

Chapter 17

What Is Visual and Phenomenal but Concerns Neither Hue Nor Shade?

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17.1 Introducing Akins's Problem

Though the following problem is not explicitly raised by her, it seems sufficiently similar to an issue of pertinence to Akins's "Black and White and Color" (Akins 2014) to merit the moniker, *Akins's Problem*¹:

Can there be a visual experience devoid of both color phenomenology and black-and-white phenomenology?

The point of the present paper is to draw from Akins's paper the materials needed to sketch a case for a positive answer to Akins's Problem. I am unsure about how much of what follows Akins will want to endorse, but I hope this helps move us forward in our collective pursuit of a theory of visual consciousness.

Many philosophers of mind familiar with Jackson's (1982) Mary thought experiment may feel confident that they know both what color phenomenology and black-and-white phenomenology are. Prior to her release from her achromatic captivity, Mary's visual experiences have black-and-white phenomenology, but no color phenomenology. Or so the story goes.

Readers lacking either familiarity with or a taste for the Mary thought experiment may nonetheless feel that they have a grasp on this alleged contrast in visual phenomenology. Such readers arrive at this seeming grasp by appeal

¹But not "Akins' Problem." Regarding the rule followed here on apostrophes for proper nouns ending in "s," see p. 354 of *The Chicago Manual of Style*, 16th Edition, Chicago University Press, 2010.

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to a contrast between two main kinds of photographs and other visual media (paintings, movies, etc.). A normal, that is, non-colorblind, viewer of black-and-white visual media during daylight conditions enjoys correlative black-and-white phenomenology. In contrast, colored phenomenology accompanies normal vision of colored media, and, of course, normal vision of a colored world.

One way to get a feel for Akins's problem is by contemplating the visual phenomenology of the genuinely colorblind. Take, for example, the rod achromat. It is overwhelmingly plausible that, in never seeing colors, their visual experiences lack color phenomenology. However, they still have visual phenomenology, right? They can still consciously see things, so there has to be something it's like when they do so. But what *is* it like? A negative answer to Akins's problem goes along with saying that the visual phenomenology of the rod achromat must be black-and-white phenomenology. A positive answer to Akins's Problem goes along with saying that the rod achromat's phenomenology need not be black-and-white phenomenology.

17.2 Undermining the Nordby Argument

One line of thought favoring a negative answer to Akins's Problem is a line that we can reconstruct from remarks made by the rod achromat Knut Nordby (1996), a colorblind vision scientist (who was hip to Jackson's Mary and other philosophical topics in the vicinity (Nordby 2007)). Nordby's line of thought is pertinent to Akins's Problem because it can be interpreted as an argument for the conclusion that if a visual experience is devoid of color phenomenology, then it must have black-and-white phenomenology. The argument toward such a conclusion has two main components. The first component is a claim that achromatic experience is like trichromatic night vision. The second component is a claim that trichromatic night vision is like trichromatic day vision of black-and-white pictures. Presuming the transitivity of *being like*, it would seem to follow that achromatic experience is like trichromatic day vision of black-and-white pictures.

Akins presents considerations against both (1) the analogy between trichromatic night vision and trichromatic day vision and (2) the analogy between achromatic experience and trichromatic night vision. Undermining these two analogies serves to undermine the Nordby-inspired argument for a negative answer to Akins's problem. Of course, undermining an argument for not-P is one thing. Providing reasons for P is another. Nonetheless, I think we can find in Akins's paper (ingredients for) a case for a positive answer to Akins's problem. Further, I think we can find in Akins's view the resources for spelling out *what it would be like* to have a visual experience that had neither color phenomenology nor black-and-white phenomenology.

17.3 What Akins's Problem Isn't

To further clarify what I take Akins's Problem to be, it will be useful to clear out of the way a problem that *isn't* Akins's Problem. One approach to visual phenomenology embraced by certain qualiaphiles is the view that visible properties of worldly items—worldly properties like red, blue, and gray—appear to consciousness via phenomenal properties—mental qualities or qualia like red* (pronounced “red star”), blue*, and gray*. Further, since objects in the world have visible properties besides those concerning their hue and shade, properties such as their size and shape, a qualiaphilic aficionado of the property-star notation may (perhaps) be comfortable making assertions about phenomenology in terms such as tall* and square*. With such terminology in hand, we can formulate a question that is decidedly *not* the same as Akins's Problem. Call this one *Not Akins's Problem*:

Are there visual qualia other than the hue and shade qualia of, for instance, red* and gray*?
Are there additionally, for instance, *spatial* visual qualia, such as big* and round*?

A qualiaphile can answer “yes” to Not Akins's Problem and “no” to Akins's Problem. The imagined qualiaphile defends this pattern of answers by appeal to the following dependency thesis: Just as no visible object can have a visible size and shape without being colored (more specifically, visibly differing from the background in hue or shade), so can no visual experience have space* properties without color* properties (e.g. red*, gray*). So, according to this qualiaphile, even though there *are* non-color qualia, no visual experience can have *only* non-color qualia.

The analogy between visual objects and visual experiences appealed to in articulating the above dependency thesis is part of the package one embraces in holding that visual experiences are picture-like. Literal pictures depict nothing at all without doing so in virtue of the spatial distributions of hues and/or shades in the picture itself. This is a key contrast between pictorial representations and non-pictorial, language-like representations: A linguistic representation of a shape can be totally silent as to its shade or hue in a way that a pictorial representation cannot.

Anyway, I'll say more about this in later sections. For now, the key is that there are two points of contrast between Akins's Problem and Not Akins's Problem. The first point is that Akins's Problem is about *experiences* themselves. It is not about any putative *elements* of experiences (qualia, or whatever). The second point is that Akins's Problem is formulable in a way that is neutral about whether there *are* any qualia, or anything else worth denoting with the property-star notation (e.g. sensations).

17.4 Orthodox Philosophy of Mind and the Negative Answer to Akins's Problem

While I've not conducted anything remotely resembling a formal survey, I'm pretty confident that most philosophers of mind will answer "no" to Akins's Problem. In the present section I want to lay out what I take to be the background driving contemporary philosophy of mind orthodoxy. I will also make some remarks in order to contrast this orthodoxy with Akins's own approach.

According to contemporary philosophy of mind orthodoxy, call it the *Orthodoxy*, when the world makes its impingements upon the mind (instead of the other way around), one or both of two sorts of mental state may be involved: sensations and judgments. There are various contrasts the Orthodoxy appeals to in contrasting sensations and judgments. Perhaps not every adherent of the Orthodoxy will go along with all of them. However, the contrasts are: low level vs. high level, phenomenal vs. cognitive, nonconceptual vs. conceptual, and determinate vs. indeterminate. (The relevant determinate/indeterminate contrast is perhaps best illustrated by a contrast between a hen or hen photo that has a specific number of speckles and a description of the hen as being speckled that is non-committal about which number is the number of speckles.)

Further elaborating the Orthodoxy: There are two sorts of property that these mental states may have in virtue of which they count as mental. The first sort of property is phenomenality or the having of a quale—a property, perhaps intrinsic, in virtue of which it is true of a mental state that there is, in the unwieldy and uninformative parlance of the Orthodoxy, "something it's like". The second sort of property is intentionality or aboutness—a property, perhaps relational, in virtue of which it is true of a mental state that it represents or is about something. One typical sort of account of the relation between the two kinds of mental state and the two kinds of property goes like this: Phenomenality goes more with sensations whereas intentionality goes more with judgments.

There are two ways in which Akins's view of vision departs from this Orthodoxy. The first and main departure is the denial of a role for sensations (and qualia, those properties in virtue of which sensations have their phenomenality). The second is to reserve a use for notions of *what it's like* and *phenomenology* whereby there need be no sensations or qualia for these notions to have an application.

These departures are very much in the spirit of Dennettian qualia-queing (Dennett 1990). While it may be true, maybe even platitudinous, that there is something it's like to be impinged upon by the world via our visual processes, that there is a way our visual mental life appears to us, the processes involved are some combination high-level, cognitive, conceptual, and indeterminate. Contra Block (2003), there is no mental paint. Contra Sellars (1956) and Rosenthal (2005), there's nothing mental worth regarding as an impression that serves as an intermediary between the worldly impingements upon our sensory surfaces and our eventual judgments about what's out there doing the impinging. Neither is there anything red* in your mind when you see something red in the world.

Akins's departure from the Orthodoxy is driven by a close analysis of the neurophysiology of both luminance vision and chromatic vision. This analysis leads to a version of *conceptualism* about the character of conscious experience. As I understand conceptualism for present purposes, it is the view that . . .

. . . conscious perceptual states have conceptual content, and the mental aspects distinguishing various perceptual states, aspects such as the phenomenal character or sensory qualities of the states, are exhausted by these conceptual contents. Focusing on conscious experience of color, . . . the difference between a conscious experience of red and a conscious experience of blue just is the difference constituted by deploying the concept of red in the one experience and the concept of blue in the other (Mandik 2012, p. 620).

Akins's conceptualism will be key for supplying a positive answer to Akins's Problem. I turn now to briefly sketch what I take Akins's account to be.

17.5 Akins on How Luminance Vision and Chromatic Vision Work

For a quick sketch of Kathleen's view of how luminance vision and chromatic vision work, it helps to spell this out in terms of commonalities and differences between the two kinds of vision. It won't do, it must be noted, to say that chromatic vision is for detecting colors and luminance is for detecting lightness and darkness. Similarly, it won't do to say that chromatic vision receives only wavelength information as input and luminance vision receives only intensity information as input. Part of the problem is that the main respective receptors, cones for chromatic and rods for luminance, are both responsive to intensity within limited wavelength ranges. It is true of each individual receptor, rod and cone alike, that it cannot distinguish wavelength from intensity. So it's not receptor types that will distinguish chromatic from luminance systems, but the way the receptors are wired together and the computations that such wirings enable that do the trick. Chromatic systems involve comparisons between different kinds of receptor, for instance, comparisons between short wavelength cones and medium and long wavelength cones in the blue-yellow opponent system. Luminance systems involve summations across similar kinds of receptor.

One upshot of this way of thinking about luminance and chromatic systems is that having cones as inputs does not alone suffice to make a chromatic system. In fact, systems with only one kind of cone population may be regarded as luminance systems unto themselves, albeit luminance systems with a preferred wavelength range. Such different luminance systems might be usefully analogized to the different uses that distinct color filters can be put to in black-and-white photography. The filtering of different wavelengths results in different luminance contrasts. A clear luminance contrast revealed in one filtration scheme may be invisible in another. An advantage conferred by having multiple cone types isn't so much to see the colors, but instead to have multiple sources of luminance contrast and thus

effect better discrimination of objects from backgrounds. Chromatic systems, by comparing activations between populations of different kinds of receptor, are able to disambiguate wavelength from intensity, and thus effect an additional range of contrasts: chromatic contrasts in addition to luminance contrasts. The main point of having these additional sensitivities to contrast is to enable different means for seeing the edges that demarcate objects from their backgrounds.

Now, chromatic and luminance systems do not serve simply to differentiate object from ground. They also underwrite the visual perception of the objective properties of worldly objects. One objective property of objects is albedo or surface reflectance, roughly the objective basis of the perceptible lightness and darkness of objects. The computational problem of discerning albedo is quite difficult, given that the amount of light hitting the eye by itself underdetermines albedo. This underdetermination may be circumvented if decent information is at hand about the current illumination and its interaction with other parts of the scene, but this in turn is likely to involve the contribution of high-level processes sensitive to information about, among other things, spatial structure and material composition. A similar high-level circumvention of stimulus underdetermination can be expected for chromatic systems and the objective basis of object color, spectral surface reflectance.

It is at this point—the point where high-level contributions are appealed to for the circumvention of stimulus underdetermination—that we see Akins's view of vision as a species of conceptualism about consciousness. The high-level contributions tap knowledge about the external world that is encoded in one's conceptual repertoire. One of the key features of conceptualism is the way that it posits representation schemes that aren't picture-like. There are several key features of these non-picture-like representational schemes.

One key feature of non-picture-like representational schemes is their *indeterminacy*. A worldly object, such as my cat Mary, has a determinate size and a determinate shape. It is impossible for Mary to merely have determinate properties like being sized or being shaped. If she is shaped, there must be some particular shape that she has. A key feature of imagistic representational schemes is the representation of determinates by determinates. The blob in the photograph that represents Mary itself has a determinate size and determinate shape, and further, which determinate size and shape the blob has helps determine which determinate size and shape Mary is represented as having.

Another key feature of non-picture-like representation is its *sparseness* or lack of *lavishness*. Pictorial representations are lavish—size can't be represented without also representing shape and much else besides. In contrast, nonimagistic schemes are sparse. A language-like scheme can represent Mary as being the same shape as my other cat, Ernest, while being noncommittal as to which shape they both have. And it can represent Mary as having a shape while being noncommittal about her size, color, etc.

The indeterminacy and sparseness that go along with conceptualism will be key in making coherent how we can motivate a positive answer to Akins's Problem. But before we can proceed to that answer, we need to say a bit about how conceptualism handles phenomenology.

17.6 Conceptualism and Phenomenology

Conceptualism explains phenomenology by way of a two step-line of thought. The first step involves identifying “what it’s like” to be in such-and-such conscious state with the way things seem to one when one is in such-and-such state. What it’s like, for instance, when one sees a rose as red is explicable without residue by appeal to the ways in which things seem to one in virtue of seeing a rose as red. The second step is to account for the ways things seem in terms of the concepts deployed in having the states in question. Our primary model for this second step comes from the ways in which things appear to us in virtue of thinking about them. If George thinks of the dark thing leaning against the wall as an umbrella and not a walking stick, then, in virtue of his so thinking about it, it will thereby seem to him like an umbrella and not a walking stick. Whether it actually is an umbrella is irrelevant to its seeming as such. Instead, what’s most directly relevant here concerning the way things seem to George is the concept thereby deployed, namely, George’s concept of an umbrella. And if George and I share an umbrella concept, then there’s no bar to my coming to know what it’s like to be George thinking that there’s an umbrella nearby, since, in possessing the relevant concepts, I grasp how the world would appear to me were I to deploy those concepts.

The conceptualist need not take a stand on whether perceptions are species of thoughts. However, the conceptualist does hold that the account of perceptual appearance is largely the same as the account of cognitive appearance. The account in both cases will largely be spelled out in terms of the concepts deployed in having the relevant conscious states.

The conceptualist allowance of sparse phenomenology allows for a positive answer to Akins’s Problem. Just as one can think that the mat on the floor is rectangular without thinking that it differs from the floor in hue or shade, so can one see the mat as rectangular without seeing it as differing from the floor in hue or shade. And all of this is consistent with the fact that the visibility of the mat’s shape depends on the mat differing from its background in either hue or shade.

That visual phenomenology can actually be so sparse is evidenced by certain surprising breakdowns of normal functioning. Akins mentions one sort of example when she writes that “[w]e can imagine a person who has a deficit in motion perception, who sees that a ball has moved from here to there without seeing the ball *move* and indeed such people exist, albeit rarely.” Evidence more directly pertinent to Akins’s Problem comes from studies of cerebral achromatopsic patient, M.S., who is able to see shapes defined only by hue contrasts with their backgrounds even though he is not able to see hues (he cannot visually discriminate, e.g., red from green) (Heywood et al. 1994).

So, then, what *is* the phenomenology of someone exemplifying the positive answer to Akins’s Problem? That is, what would it be like to see something without seeing it as having some shade or hue? One example would be simply seeing a mat as rectangular. A reader understanding the previous sentence has the relevant

concepts, in particular, the concepts of seeing and of rectangularity, and thus, there's no real bar to the reader's understanding what it would be like to be the hypothesized seer of the mat.

There are two potential lines of objection to the conceptualist's proposal that one might find tempting, but I think they are ultimately unpromising. One line is to suggest that the proposed case is not *visual*. The second grants that it is visual, but suggests that this is not a case of *experience* (as in the nonconscious visual processing of blindsight).

The first line might be articulated like this: We do have a firm grip on the possibility of experiences of shape that are silent about hue and shade, but such a grip comes from familiarity with nonvisual sensory modalities. For instance, I can feel that a game piece in my hand is round without thereby feeling its color. On this line of thought, this absence of color awareness is one of the main features distinguishing tactile awareness from visual awareness. However, if this line of thought is correct, then it would seem that we should predict that someone who had the proposed sparse phenomenology would not be inclined to report that they had it by seeing. They shouldn't report, for instance, that they came to be aware of the mat's rectangularity by seeing it. However, this prediction is unlikely to be correct. It is highly implausible that the cerebral achromatopsic M. S., in making the aforementioned shape-discriminations, is unaware that he's accessing shapes by *seeing*.

This point bears on the second line of objection as well, for, in exhibiting awareness of *seeing* the shape, the seeing of the shape cannot be plausibly regarded as *nonconscious*. One need not be a full-blown adherent of higher-order theories of consciousness (e.g. Rosenthal 2005) to accept that a mental state of which the subject is conscious (in this case, the seeing) is itself a conscious state. In any case, there are other reasons to regard M.S's access to visual shape as conscious. For instance, the availability of shape information is not evident only by implicit means (as in the forced-choice guessing associated with blindsight research). M.S. is able to indicate the shapes in spontaneous verbal reports.

Of course, it remains to be spelled out exactly what does suffice to make the hypothesized sparse experience both visual and conscious, but that's beyond both the present paper and the present state of its author. So, let us end things on a positive note. Here's the correct answer to Akins's Problem: Yes.

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