

CHAPTER 5

COLORS, DISPOSITIONS, AND CAUSAL POWERS

We suppose ourselves to possess unqualified scientific knowledge of a thing, as opposed to knowing it in the accidental way in which the sophist knows, when we think that we know the cause on which the fact depends, as the cause of that fact and of no other, and, further, that the fact could not be other than it is.

Aristotle (1941: Book I, Chapter 2)

In the last chapter I argued that an object is the color it is in virtue of how it would appear to normal observers under normal conditions. But I also argued that colors are not relational properties of objects, but are, rather, intrinsic properties of objects. The account offered in the last chapter, I suggested, tells us what is essential to colors, the causal powers necessarily contributed by colors to anything having them. But that account is not reductive. Colors are not what colors do, I maintain, though they essentially do what they do.

We now face two serious problems. The first has worried Pollyanna from the beginning: how can the simple theory be made ontologically serious? Does admitting the causal efficacy of colors threaten the causal closure of the physical or commit us to some strange and systematic causal overdetermination? The second has just been brought to Pollyanna's attention. The suggestion from the last chapter is that we treat our dispositional account of colors (D7) as telling us what is the essence of colors. It tells us about the causal powers necessarily bestowed on any object having a particular color. But we supposedly learned from Hume that an object's properties and its causal powers are contingently related. This was the double plight we left Pollyanna in at the end of the last chapter.

What I propose to do in this chapter is to focus on our first difficulty. Specifically, I will show that the causal efficacy of colors does not result in

causal overdetermination, nor does it threaten the causal closure of the physical. The second difficulty – our running against Hume's "lesson" that the causal nature of properties is contingent – we will meet along the way. So how are we to understand the causal efficacy of colors?

The problem, we should notice, is similar in important respects to the mind-body problem: the problem of how minds and bodies are related. How are Pollyanna's beliefs and desires, for example, related to her neurophysiological states, and how is all that related to behavior like her eating a chocolate sundae? Similarly, how is something's being red related to the physical properties of that object, and how is all that related to Pollyanna's seeing that it is red?

The now standard response to the problem of mental causation is nonreductive physicalism (NRP): the position that minds are somehow physical (e.g., physically realized, or physically instantiated, or supervenient on the physical, or...), but neither reducible to nor identical with the physical. Pollyanna thinks that NRP is ontologically virtuous. NRP avoids both the profligacy of dualism and the miserliness of eliminativism and reductionism. Pollyanna has long been a NRPist, and I will recommend that we employ NRP to explain how colors are related to the physical properties of objects.

Despite its virtue, however, NRP is under attack, perhaps most notably from Jaegwon Kim (1993b, 1993c, and 1993d). Kim's attack focuses on NRP's insistence that the mental is dependent on the physical and that mental properties are real – i.e., they have causal powers – and so are not reducible to the physical. Together, Kim argues, these two positions are unstable. NRP may be ontologically virtuous, but Kim insists that it is not ontologically serious. NRP claims that mental properties are causally efficacious, but gives them nothing to do – nothing to do that isn't done by the physical properties on which they depend. The mind-body problem therefore remains, but now under the heading "the problem of mental causation." And the solution to the problem, Kim suggests, is either to reduce the mental to the physical or to eliminate it in favor of the physical. If Kim is correct, then his argument holds, *mutatis mutandis*, against NRP as applied to colors.

So although Kim's central worry is the problem of mental causation, he gives voice to a general worry: how could any property other than the basic properties of physics be causally efficacious? The property of being red, the property of being fragile, the property of being a zebra, the property of having

a heart, the property of being morally good, and so forth are thought to supervene on more basic physical properties. Consequently, NRP might find employment in all of these domains. But if these properties do supervene on the physical, are not the basic physical properties doing all the work? And if it is the basic physical properties that are doing all the work, what need have we of fragility, redness, goodness, and so forth? This more general problem, of which the problem of mental causation is an instance, is the problem of supervenient causation: how can supervening properties be causally efficacious? (Or, alternatively, how can supervening events cause other events?)

My strategy for showing how colors might be causally efficacious (and so my strategy for solving the problem of supervenient causation) has three parts. First, I argue that the causal contribution made by any color is a proper subset of the causal contribution of the physical property that realizes it. Second, I show that a property's causal contribution might not only be a proper subset of the causal contribution of some other property, but that those properties might *noncompetitively* contribute the same causal powers. In other words, I suggest that the instantiation of a property might genuinely make a causal contribution, though it makes no contribution not made by the instantiation of another property. In such cases, I argue, both properties are genuinely causally efficacious, though neither emergence nor overdetermination threaten since there is only one causal path. What I will argue, then, is that two properties might play exactly the same role in the same causal chain. Third, I argue that the relationship between colors and physical properties is such that colors are at times causally efficacious, though their causal contributions are never an addition to the causal contributions of the physical properties that realize them. In other words, I argue that colors noncompetitively contribute a subset of those powers contributed by the physical properties that realize them. But before looking at these arguments, let's first look closely at Kim's challenge to NRP.

1. KIM'S ARGUMENT AGAINST NONREDUCTIVE PHYSICALISM

According to Kim (1993c), NRP has four basic tenets. As applied to colors, these can be stated as follows.

1. Physical Monism: All concrete particulars are physical (198).

2. Anti-Reductionism: Colors are not reducible to physical properties (198).

3. The Physical Realization Thesis: All instantiations of colors are physically realized; that is, whenever an object has a particular color C, it has some physical property P such that P realizes C (198).

4. Color Realism: Colors are real properties of objects; color ascriptions are not merely useful aids or fictitious manners of speech (198).

According to NRP, then, colors are real properties that are sometimes instantiated (Color Realism) and they are not reducible to physical properties (Anti-Reductionism). But if they are real and irreducible properties, Kim claims, then they must have causal powers (Kim 1993c: 202). Kim names this principle 'Alexander's dictum' after the emergentist Samuel Alexander.¹

Alexander's Dictum: To be real is to have causal powers.

But NRP also claims that colors, as well as all other properties of concrete particulars, are dependent on physical properties such that there cannot be a color difference without a physical difference (The Physical Realization Thesis). Consequently, it seems that a color cannot be causally efficacious concerning some other property without also being responsible for the physical property on which the latter property depends.

So imagine that the instantiation of some color, C, depends on the instantiation of some physical property or set of physical properties, P. According to NRP, C is causally efficacious. So imagine that C is causally efficacious concerning some mental property, M (perhaps some property of experience). Suppose, further, that M depends on some physical property, P*. We can represent these relationships in the following diagram:

$$\begin{array}{ccc} C & \rightarrow & M \\ \uparrow & & \uparrow \\ P & \rightarrow & P^* \end{array}$$

¹ Cf. Alexander (1927).

Now since the instantiation of C (and not P) is causally responsible for the instantiation of M, it would appear that the instantiation of C must also be responsible for the instantiation of P*. The reason is that (given The Realization Thesis) the instantiation of M requires the instantiation of a physical property that realizes it. So it looks as if NRP requires downward causation – causation from supervening colors to the subvening physical. And the problem with downward causation, Kim tells us, is that with downward causation we lose physical causal closure; if there is downward causation, then some physical events do not have physical causes. As Kim insists, anyone willing to countenance this conclusion has lost any right to call himself a physicalist (1993c: 209). But if we deny that C is causally efficacious concerning P* – if we insist that only P is causally efficacious concerning P* – then C has nothing to do, since P's being causally efficacious concerning P* requires P's being causally efficacious concerning M as well.

To find our way around this argument, we need to appreciate the source of the argument's power. The tension Kim highlights results from NRP's purported treatment of supervening properties as emergent. Indeed, Kim explicitly claims that NRP is a kind of emergentism (1993c: 197-201). On this picture, supervening properties stand above (they emerge from) the physical. The defenders of NRP are partly responsible for this portrayal of their position. Talk about supervening properties "arising from" and "depending on" the physical are metaphors taken over directly from emergentism. Moreover, it is hard to see what other picture NRP would paint. If colors are not physical properties, though they supervene on physical properties, how can we think of them except as emerging from the physical properties that realize them?

I believe that Kim is correct, however, that if NRP is a version of emergentism, then it can't be right. Emergentism *is* inherently unstable. To foreshadow what is to come, however, NRP need not be committed to emergentism. Even if we accept Alexander's dictum, viz. to be real is to have causal powers, it doesn't follow, as Kim suggests it does, that for supervening properties to be real and irreducible they must "bring with them...*powers that no underlying physical-biological properties can deliver*" (Kim 1993c: 204). In other words, to admit that colors must be causally efficacious (i.e., to accept Alexander's Dictum) is not to admit that they must add to the powers contributed by the physical properties that realize them. Alexander's Dictum does not entail what we might call 'Kim's Dictum'.



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