

## Shoemaker on Qualia, Phenomenal Properties and Spectrum Inversions

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**Abstract** Sydney Shoemaker offers an account of color perception that attempts to do justice, within a functionalist framework, to the commonsense view that colors are properties of ordinary objects, to the existence of qualia, and to the possibility of spectrum inversions. Shoemaker posits phenomenal properties as dispositional properties of colored objects that explain how there can be intersubjective variation in the experience of a particular color. I argue that his account does not in fact allow for the description of a spectrum inversion scenario, and that it cannot sustain a functionalist relationship between an object's color and its phenomenal properties. Functionalists must, however, come to terms with Shoemaker's recognition that intersubjective spectrum shifts are possible.

**Keywords** Color functionalism · Color objectivism · Sydney Shoemaker

Sydney Shoemaker has been engaged in a significant attempt to reconcile qualia with functionalism, and to retain our commonsense attribution of color properties to ordinary physical objects.

As a functionalist, Shoemaker hopes to make headway against the so-called hard problem of consciousness by accounting for qualia within a functionalist framework. Qualia, typically understood as nonintentional features of sensory experience that constitute what it's like to have that experience, have been regarded by many as resistant to a functionalist analysis. Shoemaker also wants to respect the possibility of intersubjective spectrum inversions. This is the boldest element of his account, since even functionalists willing to countenance qualia have generally rejected the idea that behaviorally indistinguishable spectrum inversion scenarios are compatible with functionalism.

As a color commonsensist, Shoemaker wants 'The tomato is red' to be true on the final as well as the first analysis. He wants to avoid subjectivist and error theories of color, which locate color in the mind, declare colors to be illusions, or otherwise result in the conclusion that 'The tomato is red' is, strictly speaking, false.

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However laudable these goals, Shoemaker's resulting theory cannot work, as I shall argue.

The key feature of Shoemaker's attempt to provide a functionalist account of qualia is his introduction of the notion of 'phenomenal properties.'<sup>1</sup> These are relational properties, specifically properties an object has in virtue of causing experiences of certain sorts. If two subjects are spectrum-inverted relative to one another, their qualia will differ. This difference Shoemaker attempts to explain, functionally, in terms of the involvement of two different phenomenal properties. Consider Jack and Jill, spectrum-inverted relative to one another, looking at a ripe tomato under standard perceptual conditions. One of the phenomenal properties the tomato has is that of currently producing an *R*-experience in Jack, where *R* is the quale that characterizes Jack's experience of red objects. Another of the tomato's phenomenal properties is that of currently producing a *G*-experience in Jill, where *G* is the quale that characterizes Jill's experience of red objects. The following summarizes the relevant conditions that obtain in Shoemaker's account:

- The tomato is red.
- The tomato has the property of currently producing an *R*-experience in Jack and the property of currently producing a *G*-experience in Jill. Call these phenomenal properties *R* and *G*.
- Jack's experience correctly represents the tomato as having *R*; Jill's correctly represents it as having *G*.
- Jack and Jill correctly attribute the distinct property of being red to the tomato.

Shoemaker's account is undermined by two serious problems: he cannot offer a coherent and complete expression of the conditions that are supposed to obtain in spectrum inversions, and he cannot give a truly functionalist analysis of phenomenal properties and qualia that satisfies the other requirements of his account.

### The Expressibility Problem

The first problem – call it the expressibility problem – arises when we try to get a fix on the contents of Jack's and Jill's qualia, and on how they differ. Typically, the scenario is described in such terms as "What looks red to Jack looks green to Jill, and *vice versa*." Significantly, Shoemaker never puts it that way. Indeed, he *can't* put it that way, and this inability is fundamental in that it prevents him from being able to even state the conditions for a spectrum inversion.

Consider Jill's quale. Given the conditions imposed by Shoemaker's account, it is not itself green. Qualia are not the sorts of things that can be green; the tomato is the bearer of color, not the quale itself.

Acknowledging this, one might naturally suggest that the tomato at least *looks* green to Jill. But Shoemaker cannot employ the 'looks' locution to describe the situation. 'Looks' can be used in either comparative or noncomparative senses.<sup>2</sup> In the former sense, to say, for example, that object *x* looks green to *S* in circumstance *c* is to say that *x* looks to *S* in *c* the way green objects look to normal perceivers in standard perceptual circumstances. But Shoemaker's spectrum inversion possibility does not allow such objectivist language with

<sup>1</sup> Shoemaker has come to prefer the phrase 'appearance properties' (Shoemaker, 2003, p. 275). I retain the terminology of his more familiar writings.

<sup>2</sup> See Roderick Chisholm, 1957, pp. 45–53.

respect to the colors objects look to have. There is no one way green objects look to normal perceivers. Jack and Jill are both, by hypothesis, normal perceivers. Since Jack and Jill have different experiences with respect to color perception in standard conditions, there can be no one way that objects look normally. Suppose then that ‘looks’ is used in its noncomparative sense to refer to the immediate quality of Jill’s experience, without reference to standard conditions or other external factors. This is indeed the avenue many qualiaphiles will use to express the content of a subject’s qualia. But this avenue is not open to Shoemaker since he cannot refer to the color content of the quale except in terms of its relation to external features, none of which, in the case at hand, are green.

For similar reasons, Shoemaker cannot say that Jill’s is an experience *of* green. If this is meant to refer to some internal state, there is nothing green about any internal state of Jill’s positable by Shoemaker. If it is meant to refer to external conditions, then her experience is of red, not of green.

Suppose we imagine Jill’s experience being projected by some means into Jack’s consciousness, with Jack then exclaiming “Ah, Jill’s experience of the tomato is what I would call green.” This might be one way of substantively capturing the differing qualities of the experiences. But there is no basis, given Shoemaker’s account of colors, for accepting Jack’s report. Shoemaker’s account cannot allow that the property *being green* has anything to do with Jill’s experience. That property belongs to objects like grass, not ripe tomatoes, and plays no role in Jill’s present color experiences.

So far I have been assuming that Shoemaker’s qualia are intended to capture the ‘what-it’s-like’ element of experience. But there is a complication. Shoemaker maintains that “in the sense in which there is something seeing red is like, there is nothing qualia are like” (p. 255).<sup>3</sup> Since the term ‘qualia’ was introduced into the philosophical literature precisely in order to capture the ‘what-it’s-like’ element of experience, Uriah Kriegel’s criticism that Shoemaker’s positing of qualia is merely verbal is quite understandable.<sup>4</sup> However, Shoemaker does intend to capture the notion of what an experience is like, but with his notion of ‘phenomenal character’ rather than ‘qualia.’ Shoemaker holds that a full account of what the experience of seeing red is like must include a representational element – specifically that an object is represented as having a phenomenal property. Shoemaker’s stance toward qualia seems to be that they are abstractions from the perceptual experience as a whole.<sup>5</sup> What gets added when the phenomenal character is incorporated that is lacking when only qualia are considered is that Jill’s experience represents the tomato as having the phenomenal property *G*. But this is the property of producing a *G*-experience, so giving an account of what an experience is like in terms of phenomenal character rather than qualia still requires us to give content to the notion of a *G*-experience. And one cannot refer to this experience or any element of it as green for the reasons already noted.

Since Shoemaker cannot maintain that Jack’s experience is in any way more privileged or veracious than Jill’s, this assessment of Jill’s experience must also apply to Jack’s.

What this shows is that Shoemaker’s account is radically incomplete. He has failed to describe, indeed cannot describe, any contentful differences in Jack’s and Jill’s visual

<sup>3</sup> Otherwise unidentified page references in the text and notes are to Shoemaker (1996).

<sup>4</sup> See Kriegel (2002), p. 185.

<sup>5</sup> It is not clear that everything Shoemaker says about the relation between qualia and phenomenal character is consistent. For example, Shoemaker takes qualia to be constitutive determiners of phenomenal character (p. 255). But it’s then unclear on what basis Shoemaker denies that there is *any* ‘what-it’s-like’ element to qualia.

experiences, and therefore cannot express the spectrum inversion scenario that he wants to allow as a genuine possibility.<sup>6</sup>

This is not to make the point, beloved of many qualiaphiles and even endorsed by Shoemaker, that qualia are ineffable. Shoemaker seems to think that qualia are ineffable on the grounds that, as he claims, individual qualia are functionally indefinable (see pp. 263–264). But as I will argue in the next section, this claim is inconsistent with his claim that qualia are realizations of physical states. In the sense of ‘ineffable’ more typically intended by both supporters and critics of qualia, the idea is that no concept or set of concepts can fully capture the nature of the sensory qualities experienced, hence no proposition or set of propositions can fully express or describe nonconceptual sensory experience. This sort of inexpressibility (whether or not it is a feature qualia really have) is quite different from the inexpressibility objection I am making here. For the typical defender of ineffability will still allow for the application of concepts to qualia, the only point being that any given concept can’t *fully* capture the ‘what-it’s-like’ feature of the experience. By contrast, the inexpressibility noted in the present analysis does not allow the application of *any* specific color concept to Jack’s or Jill’s experiences.

### Problems with Shoemaker’s Functionalism

If my analysis of the expressibility problem is correct, this is sufficient to undermine Shoemaker’s theory. However, it is instructive to consider problems pertaining more directly to his functionalism because of their independent status and interest. Both sets of problems taken together show the deep difficulties with any attempt to provide a functionalist account of qualia that allows for spectrum inversions. In order to flesh out the problems associated with functionalism proper, I shall assume, for the sake of argument, that we can provide adequate accounts of the different experiences of Jack and Jill.

This second set of problems arises when we ask what the relation is between phenomenal properties and colors. Neither of the phenomenal properties *R* or *G* is to be identified with the color red. Nor can the color simply be the sum or aggregation of the phenomenal properties an object has. This would entail that colors are dispositions to produce certain effects in certain perceivers.<sup>7</sup> Color commonsensim cannot define colors entirely in terms of dispositional properties related to perceivers. This problem would also apply to the proposal that redness is the higher-order property of having these phenomenal properties. Since the color of an object cannot be tied as closely as these proposals would have it to the object’s phenomenal properties, the question of the relation between an object’s color and its phenomenal properties becomes acute, for it is difficult to see how Shoemaker can retain a functionalist account. What, concerning the color itself, can functionally explain the different experiences of Jack and Jill?

<sup>6</sup> The present analysis of Shoemaker’s account explains the critical point Joseph Levine makes when he notes that it’s arbitrary to call Jack’s state ‘reddish’ and Jill’s ‘greenish’ (see Levine, 1999, p. 163). Levine’s point still assumes that Shoemaker can assign colors to qualia, however arbitrary such assignments might be. The present analysis is more fundamental in that it holds that Shoemaker’s account cannot even be adequately expressed.

<sup>7</sup> Specifically, Shoemaker’s considered view of phenomenal properties (revised from his 1996 account) is that each such property is “a disposition to produce (a specified experience, e.g., an *R*-experience) in creatures with visual systems of one or more sorts” (Shoemaker, 2000, p. 467). Shoemaker’s earlier account had the unintuitive implication that phenomenal properties, although instantiated in external objects, exist only when perceived.

Shoemaker is quite clear (p. 249) that the sensory apparatus and constitution of the subject must make some contribution to the nature of that subject's experience. The problem for Shoemaker is that if that contribution is determinative of the experience, he is saddled with some version of the theories he terms literal and figurative projectionism – which locate color in the perceiver and entail an error theory of color perception. It is in order to avoid this result that Shoemaker posits phenomenal properties instantiated in the object. Unfortunately, such instantiated properties cannot explain how an object's color leads to different experiences in different observers. In addition, the account entails that the color contributes nothing to the nature of the normal subject's visual experience under standard perceptual conditions.

If, for example, we identify the redness of the tomato with some physical property, say its surface reflectance features, then there can be no functional relationship between an object's color and its phenomenal properties. There could be no accounting for why one and the same physical property gives rise to distinct experiences. What gives rise to the *R*-experience in Jack and the *G*-experience in Jill? Not the physical property that instantiates the object's color, for that is by hypothesis the same in the two cases. This also means that the redness itself could have no causal role in *S*'s having the visual experience she is having. But the idea that the color of an object has nothing to do with the subject's visual experience of the object under standard perceptual conditions is inconsistent with color commonsensism – anything that has no causal relationship to the subject's visual experience cannot be an object's color.<sup>8</sup>

The only alternative would be to say that the color itself is not a unitary property but has multiple aspects. But in order for this proposal to do the job intended, there would have to be a different aspect of the color for each phenomenal property. And there are as many phenomenal properties to be potentially accounted for as there are possible differences in human (and animal, artificial, and extraterrestrial!) visual experience of a given object. The relations of these various aspects to the color itself would then need explanation. In effect, this breakdown of color as a unitary property leads to yet another error theory – the view that there really is no such thing as *the* color of an ordinary object.

Another aspect of the problem of consistently retaining a functionalist account arises in the context of Shoemaker's claiming both (1) that a quale "is nothing over and above the instantiation of one of the physical properties that realizes it" (p. 265) and (2) that individual qualia are not functionally definable, and are even "ineffable" in a way that goes beyond the irreducibility to particular physical properties that goes with multiple

<sup>8</sup> Michael Tye objects that Shoemaker's account counterintuitively entails that colors are basically not seen, since the subject experiences the phenomenal property rather than the color itself, and that Shoemaker's account "erects an appearance/reality distinction for the colors themselves" (Tye, 2000, pp. 463–464). I believe that Shoemaker's response is correct that colors *are* seen in virtue of experiencing a phenomenal property, where a particular such property is one of the ways in which a color presents itself. Shoemaker also rightly notes that the reference to an appearance-reality distinction suggests that there is one uniquely correct way of perceiving the color as it is, which is a key assumption Shoemaker is at pains to challenge. Tye is undoubtedly right that there are unintuitive elements in this aspect of Shoemaker's account, but Shoemaker, in acknowledging an unintuitive consequence of another aspect of his account, notes: "One would of course like an account which has no counterintuitive consequences. But in the case of color perception there is no chance of having that." (Shoemaker, 2000, p. 467) In any case, my own criticism here is not about some counterintuitive element – it is that the account cannot be a functionalist one. And it stems not from Tye's "internalist" consideration of what it is that is basically seen – the phenomenal property vs. the color itself – but from "externalist" considerations of the functional relationship, or lack thereof, between the object's color and its phenomenal properties.

realizability” (p. 263).<sup>9</sup> Shoemaker seems to welcome this latter claim, presumably because he believes that, since his account is “compatible with a materialist view of mind” (p. 264), features of it such as qualia indefinability and ineffability, which had seemed problematic for materialism, are actually compatible with it and are indeed shown to be the expected consequences of an adequate materialist and functionalist program.

The problem is that any compatibility is only on the surface. Shoemaker’s account leads him to posit indefinable and ineffable qualia because he takes seriously the possibility of behaviorally undetectable qualia inversions. But if qualia are truly indefinable and ineffable, the undetectability of intersubjective qualia variations has to be a matter not just of no behavioral differences, but also of no physical differences. Otherwise they would be functionally definable by reference to the physical properties that realize them. If there are no physically detectable differences behind qualia variations, then a quale cannot be the mere instantiation of a physical property that realizes it. Claims (1) and (2) are incompatible.

## Final Remarks

All of the difficulties noted here stem from Shoemaker’s desire to respect the possibility of spectrum inversions. Many functionalists will undoubtedly feel assured that these difficulties can be set aside on the grounds that spectrum inversions are not possible. But Shoemaker is right that intersubjective spectrum shifts, if not inversions as traditionally conceived, have been empirically confirmed.<sup>10</sup> Those wishing to combine color commonsensism with a functionalist account of color experience thus have their work cut out for them in trying to provide an adequate account of color consistent both with their theoretical goals and with what is known empirically about intersubjective variation in experience under perceptually identical external conditions. Shoemaker’s specific solution, ingenious as it is, does not do the trick.

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<sup>9</sup> This quote is from a context in which Shoemaker is discussing the consequences *if* qualia are functionally indefinable. But on p. 264 Shoemaker argues for the likelihood of the functional indefinability of qualia.

<sup>10</sup> See Shoemaker, p. 250. The relevant phenomenon concerns intersubjective variation in perception of unique or pure hues. See Hardin, 1988, pp. 39, 76–80.