

The Varieties of Instantiation

ABSTRACT: *Working with the assumption that properties depend for their instantiation on substances, I argue against a unitary analysis of instantiation. On the standard view, a property is instantiated just in case there is a substance that serves as the bearer of the property. But this view cannot make sense of how properties that are mind-dependent depend for their instantiation on minds. I consider two classes of properties that philosophers often take to be mind-dependent: sensible qualities like color and bodily sensations like itches. Given that the mind is never itself literally red or itchy, we cannot explain the instantiation of these qualities as a matter of their having a mental bearer. Appealing to insights from Berkeley, I defend a view on which a property can be instantiated not in virtue of having a bearer—mental or material—but rather in virtue of being the object of a conscious act of perception. In the second half of the paper, I suggest that the best account of sensible qualities and bodily sensations ultimately makes use of both varieties of instantiation.*

KEYWORDS: ontological dependence, sensible qualities, bodily sensations, inherence, perception

This paper relies on two starting points. The first concerns the distinction between substances and properties. It is widely accepted that properties depend, for their instantiation, on substances. Consider a property like redness. It has traditionally been assumed that for redness to be instantiated, there must be a substance that can serve as the bearer of redness. We are not concerned, here, with the semantic relation between predicates and grammatical objects. Rather, the focus is on a *metaphysical* relation between two entities—a property (or property instance) and its bearer. Aristotelians, Platonists, and some trope theorists all accept this claim. Only those trope theorists who invert the dependence thesis and build objects out of ontologically prior tropes reject it. (I will not consider such a view in this paper.)

The paper's second starting point concerns the notion of mind-dependence, a notion that suffers from a lack of adequate articulation in the philosophical literature. There has been much debate in the history of philosophy over the alleged mind-dependent status of two classes of properties—sensible qualities and bodily sensations. The sensible qualities include color, shape, size, smell, taste, and

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texture—those qualities that are typically revealed to us in sense perception. Bodily sensations, on the other hand, include pains, itches, and tickles. Despite some recent attempts to equate bodily sensations with mind-independent states of physical bodies, it remains the majority view that such sensations are paradigmatic examples of mind-dependent qualities. Moreover, while it may be a minority view these days, the claim that sensible qualities, too, are mind-dependent has been endorsed by many throughout the history of philosophy. To get a flavor of the most radical version of this kind of view, consider the following passage from Berkeley:

Let it be considered, the sensible qualities are color, figure, motion, smell, taste, and such like, that is, *the ideas perceived by sense*. Now for an idea to exist in an unperceiving thing is a manifest contradiction; for to have an idea is all one as to perceive: that therefore wherein color, figure and the like qualities exist, must perceive them; hence it is clear there can be no unthinking substance or substratum of those ideas. (Berkeley 1948–57a: §7, my emphasis)¹

Note that, for Berkeley, sensible qualities are not mind-dependent just in virtue of being powers that objects have to cause experiences. Rather, they are nothing more than ideas or mental entities themselves. A commitment to this kind of view remains compelling to contemporary sense-datum theorists like Jackson (1977) who argue that sensible qualities like color, shape, and size are, in the first instance, qualities of mental entities called sense-data and are therefore dependent on minds in just the way that Berkeley suggests.

If we rely on the traditional metaphysical framework of properties and bearers described above, a quality that is mind-dependent depends for its instantiation on a mind that can serve as the bearer of the quality in question. Applying this to the thesis that sensible qualities are mind-dependent results in the implausible view that the mind can be literally red, round, or smelly. In the case of the bodily sensations, we get the verdict that pains, itches, and tickles must be in the mind, thereby denying the intuitive idea that they are, instead, located in the body parts in which they are felt.

These unattractive implications have led philosophers to adopt different strategies with respect to the two classes of qualities. In the case of the sensible qualities, the consensus is that colors and shapes are not, as Berkeley thought, mind-dependent, but are, instead, always features of mind-independent, material objects. But this forces philosophers to deny that colors and shapes can be instantiated in delusive experiences that lack appropriate mind-independent objects—experiences involving phosphenes, afterimages, and full-blown hallucinations. In the case of the bodily sensations, given that the mind-dependence of these qualities is much harder to deny, philosophers have either bitten the bullet—denying that it is my tooth that aches, my foot that itches—or they have argued that our bodily sensations involve experiences of necessarily uninstantiable qualities. It is not hard to see why these responses are unconvincing.

¹ Hereinafter, *A Treatise Concerning the Principles of Human Knowledge* will be cited as PHK followed by the original section number.

In this paper, I will argue that we need a different understanding of the notion of mind-dependence. The traditional view—on which objects secure the instantiation of qualities by serving as their bearers—cannot make sense of the role that minds are thought to play in the instantiation of qualities that are mind-dependent. Qualities, if they depend on *material* objects for their instantiation, do so in virtue of *inhering* in these objects—this is the traditional relation between a property and its bearer. But inherence cannot be the notion that a philosopher has in mind when she argues for the mind-dependence of sensible qualities or bodily sensations. Instead, I will argue that what is meant by the thesis of mind-dependence is that a property depends for its instantiation on a perceiver's awareness of it. Dependence on inherence and dependence on perception are distinct relations that properties may stand in to particular kinds of substances, each of which secures the instantiation of the quality in question.

Clarifying our notion of mind-dependence has striking consequences, which I sketch in the second half of the paper. I argue that sensible qualities have *disjunctive* conditions on instantiation—that is, they can be instantiated *either* in virtue of inhering in material substances *or* in virtue of being perceived by minds. This allows us to make sense of our commonsense verdicts that both tomatoes and afterimages can be round, that both phosphenes and lemons can be yellow. Bodily sensations, on the other hand, have *conjunctive* conditions on instantiation; that is, they are instantiated in virtue of both inhering in material objects—body parts, in particular—and being perceived by minds. This view does justice to the essentially *bodily* nature of this class of mind-dependent sensations.

1. Instantiation Dependence

Let us begin with the asymmetric relation of ontological dependence, introduced by Fine (1995):

Ontological Dependence: x ontologically depends on y iff \Box_x (if x exists, then y exists) [where \Box_x is a primitive operator that stands for 'it is true in virtue of the nature of x '].

Note that all notions of dependence introduced in this paper are notions of full dependence; in this case, that means that y 's existence fully explains x 's existence. Relying on an essence-based operator like \Box_x captures the explanatory asymmetry that is implicit in the notion of ontological dependence, but which traditional modal analyses cannot accommodate. As Fine's well-known example illustrates, the singleton set containing Socrates as its only member ontologically depends on Socrates and not the other way around even though it is necessarily the case that the latter exists if and only if the former exists. The asymmetry consists in the fact that Socrates is part of the *nature* of the singleton set containing him, while the singleton set is no part of Socrates's nature.

Is such a notion suitable to capture the relationship between substances and properties? At least since Aristotle it has been assumed that it is part of the nature of a property to depend on a substance for its instantiation. Substances, on the

other hand, are, by their nature, ontologically independent entities. That is, a particular substance does not depend, by its nature, on any particular property that it possesses. So, the relation between substances and their properties does seem to be one of asymmetric dependence.

It is important to note, though, that the asymmetric relation between properties and substances that we are interested in does not involve the *existence* of properties being dependent on substances. Aristotelians hold that properties depend for their existence on substances, but Platonists hold that properties can *exist* independent of substances. The relation I am interested in here is something the two sides can agree on, namely, that it is part of the nature of a property that it requires a substance specifically for its *instantiation*. Of course, when a property depends on a substance for its instantiation, the resulting instance of the property will depend for *its* existence on the particular substance it exists in. So while we can continue to use the existence-based version of ontological dependence defined above for the case of property-instances, we need a distinct instantiation-based notion for the properties themselves. (In Sethi [forthcoming], I extend the account developed here to property instances.) Furthermore, unlike Fine's notion of dependence, which relates two particulars, the ontological relationship we are interested in holds between universals and particulars. On the basis of these observations, we can define the notion of *instantiation-dependence*, as follows:

Instantiation-Dependence: A property F instantiation-depends on a substance *iff* \Box_F (if F is instantiated, $\exists s$ (s is a substance)).

Such a notion of instantiation-dependence makes clear that the conditions under which a property can be instantiated are determined by the very nature of the property in question. As we formulate more specific versions of this notion, it will become clear that different properties, in virtue of differences in their natures, can have rather different conditions on their instantiation. (Koslicki [2012] introduces a related notion of feature-dependence to capture the ontological relationship between properties and the substances that they depend on. In section 3, I will argue that a substance can be implicated in the instantiation of a property, without that property being a feature of the substance. For this reason, we need a notion of instantiation-dependence that is more permissive than Koslicki's notion.)

In its current formulation, the notion of instantiation-dependence remains quite vague. It says nothing about the particular role that the substance plays in securing the instantiation of a property. An explanation of this role, alongside a particular focus on the case of the sensible qualities, will be the topic of the next two sections of the paper.

2. Inherence

Ever since Aristotle, it has widely been assumed that properties can only be instantiated by *inhering* in substances. Aristotle defines substance as 'that which is neither said of a subject nor in a subject' (Ackrill 1963: *Categories*: 2a11–13). In contrast, 'all the other things are either said of the primary substances as subjects

or in them as subjects. So if the primary substances did not exist it would be impossible for any of the other things to exist' (2b4–6). Substances are ontologically independent entities that are neither predicated of anything nor exist *in* anything. Accidents, on the other hand—instances of properties—are not independent; their existence depends on being *in*—inhering in—a substance.

The view that properties are ontologically dependent and must inhere in substances remains pervasive through much of the early modern period (with the important exception of the Scholastic doctrine of *real accidents*). In the *Second Replies*, Descartes defines substance as 'every thing in which the items we perceive exist immediately, as in a subject, or every thing through which those items we perceive exist—the items we perceive being any property, quality, or attribute' (Descartes 1964–74: 7.161).² He also explicitly uses the notion of inherence to link substances to their modes, writing in the *Meditations* that modes 'cannot be understood apart from some substance for them to inhere in' (AT 7.79) and again in the *Fourth Replies* that 'modes must inhere in something if they are to exist' (AT 7.222). Locke, while doubtful that the traditional definition gives us genuine knowledge of the nature of substance, is nevertheless committed to the existence of substances and to our idea of substance being a (potentially obscure) idea of the support of qualities. He also describes our very ideas of sensible qualities as ideas of things that are 'of themselves inconsistent with existence' that possess a 'necessary connection with *inherence*, or being supported' (Locke 1963: 4: 21, my emphasis). During the early modern period, these claims of dependence are typically stated in terms of existence as opposed to instantiation. This is because 'accidents' or 'modes' are best understood as *instances* of properties, and instances depend on their particular bearers for their *existence*. This framework can be straightforwardly extended, though, to include universals depending for their instantiation on substances. In this paper, I formulate the view in terms of universals as opposed to instances—redness as opposed to the cherry's redness—because I am ultimately interested in what these dependence relations reveal to us about the nature of certain properties or universals themselves rather than in their instances. (See Sethi [forthcoming] for an extension of the view to property instances.)

It is also a feature of the traditional view that properties must inhere in substances *by their very nature*. This aspect of the view is clear in Aristotle, who took the definitions of the *Categories* to be carving out fundamentally distinct kinds of beings. Descartes explicitly states that distinguishing modes from substances is 'seeing them for what they really are' (AT 8A.31). Likewise, Locke consistently writes that our very idea of substance is an idea of a *res per se subsistens* (1963: 4: 8), and that it is part of our very idea of qualities that they cannot exist without inhering in substances (1963: 4: 21). It is clear from these passages that, for each of these philosophers, properties asymmetrically depend on substances because, by their nature, they must inhere in something if they are to be instantiated. The

² Hereinafter, references to Descartes' works use the pagination of the Adam and Tannery volumes (AT), *Oeuvres de Descartes*. Quotations will be cited using the abbreviation AT, followed by the volume and the page number.

role that the substances play, then, is to serve as the bearers of the properties in question.

We can capture this traditional view as follows:

Dependence_{INH}: A property F depends_{INH} on a substance *iff* \Box_F (if F is instantiated, then $\exists s$ (s is a substance and F inheres in s)).

The notion of Dependence_{INH} is a further specification of the generic notion of instantiation-dependence I introduced in section 1. Note that in defining dependence_{INH}, I have not offered a definition of inherence itself. Rather, I make use of the notion of inherence to capture the specific way in which properties depend on substances. The notion of inherence serves to illuminate *how* a substance explains the instantiation of a quality. The basic idea is that for a quality to be instantiated, there must be something, a *bearer*, in which the property inheres. Crucially, the bearer that a quality inheres in must be ontologically prior to the quality it supports. This indicates that the notion of inherence is more specific than the notion of instantiation. It is commonly accepted that for F to be instantiated, there must be some a that is F , but this minimal condition on instantiation says nothing about the kind of ontological relationship that exists between a and F . For a property to inhere in something, in contrast, the thing that it inheres in must be an ontologically prior substance that can serve as the bearer of the property in question. This distinction between instantiation and inherence will become important in the following section once we see that it is possible for a quality to be instantiated without there being any substance that serves as the bearer of the quality in question.

Once we have the notion of dependence_{INH} at our disposal, we can ask, of some class of properties, which kinds of substances they can inhere in. With respect to the sensible qualities, it is widely believed that these qualities must inhere in material substances. Despite substantial disagreement over the exact nature of such qualities, many philosophers agree that it is physical objects that are the bearers of colors, shapes, etc. It is the poppy that is red, the balloon that is spherical. What our analysis of dependence_{INH} suggests is that in pointing to material objects as the bearers of sensible qualities, these philosophers are placing a materialist condition on the nature of the qualities themselves. Remember, dependence_{INH} says that it is in virtue of the *nature* of a property that its instantiation depends on a substance. If color and shape can only inhere in material objects, this must be due to the very kinds of properties that color and shape are. This implication is indeed endorsed by most philosophers who treat material objects as the bearers of sensible qualities, many of whom explicitly offer materialist analyses of the qualities themselves.

3. Perception

While the view that sensible qualities inhere in material objects is dominant in the contemporary philosophical literature, historically, this conception of sensible qualities has often been challenged. In this section, I want to look more closely at

how to make sense of the view proposed by these critics, according to which sensible qualities are mind-dependent.

One might think that this will be a straightforward task. We have developed the notion of dependence_{INH} in order to make sense of the way in which properties depend on substances. Perhaps, then, we can make use of the very same notion to explain the relation being posited as linking sensible qualities to *minds* when it is asserted that sensible qualities are mind-dependent entities. If the very same notion is in play, then the disagreement between the two sides is straightforward—proponents of both views hold that sensible qualities must inhere in substances, but they disagree about *which* substances sensible qualities depend on in this way.

At first glance, one might think this is the correct way to understand the thesis of mind-dependence. Philosophers like Berkeley, in describing the mind-dependence of the sensible qualities, often speak of qualities as being *in* the mind. Consider, for example the following passages:

May we not therefore conclude of smells, as of the other forementioned qualities, that they cannot exist *in* any but a perceiving substance or mind? (Berkeley 1948–57b: 181, my emphasis)³

All those sensible modes, as swift and slow, great and small, round and square, and the like . . . *are acknowledged to exist only in the mind.* (DHP: 193, my emphasis)

It quickly becomes clear, however, that such passages cannot be read as committing Berkeley to an inherence view of mind-dependence. For there are also passages in which he explicitly considers and rejects such an interpretation of his view:

It may perhaps be objected that if extension and figure exist only *in the mind*, it follows that the mind is extended and figured, since extension is a mode or attribute which (to speak with the Schools) is predicated of the subject in which it exists. I answer, those qualities are in the mind *only as they are perceived by it*—that is, not by way of mode or attribute, but only by way of idea, and it no more follows that the soul or mind is extended, because extension exists in it alone, than it does that it is red or blue, because those colors are on all hands acknowledged to exist in it, and nowhere else. (PHK: §49, my emphasis; see also DHP: 237)

This passage provides strong evidence that Berkeley is utilizing some notion other than inherence when he speaks of qualities as ‘in’ the mind. On the standard early modern view, modes are entities that by their very nature inhere in substances and can be predicated of those substances. Berkeley’s explicit denial of both these features in the case of sensible qualities—these qualities are not modes of mind nor can they, according to Berkeley, be predicated of the mind—seems to amount

³ Hereinafter, *Three Dialogues between Hylas and Philonous* will be cited using the abbreviation DHP, followed by the relevant page number in Berkeley (1948–57b).

to a denial that these qualities inhere in the mind. (For a defense of an inherence-based interpretation of Berkeley's view, see Allaire [1963], Watson [1963], and Hausman [1984]. See Pappas [1980] for extensive criticism.)

Putting aside the particular details of Berkeley's views for a moment, it seems clear that most philosophers who have argued that colors or shapes are mind-dependent should not be interpreted as suggesting that the mind itself bears these features—that the mind itself is colored, round, or sweet-tasting. (Malebranche [1997] might be an exception here; see, for instance, *Elucidation Eleven*.) Colors, for instance, are properties that we take to be located on the surface of objects; what would it even mean to say that those qualities are in fact properties of a mind? It would be even more absurd to attribute to these theorists the claim that primary qualities, such as shape and size, are literally features that inhere in the mind. Traditionally, philosophers who argued for the mind-dependence of the primary qualities were committed to a non-extended conception of mental substance; they could not then be thought to hold that the mind itself is shaped or sized. Furthermore, regardless of one's view of the non-material nature of the mind, no one would argue that the mind itself instantiates those very shapes and colors that we perceive material bodies as having during a sensory experience. But it is the colors and shapes that show up in such experiences that are thought by philosophers like Berkeley to depend on the mind that is experiencing them.

Nor does it help to say that it is not the mind, but rather an experience that is the bearer of redness. As I have already indicated, color shows up to us as a property that is spread across the surface of objects. What would it mean for *that very* property to be in fact a property of my experience? Similarly, my experiences cannot be the bearers of the squareness I perceive or the roundness I perceive even if we grant that experiences are physical states that therefore have spatiotemporal extension of their own. This is at least part of the explanation for why theorists who argue that phenomenal properties are properties of experiences do not normally identify these properties with colors, sounds, smells, and so on. Typically, qualia theorists (such as Block 1996, Peacocke 1983), who posit the existence of mental paint or sensations, insist that their view when correctly understood is not committed to the claim that redness and roundness are themselves qualia. On their view, redness and roundness are physical properties of objects that cause the instantiation of these paint-like properties in the mind; they are not paint-like properties themselves. It is clear that Berkeley is not to be interpreted as a qualia theorist of this kind. That is, he is explicit that it is the *sensible qualities*—color, shape, taste, smell, and so on—that are themselves nothing but ideas, wrongly assumed by the materialists to be properties of material objects. That being said, in the contemporary literature we also find color irrealists like Boghossian and Velleman (1989) who, like Berkeley, treat the colors themselves as mind-dependent properties of a subjective visual field. This appeal to a visual field allows them to do justice to the spatial character of our color experiences that I have been emphasizing. But if we are to take this notion of a visual field literally, we need to have an answer as to *how* colors can be instantiated in such a field (physical or mental) without possessing any substantial bearers. Such theorists, then, *need* the framework that I go on to develop in this section (on Berkeley's behalf) just as much as Berkeley does.

Before we can consider Berkeley's solution to how mind-dependent sensible qualities can be instantiated, there is one final option to consider. If we cannot appeal to the mind itself, why not appeal to some other kind of mental substance—a sense-datum, say—as the bearer of redness? Would this not avoid the charge that the mind (or an experience) cannot be the bearer of redness without introducing a new kind of ontological dependence between properties and substances? I do not think this proposal is defensible. Part of what I hope to have made explicit in this paper is that inherence is a more substantive notion than the mere notion of instantiation. Inherence is a metaphysical relation of dependence that obtains between a property and a bearer whose existence is *prior* to the property instance. I contend that it does not make sense to think of sense-data, phosphenes, afterimages, or hallucinatory objects as substances that have an existence prior to their property instances. It is implausible to think that despite my first experiencing a red, round orb and then a green, round orb, I am experiencing one and the same sense-datum or the same phosphene. On what grounds could we distinguish between scenarios involving a single sense-datum that had changed properties and scenarios involving two numerically distinct sense-data with distinct properties? Mental entities of this sort are best thought of as pure sensibilia whose natures are exhausted by their sensible character. Of course, one can nominalize the instantiation of a sensible property and speak of there being something red there—a red sense-datum or a red phosphene—but in so doing, we must not assume that the 'thing' we are calling red is an ontologically prior substance that redness inheres in.

If there is no way to make sense of a mental substance in which sensible qualities inhere, what can a philosopher like Berkeley mean when he describes both primary and secondary qualities as *in* the mind? In the passage cited above, as well as in several other passages, Berkeley gives us an explicit answer—sensible qualities are in the mind 'only as they are perceived by it.' Qualities are in the mind 'only by way of idea' and, already in the passage cited in the introduction, Berkeley makes clear that what it is for a mind to *have* an idea is for it to '*perceive* the idea'. What Berkeley is telling us in these passages is that the relationship between a mind and its ideas—and thus the relationship between a mind and sensible qualities—is not one of inherence, but rather one of *perception*. (This insight has been emphasized by Ott [2006] and Cummins [2007].)

Reconstructing Berkeley's point with the help of our general notion of instantiation-dependence will help make this claim intelligible. It is not just that, according to Berkeley, sensible qualities are perceived by minds—that would say nothing about their ontological status. Rather, the claim is that colors and shapes depend *for their instantiation* on being perceived by minds. His infamous maxim *esse est percipi*, or 'to be is to be perceived', points to a novel kind of ontological dependence, a way for mind-dependent qualities to be instantiated that is entirely distinct from inherence. We can define this novel kind of instantiation-dependence as follows:

Dependence_{PER}: A property depends_{PER} on minds *iff* \Box_F (if F is instantiated, then $\exists m$ (m is a mind and F is perceived by m)).

Dependence_{PER}, like dependence_{INH}, is a further specification of our original notion of instantiation-dependence. In the most straightforward terms, Berkeley is denying that for there to be an instance of redness, there must be some substance—mental or material—that is itself the bearer of redness. Instead, according to Berkeley, what it takes for redness to be instantiated is for a mind to perceive redness. In place of *the cherry's redness* and *the firetruck's redness*, we have *the redness perceived by Deepa* and *the redness perceived by Rohan*. According to a materialist, it is true in virtue of the very nature of redness that its inhering in a material substance enables the instantiation of the quality. In contrast, according to a mind-dependence theorist like Berkeley, it is part of the very nature of a quality like redness that its instantiation depends on an act of perception by a conscious mind.

We now see that the way in which qualities depend on the mind, if in fact they do, is quite different from the way in which they are thought to depend on material bodies. That being said, dependence_{INH} and dependence_{PER} are still forms of instantiation-dependence precisely because each constitutes an explanation of how a particular instance of a quality can exist. Just as the cherry's redness is, for the materialist, a particular instance of redness, so too the redness perceived by Deepa is, on the alternative picture being sketched here, a particular instance of redness: it is an entity in the spatiotemporal world. Imagine seeing a patch of color on the wall and asking what explains the existence of that patch. The materialist's answer is that such a red patch exists in virtue of a physical object—the wall—serving as the bearer of redness. The mind-dependence theorist, on the other hand, does not appeal to the wall in her explanation of the patch's existence. Rather, she explains the existence of the red patch by appeal to a mind—in this case your mind—perceiving it. Both offer explanations of the same fact, namely, the fact that there exists a concrete instance of redness.

An important implication of Berkeley's notion of mind-dependence is that the mind-dependent property instance need not be located where the mind is. It is only when a property inheres in a substance that the instance must be co-located with its bearer. Once we have the correct analysis of mind-dependence at our disposal, we can think of sensible qualities as both mind-dependent and spatially located. That is why it is possible for Berkeley to insist that it is *color* and *shape* that he is identifying as ideal. If treating these properties as mind-dependent were to rule out our ability to conceive of them as located in space, it would be implausible to insist that it was still color and shape that were under discussion. On Berkeley's view, then, instances of sensible qualities can be located out there in the world, in physical space, despite being existentially mind-dependent.

Note that this notion of perception as the basis of an ontological relation cannot just be identified with the ordinary notion of perception we are familiar with. We do not typically assume that perceiving *x* brings *x* into existence. If anything, we often assume that perception involves an already existing object in the world causing our passive awareness of it (see, for example, Grice 1961). How, then, should we understand the notion of perception in play in Berkeley's account? First, given his idealism, Berkeley will deny that perception must involve physical objects that *exist anyway* causing our experiences of them. This is still compatible with perception being passive (at least by Berkeley's criteria) insofar as no act of the

will is implicated in this ontological relation between a mind and its objects. On Berkeley's view, perception of a red patch is a relation that involves two relata—a state of my mind and an instance of redness. Insofar as perception is a *relation*, I can only perceive an instance of redness if the instance of redness exists. But this is compatible with the claim that the instance of redness depends for its existence on my state of awareness. Structurally, the relation is such that one of its relata has its existence secured by the other, thereby bringing about the whole relation. (See Marušić [2018], though, for an extended discussion of whether and how Berkeley can make room for the passivity of perception given the understanding of mind-dependence proposed here.)

In the remainder of the paper, I will discuss how we might make use of the two notions of dependence_{INH} and dependence_{PER} that I have developed. Most philosophers have assumed that we must think of sensible qualities either as inhering in material substance or as being the objects of a perceiver's awareness. But is there a genuine reason to adopt this kind of exclusive approach? We saw that the nature of a quality constrains the conditions under which it can be instantiated. But what if the nature of a particular quality were such that both inherence and awareness played a role in its instantiation? Abstractly, there are two ways this could be the case. First, the quality in question could have a nature that placed *disjunctive* conditions on instantiation, such that the quality in question could be instantiated in either of two ways: in virtue of inhering in a material body or in virtue of being the object of a perceiver's awareness. Alternatively, the quality in question could have a nature that imposed *conjunctive* conditions on instantiation. On such a view, for the quality to be instantiated, it would have to *both* inhere in a material body *and* be the object of a perceiver's awareness. In the remainder of this paper, I will argue that the nature of sensible qualities like color and shape is best thought of as placing disjunctive conditions on their instantiation, whereas the nature of bodily sensations like pains and itches places conjunctive conditions on their instantiation. Crucially, it is only once we are clear-sighted about what mind-dependence amounts to that we can properly appreciate these possibilities.

4. The Disjunctive Nature of Sensible Qualities

In *Berkeley's Puzzle* (2014), John Campbell describes two uncomfortable descriptions we are led to when considering the peculiar experience we have upon exerting pressure on a closed eyelid—an experience of a moving patch of color or a phosphene:

- (1) It is just a denial of reality to say there is nothing there that is yellow, square, and moving. That is the only vocabulary we have to describe what the subject is experiencing . . . you are not talking figuratively when you say that the thing is a vibrant yellow.
- (2) It's crazy to say there is something there that is literally yellow, square, and moving. We can search all of space and time and there is nowhere to be found anything literally occupying space that has

these characteristics. There is nothing that is yellow, square, and moving. (Campbell and Cassam 2014: 10)

The two descriptions that Campbell provides seem straightforwardly incompatible: the first insists on the presence of something yellow, which the latter explicitly denies. It seems that we must give up one or the other. But what Campbell's description of the phenomenon makes vivid is that *both* descriptions seem equally compelling.

Let us start with the intuition expressed in (1). When one has an experience of a phosphene, the most natural description of what is going on is that one really is aware of an instance of yellowness. Phenomenologically speaking, yellowness is there for the perceiver in the very same way as it is there in an ordinary case of color perception. We cannot capture the phenomenology of the experience merely by appealing to an uninstantiated universal, yellowness; for this does not capture how the yellowness that the subject experiences is right there in front of her or him, at a particular spatiotemporal location, and not in Platonic heaven. It seems like the only good characterization of the phenomenology has it that the perceiver is indeed aware of an actual instance of yellowness.

Qualia theorists may analyze these cases as involving the instantiation of mind-dependent sensations or qualia in the absence of their typical sensible causes. But does this help account for Campbell's first intuition? How does my mind or my experience instantiating some non-yellow, non-square property explain why it seems to me that there is a spatially extended square patch of yellowness present? There may be systematic causal connections between this sensational property and yellowness or squareness, but that does not explain why it seems *to the perceiver* that yellowness is present before her or his mind. Central to this paper is the intuition that both tomatoes and afterimages can look red, that both tomatoes and phosphenes can look round. Ned Block denies this intuition when he writes that 'after-images don't look as if they are really objects or as if they are really red' (1996: 32). I agree that afterimages do not look as if they are really objects (this supports my claim that afterimages cannot serve as genuine bearers of sensible qualities), but it seems straightforwardly false to say that they do not seem to be red.

Moving to the intuition expressed in (2), how can one make sense of the presence of an instance of yellow if there is nothing there that serves as the bearer of yellowness? To put it most paradoxically—how can yellowness be instantiated if there is nothing there that instantiates yellowness? Surely the mind is not itself yellow (this was the point made in the previous section). Furthermore, we have also seen that it does us no good to appeal to the phosphene itself as the 'bearer' of yellowness. A phosphene is nothing over and above a collection of sensible instances—an abstraction used to capture facts about our phenomenology—and so it cannot serve to *explain* the instantiation of the qualities it 'possesses'. The *only* entities that seem suitable to serve as the bearers of sensible qualities are material substances. But as Campbell writes, 'we can search all of space and time' (Campbell and Cassam 2014: 10) and fail to find any physical object that can serve this purpose. It seems that we must deny that there is anything yellow there in the case of a phosphene.

Our inclination to reject the existence of an instance of yellowness in the case of the phosphene is driven by the natural thought that yellowness can only be instantiated if there is something there that can serve as the bearer of yellowness. But now that we have worked through the notion of mind-dependence in more detail, we have expanded our options—we now know that the absence of a bearer of yellowness does not straightforwardly entail the absence of an instance of yellow. If Berkeley is right, the mind can secure the instantiation of yellowness without itself serving as the bearer of yellowness. Instead, yellowness can be instantiated solely in virtue of a perceiver enjoying a certain kind of experience that has yellowness as its object. It turns out, then, that the two descriptions that Campbell puts forth are not really mutually exclusive. We can concede that there is no(thing) yellow there, insofar as there is no material body or mind there that is itself yellow, while still insisting that there is an instance of yellow out there, whose existence depends on the perceiver's awareness of it. (Much more needs to be said, of course, about the *way in which* these mental objects can be 'out there' in space—they do not, for instance, exclude other entities from the same location nor are they publicly visible etc. See Phillips [2013] for an excellent discussion of afterimages and their spatial characteristics.)

Making use of Berkeley's conception of mind-dependence, we can allow for actual instances of sensible qualities to exist in a whole range of delusive perceptions, including experiences of phosphenes, afterimages, and full-blown hallucinations. When I hallucinate a sunflower, I describe the character of my experience by appeal to the bright yellow, oval-shaped petals that I am aware of. On the account of delusive perceptions being proposed here, the explanation for why I describe my experiences in this way is straightforward: it seems to me that I am aware of something yellow and oval-shaped because I am aware of actual instances of yellowness and oval-shapedness. There is no substantial object that I am aware of that is itself yellow and oval-shaped, but the instances exist nonetheless. They exist just so long as I am perceiving them.

This is not a widely held view. With the exception of a few sense-datum theorists, most contemporary theorists of mind deny that any colors or shapes are instantiated in delusive experiences. Instead, they explain the phenomenology of such experiences either by appeal to representations or qualia. This paper does not systematically argue against these approaches (whose shortcomings have been articulated elsewhere), but it charts the contours of an ignored alternative. (See Sethi [2020, forthcoming] for further development of this view in the context of the argument from hallucination.)

At this stage, one might worry that allowing for the existence of sensible instances in the absence of any material objects results in the view that *all* instances of sensible qualities are similarly mind-dependent. This would then lead to the kind of subjectivist view that Berkeley held, on which the *only* way for sensible qualities to be instantiated is for them to be perceived by a conscious mind. Such a view denies that the material world could be a home for sensible qualities. This full-blown subjectivism is implausible because the external world is precisely where sensible qualities most often seem to be located. In most of our ordinary experiences, the colors, shapes, smells and tastes we are aware of show up as

features of ordinary physical objects. A view that denies that any of these objects actually possess those qualities would be highly revisionary.

But this universalizing move is not forced upon us. We can allow for sensible qualities to be instantiated in more than one way: either in virtue of inhering in material bodies or in virtue of being perceived by conscious minds. For this to be possible, the nature of sensible qualities must allow for disjunctive conditions on instantiation:

Sensible Nature: For any sensible quality, F , \square_F (if F is instantiated, $\exists s$ (s is a material substance and F inheres in s) or $\exists m$ (m is a mind and F is the object of m 's awareness)).

Note that this view of sensible qualities does not imply that their nature is itself disjunctive. Rather, it is sufficient that sensible qualities have a nature that entails disjunctive conditions on instantiation. Of course, conceiving of sensible qualities in this way will constrain our view of their nature—for example, if we were to argue that colors are nothing but spectral reflectance patterns, then there would be no way we could allow for such qualities to be instantiated solely in virtue of a perceiver enjoying a certain kind of sensory experience. That being said, there are possible accounts of sensible qualities that would permit such ontological variety. For example, if we treat sensible qualities as essentially qualitative properties—that is, as essentially tied to their appearances—then it is entirely compatible with their nature that they have both mind-dependent and mind-independent instances.

Such a disjunctive conception of the conditions on the instantiation of sensible qualities is not merely a curious option in logical space. On the contrary, a view of sensible qualities that permits such variety is, *prima facie*, to be preferred. For it makes most sense of the fact that we use the very same vocabulary to describe the features that show up to us both in ordinary, veridical perceptions and in the class of delusive perceptions in which no material object is present at all. When we describe a phosphene as yellow or an afterimage as round, we ascribe the very same qualities to objects that are evidently mind-dependent as we do to ordinary material objects in the world. For instance, we take it that the phosphene and the lemon can both be of the same color, all the while recognizing that a phosphene is not a physical object.

Furthermore, our ascriptions of sensible qualities are directly guided by our experiences—we describe the phosphene and the lemon as yellow because they both show up to us as yellow. Importantly, we get our grip on the sensible qualities through sensory experience. But these experiences, which give us our grip on what a quality like yellowness is, present to us the kind of quality that also shows up in experiences in which there is no material object present whatsoever. The conception of sensible qualities we get through experience, then, is a conception that allows for the possibility of sensible qualities to be instantiated in more than one ontological context. If we are to offer a view of the nature of sensible qualities that is compatible with our experience-based conception of them, we must accept that they can in fact have these two kinds of instances.

If sensible qualities have disjunctive conditions on instantiation, this implies that they are, by their nature, neither essentially material nor essentially mental. They are,

in a sense, ontologically ‘flexible’. We can still categorize particular instances of a sensible quality as material or mental. This categorization will be based on which condition in fact obtains on a particular occasion. Those instances whose existence is secured solely by inhering in material substances will be material instances. On the other hand, those instances whose existence depends solely on a perceiver enjoying a sensory experience will be mind-dependent instances. (In Sethi [2020, forthcoming] I also discuss the case of overdetermined instances—instances whose existence is simultaneously guaranteed by inhering in a material object and being perceived by a conscious mind.)

Given that the nature of the sensible qualities is ontologically neutral, the nature of the resulting instances *qua* instances of that quality will be similarly neutral—there is nothing in the nature of any particular instance of redness, insofar as it is an instance of *redness*, that makes it a material instance or a mind-dependent instance. Rather, our categorization of instances into the two categories will be based on facts about their actual existence, not on facts about the kind of quality they are instances of. (Of course, this is compatible with it being part of the essence of a particular instance *qua individual* that it is a mind-dependent or material instance.)

So far, I have argued that a view on which sensible qualities have disjunctive conditions on instantiation does most justice to our pretheoretical conception of such qualities. In the following and final section, I will shift focus to consider the case of bodily sensations. I will argue that a view that places conjunctive conditions on their instantiation respects the important sense in which these sensations, despite being essentially connected to minds, are *bodily* sensations.

5. The Conjunctive Nature of Bodily Sensations

Up to this point, I have focused on traditional sensible qualities such as color, smell, size, and shape. But now I want to consider a close relative of the sensible qualities—sensuous qualities such as pains, itches, and tickles. Often referred to as bodily sensations, this class of qualities is typically assumed to be essentially mind-dependent. For a pain to exist, someone must experience the pain; for my arm to itch, I must feel the itch. (See Aydede [2006] for a review of existing theories of pain and the competing intuitions that give rise to these theories.)

We can capture the mind-dependence of these qualities with the help of our notion of dependence_{PER}—it is true in virtue of the nature of these sensuous qualities that they depend for their instantiation on the existence of minds that experience them. (See Soteriou [2013], though, for an insightful discussion of whether actual mind-dependence is sufficient to explain the apparent mind-dependence of pains.) Now, it has often been assumed that the mind-dependence of bodily sensations is incompatible with these sensations being physically located in parts of our body. One can imagine the intuitive reasoning behind this assumption proceeding as follows: insofar as a pain is mind-dependent, it must be in the mind. If it is *in* the mind, it cannot also be *in* my tooth. One and the same pain cannot be in two locations at the same time.

And so, given that it seems impossible to relinquish the intuition that pains are mind-dependent, we must give up the opposing intuition that pains are located in parts of our bodies.

This is an unattractive position to end up in because, just as in the case of the phosphene, each of the competing intuitions seems equally strong. It is true that pains and itches seem undeniably mind-dependent. But it is equally central to our experience of a toothache that the pain is felt in our tooth. Just as colors seem to be spread across the surface of objects, pains appear to permeate regions of our body. What could it even be for a toothache to be in my mind—no part of my mind feels like it is in pain. Acknowledging the intimate connection that our phenomenology posits between such sensations and our bodies, philosophers such as Chalmers (2006) and Pautz (2006, 2009) have recently suggested that pain is a necessarily uninstantiable quality. One can again reconstruct the reasoning as follows: if a pain were to be instantiated, it would have incompatible properties. That is, it would have to reside in the body and yet be dependent on—and so reside in—the mind. Entities with incompatible properties cannot exist. Therefore, pains cannot be instantiated.

But a view on which bodily sensations are necessarily uninstantiable makes it difficult to explain our phenomenology. If there are no pains, itches, or tickles instantiated in pain, itch, or tickle experiences, how does one explain the phenomenology of such experiences? One might try to appeal to an awareness of uninstantiated universals to do so. But the unsatisfying nature of this approach has already been discussed in the parallel case of the phosphene—what good is an appeal to an uninstantiated universal in explaining why a pain is felt in my leg right now?

Some might try to explain the phenomenology of these experiences in terms of the qualities in question *seeming* to be instantiated. On such a view, my experience *represents* a pain as instantiated by my ankle when in fact no such pain is or could be instantiated by my ankle. Thus, at least with respect to this aspect of their content, all our experiences of bodily sensations are necessarily misleading: they represent, as instantiated, qualities that cannot be instantiated. One might have thought that we could not be wrong about our own pain experiences. On the contrary, this view has it that we are *always* wrong about (at least one important aspect) of our own bodily sensations.

Fortunately, however, the argument presented above to the effect that bodily sensations cannot be both mind-dependent and located in bodies is invalid. It relies on an inaccurate conception of mind-dependence—one that equates dependence on a mind with inherence in the mind. It is only if we assume that qualities that depend on a mind must inhere in the mind that we are forced to deny that those qualities could simultaneously inhere in parts of our bodies—that assumption is what leads to the thought that a pain that depends on the mind resides in the mind and so could not (also) be in an arm, for example. The central goal of this paper, however, has been to argue that mind-dependence should be understood *not* in terms of inherence, but rather in terms of a dependence on perception or awareness. The fact that pain depends for its existence on being *perceived* by a mind raises no obvious obstacles to its inhering in a physical body

part; after all, we have no reason to think that a pain or any other quality must inhere in the mind that perceives it.

Chalmers has a somewhat more complicated argument for his conclusion that ‘perfect’ or ‘Edenic’ pains are necessarily uninstantiable. Chalmers argues that if instantiated, pain would have to be an intrinsic quality (of a tooth, say) that nonetheless ‘stands in a necessary connection to distinct intrinsic properties of experience. It [would have to be] a property whose instantiation brings about necessary connections between distinct existences’ (2006: 114). The thought is something like this: if pain is an intrinsic quality of a tooth, it should not depend for its existence on the existence of things other than the tooth. But it does; a pain cannot exist without a pain experience. I disagree that pains seem intrinsic in this way. What is it for a property to *seem* intrinsic? One might think that it is for the property to seem to depend *only* on the object of which is a property. But Chalmers himself admits that pain does not seem to depend only on the physical body part in which it resides. Rather, it also seems to depend on the mind that experiences it. Thus, pain does not in fact *seem* intrinsic. There is, however, a closely related claim that does seem true of a toothache, namely, that it seems to be in my tooth. However, a property that inheres in an object need not be intrinsic to that object.

In the case of sensible qualities, we saw that inherence in a material object and perception by a mind were distinct, individually sufficient, explanations for the instantiation of a sensible quality. The banana’s yellowness is a distinct instance of yellowness from the yellowness of Deepa’s phosphene. Each can secure the instantiation of the quality in isolation. In the case of qualities such as pains and itches, however, I have been suggesting that they require *both* conditions to be in place for the qualities to be instantiated. Pain seems to be the kind of quality that requires both a mind perceiving it and a body part to inhere in. Bodily sensations, then, seem to have a nature that entails *conjunctive* conditions on their instantiation:

Bodily Sensations: For any sensuous quality, F , \Box_F (if F is instantiated, $\exists s$ (s is a material substance and F inheres in s) and $\exists m$ (m is a mind and F is the object of m ’s awareness)).

If bodily sensations have conjunctive, rather than disjunctive, conditions on instantiation, then any particular instance of a pain will depend for its existence not only on the mind that is aware of it, but also on the physical body in which it inheres. So we can make sense of the fact that pains are simultaneously mind-dependent and located in physical body parts. Once again, we have seen that making room for two distinct conditions on instantiation—inherence and awareness—allows us to see our way out of a central problem in the philosophy of mind, namely, how to make sense of the bodily nature of mind-dependent sensations.

This view must address the possibility of phantom limb pains—pains that seem to be located in body parts where no suitable body parts exist. A full treatment of these cases lies outside the scope of this paper, but one could argue that the body part in which a phantom pain inheres need not be located where the pain seems to be located. The fact that phantom pains are usually caused by severed nerves after an

amputation supports the idea that the pain actually inheres in the bodily extremity where the amputation has occurred. Also, it is important to remember that phantom limb pains involve misleading experiences of where one's body extends—that is, not only do I experience a pain in a location where no body part exists, I also falsely experience a body part as existing in the very same location (this is clear from the fact that I experience the pain *in* a phantom limb). This aspect of the phantom pain experience can be understood in terms of the experience of pain being coupled with a hallucinatory sensory experience (proprioceptive or tactile) of one's own body.

The account of phantom limb experiences sketched here implies that we can sometimes be wrong about some features of our pain experience, specifically, their locations. But this possibility of error need not be generalized to all pain experiences. We can account for *why* we misperceive the location of phantom pains in particular by appeal to the accompanying hallucination of our body parts. (The success of mirror and VR therapies that involve inducing an illusion of movement in the phantom limb indicates the interconnectedness of the (delusive) sensory experience of the body part and the experience of the pain.) Furthermore, this distinctive feature of phantom limb pains (the coupling of bodily sensations with sensory hallucinations) suggests that we need *not* extend our analysis of phantom limb pain even to other nonstandard phenomena such as referred pains: given that referred pains do not involve any misleading experiences of the location or existence of our body parts, we should not expect a misperception of the location of the pain. In the case of referred pains, the pains can be located exactly where they are felt even if their causal origins are elsewhere.

At this stage, one might wonder why we need a second condition on instantiation at all in the case of bodily sensations. As I have already suggested, once we understand mind-dependence correctly, we see that a pain can be mind-dependent without being located in the mind. If this is right, then why not adopt a view on which *all* that is required for a pain to be instantiated is for it to be the object of a mind's awareness? This would allow for the pain to depend solely on the mind's awareness of it and to be located in physical space. In other words, why do pains need to inhere in anything?

This alternative understates the *bodily* nature of the sensations under investigation. Pains, itches, and tickles do not just seem to be located in space, coincidentally in the same locations as our bodies. They seem to be located *in* our bodies and to depend on the bodies in which they are located. To use an older formulation, they seem to be *modifications* of our bodies. If we are to take this datum seriously, it is not enough to allow for pains, itches, or tickles to be spatially located, if this leaves their existence independent of the existence and conditions of our bodies. Rather, we must acknowledge that their existence *depends* on our bodily state just as much as it depends on our experiential state.

This brings out an interesting difference in the way in which sensible qualities and bodily sensations are presented to us in experience. As I have suggested so far, when we experience a phosphene or an afterimage, we are presented with instances of color and shape without being presented with physical objects of any kind. In other words, it is apparent to us, just in virtue of having these kinds of experiences that there are no

physical objects there that are colored or shaped. Such experiences, if taken at face value, serve as phenomenological evidence that sensible qualities can be instantiated in the absence of any material bearers. We do not, however, have parallel phenomena in the case of bodily sensations. That is, *all* experiences of bodily sensations involve being presented with a part of our body that is the site of the pain or the itch. There are no experiences of itches where no body part seems itchy; no tickles where nothing feels tickled. Pains, itches, and tickles seem, by their very nature, to be the kinds of things that can exist only in body parts. Even in the case of a phantom limb pain, the felt pain seems to be in a part of the body. This is to be contrasted to experiences involving phosphenes and afterimages where the colors and shapes do not even seem to be in a physical object. If there were bodily sensations that were genuinely analogous to phosphenes or afterimages, they would have to involve experiences of pains (or itches) at spatial locations at which no body even seems to be located. We do not think that such ‘pain patches’ are possible.


Our experiences, then, provide us with evidence for the ontological flexibility of sensible qualities. Most often, we have perceptual experiences in which physical objects appear colored and shaped. But we also sometimes have experiences in which colors and shapes seem present in the absence of any physical objects whatsoever. As I have suggested, if we are to take all of these experiences seriously, we ought to accept a view of the nature of these qualities that allows for them to be instantiated in a variety of ontological contexts. Bodily sensations, on the other hand, do not seem flexible in this way. Crucially, the lack of ontological flexibility of bodily sensations is dually expressed in our experiences: first, it does not seem to us as though bodily sensations can be instantiated in the absence of a conscious mind—this is relatively uncontroversial—but second, it does not seem to us that pains, itches, or tickles can be experienced by us without being experienced in some part of our bodies. Thus, our experiences of bodily sensations, unlike those of sensible qualities, support a view on which bodily sensations have dual conditions on instantiation—they require both an act of conscious awareness and a body part in which to inhere.

6. Conclusion

The primary goal of this paper has been to present a new metaphysical framework in which the mind and the material world play distinct roles in securing the instantiation of qualities. Material bodies are implicated in the instantiation of qualities by serving as the bearers of the relevant qualities. But the mind cannot play the role of bearer for either sensible or sensuous qualities. For it is neither the case that the mind is literally colored or shaped nor that it is literally painful or itchy. Nevertheless, the mind does have a significant role to play in the instantiation of such qualities. We have seen that it can secure the instantiation of these qualities by perceiving them, as in the case of a yellow phosphene or a dull toothache. I have also suggested that we should make room for *both* the mind and the material world to contribute to our explanations of sensible (or sensuous) instantiation, rather than being forced to choose one at the expense of the other.

It turns out that an inclusive approach has some powerful ramifications for the philosophy of mind, two of which I discussed in the latter half of the paper. First, sensible qualities can both be qualities of ordinary, material objects and be present in delusive perceptions that lack any material object altogether. This paves the way for a unified account of perception—all perceptual experiences make us aware of actual instances of sensible qualities, and this is why both kinds of experiences—veridical and delusive—can have identical phenomenology. Second, treating pains, itches, and tickles as *jointly* dependent on the mind and the physical body does justice to the essentially bodily nature of these mind-dependent phenomena, allowing us to avoid a host of unattractive views on which pains are either in the mind or nowhere at all.

Of course, work must still be done to develop the details of these views and to argue that they fare better, overall, than their competitors. But my primary goal, in this paper, has been to clear the way for this work to begin by presenting a sharper picture of how the notion of mind-dependence fits within a broader conception of the relationship between substances and properties.

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