Colour: Physical or Phenomenal?

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We wish to defend Jonathan Westphal's view that colour is complex against a recent 'phenomenological' criticism of Eric Rubenstein.[1] There is often thought to be a conflict between two kinds of determinants of colour, physical and phenomenal. On the one hand there are the complex physical facts about colour, such as the determination of a surface colour by an absorption spectrum. There is also, however, the fact that the apparently simple phenomenological quality of what is seen is a function of the physiological and psychological state of the viewing subject. Should the physical trump the phenomenal, or is it the other way round?

Much of the phenomenal variation of colour, however, *is* explained by physical facts. There is a physics and a psychophysics of colour. Colours appear, to the colour scientists at least, to be in some sense objective, a sense not explained by the view that they are purely phenomenal. Taking physics and psychophysics into account will mean rejecting the claim that the content of what our concepts of colours are concepts of is exhausted by the purely phenomenal, or that we can determine these concepts simply by gazing at a colour. Taking account of physics will lead, as Westphal argued,[2] instead to a view about *white* and the other colour terms like Putnam's account of *gold*. Necessary truths about colours cannot be explained without reference to the logic of the compossibility of what is given in reflection and absorption spectra, the analogue of H_2O.

Our view is that the supposed conflict between the scientific and the phenomenal, which we think Rubenstein accepts, is overblown. The colours we see, while they are a partial function of our physiological and psychological state, are also a function of the physical world. A complete understanding of colour will involve the physiology, phenomenology and the physics of colour.

As far as we can tell, Rubenstein's attack on Westphal's argument that colours are not simples is based on the presupposition that the

[1] Eric Rubenstein, 'Colour as Simple: A Reply to Westphal', *Philosophy* **71** (1996), 595.

[2] 'White In All Possible Worlds', *Epistemology and Philosophy of Science*, Proceedings of the 7th International Wittgenstein Symposium, P. Weingartner and C. Czermak (eds) (Oxford: Hölder-Pichler-Tempsky, 1983), 42–44.

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content of our colour concepts is exhausted by the phenomenal. Though we agree that the phenomenal clearly does play some necessary role in getting colour concepts off the ground, we do not think that it is the only thing that is involved.

Though Rubenstein gives the impression that he is arguing that colours are simple, what he actually does is to try to show that one kind of argument for complexity does not succeed. His only positive argument for the simplicity of colours turns out to be that 'one's ontology has to have some primitive notions. Since it is not clear how one could analyse colour terms, they look to be prime candidates' (p. 602). This is a weak argument. At any time there are plenty of terms in the sciences which are hard to analyse, but why should this by itself be a reason to think that these terms are basic? Before 1953 it was not clear how to analyse 'gene', but that did not make it a 'prime candidate' for inclusion in an irreducible ontology.

Quite apart from this, there really are good reasons to believe that colours are logically complex. Some of them are found in Westphal's book *Colour: a Philosophical Introduction*.[3]

For example, the existence of the puzzle propositions implies, he claims, that there are logical relations among propositions about colours. These logical relations can only be explained by an analysis of colour concepts and other related concepts, such as *whiteness* and *transparency*, which refers to genuine physical characteristics. This analysis explains a variety of other colour phenomena and has as a consequence the distinctness if not the phenomenological separability of the marks of a colour. Rubenstein focuses solely on this consequence, arguing rather like Berkeley that when he scrutinizes a colour patch the brightness is not a distinct *part* of what he sees.

He concludes that the fact that we can talk about the brightness of the colour without talking about the hue or saturation does not force us to the view that colours are complex in the sense that they have parts. This is a good point. But it does not disturb the argument from the puzzle propositions to the complexity of colour.

Rubenstein uses then term 'simple' in connection with colours 'ontologically', to mean that colours have no parts (p. 595). Westphal had rejected this mereological interpretation of the term 'simple' as it applies to colour on the ground of nearly complete unintelligibility. What does the metaphysical claim actually *mean*? 'Colours have no parts' has the same sort of dubious status as, say, the proposition that 'sounds have no edges'. This can hardly be confirmed or disconfirmed phenomenologically by *listening very hard*, and failing to hear, an edge. Such a 'failure' should not cause one to pronounce as an empirical or phenomenological truth that *sounds*

[3] Oxford: Blackwell, 1991

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have no edges. Neither the putative proposition nor its denial makes sense, and this last Wittgensteinian claim was the whole point of Westphal's criticism of Pears and Stout.

Rubenstein says (p. 599) that '[w]hen we gaze upon a patch [a patch, n.b.] of crimson red we might say, following Pears, that we find no marks in [on?] this patch.' This, Rubenstein says,

> amounts to the claim that we don't see the higher-order 'concepts' involved in such a specific shade. We might think of the concepts in ascending order of generality in this case, as 'crimson', 'red', 'coloured', etc. That is, phenomenologically analysis does not reveal such marks, such complexity'.

There are problems with this.

(1) What is said to ascend in order of generality is *concepts* (or 'concepts'—what is the difference?) Did Rubenstein wait for the concepts ('concepts') to float like barrage balloons above the simple landscape beneath his gaze? And having waited (but for how long?) did he turn aside, having failed, visually, to detect *the presence of concepts*? Yet what *sense* does it make for concepts rather than percepts to be 'present to our scrutinizing' at all?

(2) The other possible senses which Westphal distinguished for 'simple' in these connections were:

(a) logical complexity or possession of marks;
(b) visual uniformity;
(c) psychological unitariness.

He argued that (b) could apply to coloured *patches*, which do have parts, but not to colours, and that (c) could only apply to experiences, leaving (a).

When Rubenstein discusses (a), however, in his III (p. 598ff.) the difficulties of his methodology (failing visually to detect concepts in the ascending order) become apparent. He confuses seeing whether some object has a mark in the sense of verifying by visual inspection that it has a certain property, and seeing whether a concept has a mark in the sense of deciding intellectually that the concept falls into some category or other.

(3) In addition, we do not believe that the conceptual and logical problems about colour which Westphal discussed can be solved simply by the notion of 'seeing as'. This will not explain the specific logical structure of colour in such a way as to distinguish the possible bluish green and transparent green from the impossible reddish green and transparent white. Bluish green is not bluish because it is *seen as* bluish. It is seen as bluish, if it is, because it *is* bluish. Nor is it a breakdown of 'seeing as' which rules out yellow as a red-

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dish green, *pace* Helmholtz, but the logical geography of colour space.

(4) As a result, Rubenstein gets something else wrong in connection with 'seeing as'. The work he wants done by 'seeing as' for Harvard crimson is like the work it does for the duck-rabbit and the Necker cube. But duck-rabbits and the other ambiguous figures need to be visually complex in order to produce their characteristic unstable effects. They actually do have parts, which Rubenstein claims Harvard crimson does not have. There is a sense in which 'seeing as' could apply to something simple, such as a black dot on a white background being seen as a speeding bullet coming towards us, but this sense won't help Rubenstein. It is a matter of an association. The black dot may make one think of a speeding bullet, just as a crimson (PMS 194C) may evoke bursts of almamatristic nostalgia.

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