environment). Dispositions are not the causes of experiences of color. So, colors must be microphysical properties of objects.

In phase two, Jackson alters this view to accommodate what he sees as a *possible* problem with the view that colors are microphysical properties. We are already familiar with this problem: physicalism can't satisfy COMMONALITY.<sup>30, 31</sup>

Jackson claims that, faced with the possibility of this problem, he must amend his view. He does so by claiming that colors are disjunctions of microphysical properties. If it is true that those things that we think of as being red really have no microphysical property in common, then the right way to think of the nature of redness is as a “disjunction of all of the physical property complexes that make things look [red]”.<sup>32</sup> For redness, assume that there are four such microphysical property complexes— $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$ —and that these four exhaust the properties

that scientists tell us are the causes of experiences of red. According to Jackson  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$  are all realizations of redness. They form the redness disjunction, or R-disjunction. The R-disjunction is the property redness and each disjunct 'shares' this disjunction. Their inclusion in the R-disjunction is what  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$  have in common. COMMONALITY is satisfied, Jackson concludes.

Even though he makes this amendment to his view, Jackson still takes redness to be a reductive property. Redness, as well as the other colors, just are disjunctions of microphysical properties. And presumably, after this amendment, Jackson's view remains physicalism because these disjunctions are themselves physical properties.<sup>33</sup>

But now Jackson has another question on his hands: how does CAUSALITY fare given the changes to his view? It must be that these disjunctions of microphysical properties are causally efficacious.

In fact Jackson thinks that disjunctions can be causes.

When we cite the depth of the wound as responsible for the death of the victim, it is typically not the absolutely precise depth of the wound that matters but rather the fact that the wound's depth falls within a certain range of depths, each of which counts as deep. Nevertheless, excessively disjunctive properties cannot be causes.<sup>34</sup>

Jackson is not explicit about what he means by an excessively disjunctive property and, as a result, it is not clear why they cannot be causes. But I think that we can get at the reasons why he would want to rule out the causal efficacy of a certain (roughly speaking) kind of disjunction. Return again to my earlier cherry example. Suppose that the experts tell me that the microphysical surface property of the cherries that causes experiences of red in me is a certain microphysical property,  $m_1$ . Now take any old property whatsoever—say, the temperature of the coffee in the mug beside the cherries. Call this particular temperature  $t_1$ .<sup>35</sup> We can form the disjunction of these two properties. What we *don't* want is that this disjunction is the cause of my experience of red just because one of its disjuncts—namely,  $m_1$ —is. This would admit a very undesirable form of overdetermination. The picture only gets worse when

we realize that we could repeat this process ad infinitum, forming an infinite number of disjunctions from  $m_1$  and any number of an infinite set of unrelated properties.

This idea is reflected in a remark that Jackson makes about the colors. He says:

I suggest...that the disjunction is not excessively disjunctive. Even if most red things do not belong to a kind responsible for them normally looking red, there will turn out to be, all the same sufficient similarity between what typically makes things look red to allow us to identify red with a disjunctive property that is sufficiently united...<sup>36</sup>

For the color case, then, we have a causally efficacious disjunctive property—i.e. one that is not excessively disjunctive—if there is sufficient similarity between the microphysical properties that cause our experiences of, for example, red. Jackson thinks that the color-disjuncts will turn out to have this similarity. As we will see momentarily, this still doesn't appear to alleviate Jackson of an overdetermination problem, as it seems obvious to say that the disjunction of these microphysical properties causes experiences of, say, red just because one of the disjuncts did. I will return to the problem this poses for Jackson, and why there is no similar problem for Yablo, in a later part of the paper. But in any case, by outlawing excessively disjunctive disjunctions, Jackson has at least ridden his view of the worry of 'gross overdetermination'—that is, the overdetermination that is a result of gerrymandered disjunctions such as the one we can form with  $m_1$  and  $t_1$ .

We are now equipped with enough information to stop and compare Jackson's view to Yablo's. Both Jackson's and Yablo's views embrace the scientific picture and make a place for the microphysical; they appear to differ only in what they posit as unifying the various microphysical properties. Take the various microphysical properties of those objects that (standardly) appear red. In Yablo's case, these microphysical properties are determinates of a common determinable which, in turn, just is the property redness. In Jackson's case, these microphysical properties are the disjuncts of the R-disjunction which, in turn, just is the property redness. Yablo claims that the determinable redness is causally efficacious; Jackson claims that the R-disjunction is causally efficacious.

The two views definitely appear to be similar. Given the similarity, reductively minded folk might object that Yablo's view wears the appearance of Jackson's physicalism, or, even more severe, that it just *is* Jackson's brand of physicalism—a 'confused version'. Is this right?

I don't think so. We can distinguish the two views by seeing that Jackson's view is subject to the argument from overdetermination and that, unlike Yablo, he has no way of dealing with it.

Recall that the main objection to Yablo's naïve objectivism charges the view with causal overdetermination. Yablo meets this challenge by suggesting that there is reason to think that determinable colors are better suited as cause than their microphysical determinates.

There is a variant of the argument from overdetermination that applies to Jackson's view. We alter (P3) to (P3'): Jackson gives this explanation in terms of disjunctions of microphysical properties. (C) remains the same conclusion and an only slightly different (C\*) reads: Colors, as Jackson takes them, are, if anything at all, epiphenomena.

In order to answer this argument, Jackson must accomplish two tasks:

- (i) argue that the color-disjunctions are not excessively disjunctive (and so, according to him, can be causes) <sup>37</sup>

and only then

- (ii) argue that disjunctive properties—and in particular, the color-disjunctions—can trump each one of their disjuncts for causal honors.

I don't think that Jackson has the means of accomplishing either (i) or (ii).

Regarding (i). Remember that Jackson thinks that the color-disjunctions can be causes because they are not excessively disjunctive. Jackson thinks that, in the color case, there is sufficient similarity between the disjuncts and so we avoid an excessively disjunctive property.

However, as we know, we have reason to believe that Jackson is too optimistic. He displays Armstrong-like optimism in two related ways. First he characterizes the problem for physicalism posed by COMMONALITY as a *possible* problem. He amends his view *just in case* the problem arises. Secondly, he claims that "there *will* turn out to be...sufficient similarity between what typically makes things look red to allow us to identify red with a disjunctive

property that is sufficiently united [so as not to be excessively disjunctive]”.<sup>38</sup> Then: “[i]t makes good empirical sense that something physically interesting...unifies the various red-looking things over and above their being red-looking”.<sup>39</sup> But as we saw in Yablo, physicists have shown us that these microphysical properties have very little in common and, as a result, we can conclude that Jackson’s optimism is unfounded. If Jackson means something else by a “physically interesting” unifying feature of these microproperties, then it is not clear what it is.

It is not clear then, and indeed it seems doubtful, that Jackson’s view can accomplish (i). But suppose that we grant Jackson that the color-disjunctions are not excessively disjunctive and that there is sufficient similarity among the disjuncts to unify the color-disjunctions. Can he deal with (ii)? It is in virtue of Yablo’s view being non-reductive that he can answer the argument from overdetermination. Jackson’s view, on the other hand, is reductive. Because Jackson’s view is the particular kind of reductive view that it is, he cannot answer the argument. Let me explain.

Suppose again that  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$  exhaust the microphysical properties of objects that scientists tell us are responsible for our experiences of red. Call Yablo’s determinable red  $R^y$ . According to Yablo,  $R^y$  is not identical to  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$ , where  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$  are the determinates of  $R^y$ . This is just to say that redness is non-reductive. Because Yablo’s view is non-reductive he is able to claim that  $R^y$  causes experiences of red to the exclusion of  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$ . Built into his view is the apparatus for dealing with the argument from overdetermination.

Now consider Jackson’s view. Call Jackson’s disjunctive red  $R^j$ . According to Jackson,  $R^j$  is identical to the disjunction of  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$ . Because Jackson’s view is reductive, he is not able to say that  $R^j$  causes experiences of red to the exclusion of  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$ . It is extremely difficult to see how  $R^j$  could cause experiences of red when  $r_1$  does not, and  $r_2$  does not, and  $r_3$  does not, and  $r_4$  does not. Saying that  $R^j$  caused an experience of red really is no different than saying that one of the set of  $r_1$ ,  $r_2$ ,  $r_3$  and  $r_4$  did the causing.

Jackson doesn’t have the apparatus in place to deny that the microphysical story of the cause of color experience is not the right one. But if he wants to maintain that colors are

disjunctions, then this is what he must do. If colors are disjunctive properties, then these disjunctions must be causes. But on Jackson's view, then, the microphysical properties do the causing *and* the disjunction does the causing. Unfortunately for Jackson, this means that he has no adequate way of avoiding the argument from overdetermination. Our present worries about Yablo's view fade as we see that Jackson has no obvious way out of this overdetermination problem.<sup>40</sup>

To be sure, it is likely that there are further hurdles for Yablo's naïve objectivism, especially considering that the bulk of contemporary philosophers desire a happy relationship with the sciences and are, as a result, largely reductively minded. However, appealing worries about the view's similarity to one of its key rivals is no such hurdle.

## Notes

<sup>1</sup> Non-reductive objectivism about color is also sometimes called *primitivism*.

<sup>2</sup> Stephen Yablo, 'Singling Out Properties,' *Philosophical Perspectives*, 9 (1995): 477-502.

<sup>3</sup> Yablo, 478.

<sup>4</sup> Yablo, 478.

<sup>5</sup> For two examples of philosophers who hold this, see Frank Jackson and Robert Pargetter 'An Objectivist's Guide to Subjectivism about Color,' in *Readings on Color: vol. 1*, ed. Alex Byrne and David R. Hilbert (Cambridge, MA: MIT Press, 1997), and Frank Jackson, 'The Primary Quality View of Colour,' in his *From Metaphysics to Ethics: A Defence of Conceptual Analysis* (New York: Oxford University Press, 1998).

<sup>6</sup> Yablo, 479.

<sup>7</sup> There is arguably a mixed physicalist/dispositionalist view according to which colors are the dispositions of objects to reflect light of certain wavelengths. This is the view that redness, for instance, is identical with a certain surface spectral reflectance profile. This view is typically described as a physicalist view about color but can certainly be described as a mixed physicalist/dispositionalist view as well given the reference to the dispositions of objects to reflect light. It is different than standard dispositionalism because there is no reference to the experiences that the light reflected of a given object causes in observers. For further details in surface spectral reflectance, see C. L. Hardin, *Color for Philosophers* (Indianapolis: Hackett Publishing, 1988).

<sup>8</sup> D. M. Armstrong, *A Materialist Theory of the Mind* (New York: Routledge & K. Paul, 1968).

<sup>9</sup> Armstrong, 272.

<sup>10</sup> For details, see C. L. Hardin, *Color for Philosophers* (Indianapolis: Hackett Publishing, 1988).

<sup>11</sup> Contemporary physicalists about color recognize this fact and have attempted to deal with this problem. I shall introduce one of these views in section III of the paper. It might be thought, then, that Yablo is being unfair, presenting Armstrong as the paradigmatic physicalist about color. It would be wrong to think this. Yablo's intent is to show what the major stumbling blocks of reductive views are, and to argue that naïve objectivism presents us with a real alternative to these views should we give up on reduction. It is not his intent to provide a refutation of physicalism.

<sup>12</sup> Yablo, 482.

<sup>13</sup> Yablo, 485.

<sup>14</sup> Yablo, 485.

<sup>15</sup> Yablo, 485.

<sup>16</sup> Yablo, 485.

<sup>17</sup> For another example of a naïve objectivist who considers the same objection, see John Campbell, 'A Simple View of Colour,' In *Readings on Color: vol. 1*, ed. Alex Byrne and David R. Hilbert (Cambridge, MA: MIT Press, 1997).

<sup>18</sup> I say "typically appear to have a property in common" because it might be that a ripe tomato under atypical lighting conditions appears to have a different color than a British phone box does in daylight, or what we take to be normal conditions. Atypical conditions are not those under which we decide on the color of an object and so wouldn't be those conditions under which we would decide whether two objects have a color in common.

<sup>19</sup> Yablo, 486.

<sup>20</sup> Yablo, 487.

<sup>21</sup> Yablo, 487.

<sup>22</sup> Yablo, 486.

<sup>23</sup> Yablo, 487.

<sup>24</sup> Yablo, 487.

<sup>25</sup> Yablo, 487.

<sup>26</sup> Yablo, 487.

<sup>27</sup> Yablo, 487.

<sup>28</sup> Frank Jackson, 'The Primary Quality View of Colour,' in *From Metaphysics to Ethics: A Defence of Conceptual Analysis* (Oxford: Oxford University Press, 1998), 87-112.

<sup>29</sup> Jackson, 89.

<sup>30</sup> Jackson himself refers to this problem as the problem of satisfying the 'axioms of unity'—those axioms that state that, for every color, objects that have that color have a property in common.

<sup>31</sup> Jackson presents this as a possible problem with phase one of his view while we know from Yablo that it is a very real problem. I will return later to the trouble raised for Jackson by this turning out to be the very real problem that it is.

<sup>32</sup> Jackson, 106.

<sup>33</sup> I will set aside discussion of any possible concerns with this last suggestion.

<sup>34</sup> Jackson, 106.

<sup>35</sup> The precise temperature does not matter. However, given the unpalatable nature of the coffee, the temperature is not very high.

<sup>36</sup> Jackson, 108.

<sup>37</sup> There is also the question of whether disjunctions can be causes. This question will be considered in the later stages of this paper, when I consider whether Jackson succeeds in attacking his second task—(ii) below.

<sup>38</sup> Jackson, 108, my italics.

<sup>139</sup> Jackson, 108.

<sup>40</sup> It has been brought to my attention that in papers co-authored with Philip Pettit, Jackson makes a distinction between causal efficacy and causal relevance. Causally relevant properties 'program for' an effect in the sense that some other property that is a realization of it causes the effect. So, to cite one of Jackson and Pettit's examples, the fragility of the vase does cause the vase to break. The particular microstructure of the vase is what causes the vase to break. But the fragility of the vase is a causally relevant property in that it ensures that the glass has a molecular structure (i.e. a realization of the more abstract property 'fragility') that is sufficient for the breaking. Causally relevant properties, then, are not themselves causes of an effect. Their programming for the effect is what makes them causally relevant.

One might claim that Jackson can save his primary quality view of color by claiming that disjunctive colors are causally relevant, ensuring that there is a microphysical surface property of an object that is efficacious in bringing about the relevant perceptual experience. But in a later work than *From Metaphysics to Ethics*, entitled 'Colours, Disjunctions and Programming', Jackson reiterates his earlier conviction that disjunctive colors are causally efficacious—the causes of our color experiences. And so we are still left with the same worries about causal overdetermination. For a discussion of program explanation, see Frank Jackson and Philip Pettit, 'Functionalism and Broad Content', *Mind*, 97: 381-400 and Frank Jackson and Philip Pettit, "Program Explanation: A General Perspective", *Analysis*, 50(2): 107-117. For further discussion of program explanation and color, see "Colours, Disjunctions, Programming", *Analysis*, 58(2): 86-88.

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