

Perceiving Properties versus Perceiving Objects

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1. Introduction

Suppose that you are looking at a particular book located in front of you. What makes it the case that you perceive this particular object, rather than some other particular object, or no object at all? This fact seems to be due to the causal relation between your visual experience and the book, rather than to your experience's phenomenal character. For, when you perceive a particular object, your experience's phenomenal character doesn't need to *match* that object. Plausibly, in order for you to perceive a given object, it must cause your experience to instantiate some distinct phenomenal element (i.e., some element that differentiates the object from whatever surrounds it). But, equally plausibly, nothing else is required: whenever an object causes your experience to instantiate some distinct phenomenal element in the right way, you perceive that object.¹ So, for instance, a ship might be so distant that to you it is merely a dark speck against a blue expanse—and yet you see the ship. Or, thanks to carefully placed mirrors and unusual lighting, a large white cube located behind you might appear to be a small blue sphere located in front of you—and yet you see the cube.

The right sort of causal relation between your experience and some particular object also seems to be required in order for you to have an experience that presents that object. For instance, if you have never had any direct or indirect causal interaction with Donald Trump and then undergo a visual hallucination as of someone who looks exactly like Donald Trump, this visual experience does not present Donald Trump.² So, no matter how closely your experience's phenomenal character matches some particular object, your experience cannot present that object in the absence of the right sort of causal connection. (When I say an experience “presents” an object or property, I mean it constitutively involves either *representation of* or *acquaintance with*

¹ Siegel (2006) defends a view of this sort. For discussion, see Brewer (2011, 73-75), Montague (2016, 150-153), and French (2018, 143-148).

² Johnston (2004, 129-130) emphasizes this point.

that object or property. By “acquaintance” I mean an awareness relation distinct from, and more basic than, representation.)

We don’t only perceive objects; we perceive their properties as well. Suppose that the book in front of you is blue, and suppose that you perceive both the book and its blueness. What makes it the case that you perceive the book’s blueness, rather than some other colour, or no colour at all? Is this fact largely due to the causal relation between your visual experience and the book’s blueness, rather than to your experience’s phenomenal character? Or, does phenomenology play a more important role in property perception than it does in object perception?

According to what we can call the *causal-sufficiency view*, there is a fundamental continuity between object perception and property perception. More specifically, a defender of the causal-sufficiency view endorses the *continuity thesis*: first, whenever some distinct phenomenal element of your experience stands in the right sort of causal relation to an instance of some property, your experience presents that property (there is no additional requirement that the phenomenal element match the property); and second, you cannot have a perceptual experience that presents some property unless you stand in the right sort of causal relation to an instance of that property (no matter how closely some element of your experience’s phenomenology matches that property).

Conversely, according to what we can call the *phenomenal-sufficiency view*, the environmental properties that a perceptual experience presents are determined by the phenomenal properties it instantiates, and the phenomenal properties it instantiates are not determined by the environmental properties that cause the experience. Accordingly, a defender of the phenomenal-sufficiency view denies the continuity thesis. First, because an experience only presents a given environmental property so long as it instantiates the right phenomenal property, a certain environmental property might cause your experience to instantiate some phenomenal property, and yet this experience might not present that environmental property—it might present some incompatible environmental property instead. Second, because every experience that instantiates a given phenomenal property thereby presents a certain environmental property, an experience does not need to have any causal connection to a given property in order to present that property.

I maintain that the causal-sufficiency view and the phenomenal-sufficiency view are both false, and for similar reasons. While I agree with the defender of the phenomenal-sufficiency view that property perception is fundamentally different from object perception in the two ways at issue, I maintain that this view's explanation of that difference is mistaken. First, I defend the thesis that whenever you have an experience that presents a given property you thereby achieve insight into that property's character—a thesis that I'll call the *insight principle*. I then argue that the insight principle entails that both the causal-sufficiency and phenomenal-sufficiency views are false. Finally, I outline a rival account of how perceptual experiences present properties that, like the phenomenal-sufficiency view, explains why the continuity thesis is false, but unlike the phenomenal-sufficiency view, is consistent with the insight principle. According to the view I defend, perceptual experiences present both objects and properties via manners of presentation; but, whereas perceptual manners of presentation for objects are purely *relational*, perceptual manners of presentation for properties are *satisfactional*.³

2. The Insight Principle

Suppose that you are looking at a square object located directly in front of you, and suppose that you see both the object and its squareness. In virtue of the fact that you perceive the object's squareness, something about the character of the object's shape is revealed to you. For instance, you recognize that it has multiple sides and corners, that its sides are straight, and so on.

Plausibly, something similar occurs whenever any perceiver capable of forming beliefs has a perceptual experience presenting any property. That is, plausibly, having a perceptual experience that presents a given property is the kind of thing that provides you with insight into the character of that property. We can capture this suggestion with the *insight principle*: a perceptual experience had by a subject capable of forming beliefs presents a given property if and only if it provides the subject with insight into the character of that property.⁴

In order to make this principle tolerably clear, two crucial notions need to be explained: what it is for a subject to achieve insight into the character of a property, and what it is for a perceptual experience to provide such insight. First, an individual achieves insight into the character of some property if and only if she forms beliefs concerning the character of the

³ This terminology will be explained below (§6).

⁴ Claims of this sort are endorsed by Matthen (2005, 87-89), Siegel (2010, 52-53), and Nida-Rümelin (2018, §5). Pautz (2009) defends a closely related claim.

property that attribute it to some perceptually presented object and that are true if the appropriate object instantiates that property (or she forms dispositions to form such beliefs).⁵ To have beliefs concerning some property's character is to have beliefs concerning what the property is like independently of one's experience.⁶ Having such beliefs, then, requires more than thinking about the property in some way or other. For instance, when you view a square object you might think about its squareness in virtue of forming the belief *that this object possesses the property that normally causes visual experiences like this in me*; or, you might think about its squareness in virtue of forming the belief *that something is that way*, even though you have no independent grasp of what it is for something to be *that way*. Given the present use of "character," such beliefs do not concern the character of squareness.⁷ Conversely, when you perceive a square object and form the belief that it has four sides, your belief concerns what the object's shape is like independently of your experience; this belief thus constitutes insight into the character of squareness.⁸

Second, a given experience provides a subject with insight into the character of some property if and only if the relevant beliefs result *directly* from the experience itself. A given belief results directly from a given experience if and only if the subject holds that belief because she had that experience and it's not the case that the belief was formed via some additional post-perceptual inference or judgement. For instance, imagine you view a circular object under unusual conditions such that it appears square to you. If you are aware of the unusual viewing conditions you might form various true beliefs concerning the object's circularity on the basis of your visual experience. However, such true beliefs concerning the object's circularity do not result directly from your experience; instead, they are the result of post-perceptual inferences based on your knowledge of the unusual viewing conditions. Relatedly, when you view a square

⁵ Two points of clarification are required here. First, as currently formulated, this account entails that perceptual experiences never present properties in the absence of presenting objects that instantiate those properties. The account could be modified to avoid this consequence, but for the sake of simplicity, I will ignore this issue. Second, when I discuss subjects forming beliefs in response to perceptual experiences I typically have in mind subjects forming either beliefs or dispositions to form beliefs. For the sake of simplicity, I will usually omit explicit discussion of dispositions.

⁶ If some perceptual experiences present *appearance properties* or the like, this characterization of "character" would have to be modified. For the sake of simplicity, I will ignore this issue.

⁷ Johnston makes a similar point by appealing to "*de re* knowledge of quality" (2004, 130-31).

⁸ A trope theorist might express this point in terms of a true beliefs concerning resemblances between tropes, or something of the sort. Ivanov (2017, §5) maintains that one could be perceptually aware of tropes without acquiring any insight into "the kind of tropes they are." Conversely, I assume that the argument for the insight principle presented below succeeds regardless of which of the standard metaphysical theories of properties one endorses.

object under ordinary conditions your experience might cause you to form a number of beliefs about the properties of rectangles or circles. But, again, these beliefs do not result directly from your experience of the square itself; instead, they are the result of post-perceptual inferences based on your background knowledge of other shapes.

The insight principle does not entail that every perceptual experience presenting a given property reveals that property's character perfectly or completely; nor does it entail that every perceptual experience presenting a given property confers the same degree of insight into the property's character. However, it does entail that no experience presents a given property unless it confers *some* insight into that property's character; and it entails that every experience that confers *extensive* insight into the character of a given property presents that property.

Consequently, we can further clarify the insight principle by outlining two, more specific, theses.

First, the *minimal insight principle*: if a subject capable of forming beliefs has a perceptual experience that presents a given property, then that experience provides her with at least a minimal grasp of that property's character. For a subject to possess a minimal grasp of a given property's character is for her to have at least a certain number of beliefs concerning the character of the property that attribute it to some perceptually presented object and that are true if the appropriate object instantiates that property. Simply possessing *some* such beliefs will obviously not suffice. For instance, if when viewing a square object your experience provides you only with the belief that this object has multiple sides, then your experience doesn't provide you with a minimal grasp of the object's squareness. Accordingly, for any given property, a subject will need to meet a certain threshold of beliefs concerning that property's character in order to possess a minimal grasp of that property's character.

It isn't possible to provide an informative, general characterization of this threshold that applies to any and all properties; but for present purposes, no such characterization is required. Instead, we can rely on extremely liberal tests to identify when a subject fails to acquire a minimal grasp of specific shape properties. In particular, if a subject capable of forming beliefs has a given perceptual experience, that experience does not provide her with a minimal grasp of the character of squareness if it does not directly result in any of the following beliefs concerning the presented object: that it has multiple sides, that it has multiple corners, or that it is not round. And, if a subject capable of forming beliefs has a given perceptual experience, that experience does not provide her with a minimal grasp of the character of circularity if it does not directly

result in any of the following beliefs concerning the presented object: that it is round, that it does not have multiple sides, or that it does not have corners. So, for instance, if you view a square object and your experience does not directly result in you forming any of the relevant beliefs listed above, then the minimal insight principle entails that your experience does not present the object's squareness.

Next, the *substantial insight principle*: if a subject's perceptual experience provides him with a substantial grasp of a given property's character, then this experience presents that property. For a subject to possess a substantial grasp of a given property's character is for him to have beliefs concerning the character of the property that attribute it to some perceptually presented object and that are true only if the appropriate object instantiates that property. For instance, if you perceive a square object and you form the belief that this object is square, or that it has four equal sides, such beliefs are true only if the relevant object is square. If you form such beliefs as a direct result of your visual experience, then your experience provides you with a substantial grasp of the character of squareness; and so, the substantial insight principle entails that this experience presents the object's squareness.

3. A Defence of the Insight Principle

We can identify a first reason to endorse the insight principle by reflecting on cases where it is uncontroversial that perceptual experiences present or do not present a certain property. For instance, if we take cases where it is uncontroversial that an experience presents or does not present a given property, and we alter details regarding whether the experience provides insight into the character of that property, we find that by altering such details we *thereby* alter details regarding whether the experience presents that property. Such examples suggest that providing insight into a given property's character entails that an experience presents that property, and that failing to provide insight into a given property's character entails that an experience fails to present that property.

First, consider a case where you view a large square object at a considerable distance. If the object were any further away you would not be able to make out its shape by sight. But, given your current vantage point, you form the belief that the object is square as a direct result of your visual experience—that is, your experience provides you with a substantial grasp of the character of the object's squareness. Your visual experience in this case is an uncontroversial

example of an experience that presents squareness. However, suppose that on some other occasion you view the very same object from the very same distance. And suppose that while you can tell by sight that the object has determinate boundaries and so has a determinate shape, the visual experience this object causes does not provide you with any insight concerning its specific shape. In particular, you do not form any beliefs concerning whether the object is square or circular, or whether it has multiple sides and corners, as a direct result of your visual experience. Your visual experience in this modified case is an uncontroversial example of an experience that fails to present squareness—you perceive the object and you perceive its having a determinate shape, but it is beyond your present powers of visual acuity to perceive its being square. So, having started with an example of an experience that presents squareness, in virtue of altering details regarding the insight the experience provides concerning the object's shape, we end up with an example of an experience that fails to present squareness.

Second, suppose that a blind individual, Paul, is outfitted with a sensory substitution device—specifically, a visual-to-auditory device that converts information about the shape and location of objects captured by cameras embedded in a pair of glasses into corresponding patterns of sound played through headphones. Consider Paul's initial experience using the device. A square object located directly in front of him reflects light into the camera, and the device produces a specific pattern of sounds—a pattern that the device always and only produces in response to squares located directly in front of the user. Paul has a perceptual experience caused by a square, and his experience's specific phenomenology is characteristically caused by squares when using the sensory substitution device. Yet, Paul does not form any beliefs concerning the shape of the object in front of him as a direct result of his perceptual experience. Accordingly, his initial perceptual experience using the device is an uncontroversial example of an experience that fails to present squareness. However, consider a perceptual experience Paul has after continually using the device for many years. Suppose he is shown the very same object from the very same vantage point, and suppose he forms the belief that *that object is square* as a direct result of the relevant perceptual experience. That is, suppose Paul forms this belief because he has the perceptual experience at issue and that he has not acquired this belief via some post-perceptual inference (i.e., we are supposing that Paul does not first have an auditory experience of a sound pattern and then infer that there is a square in front of him based on his

background knowledge concerning the shape that typically causes that pattern).⁹ The fact that Paul's second experience provides him with a substantial grasp of the character of the perceived object's squareness entails that his experience presents the object's squareness. So, again, we find that by altering details regarding whether an experience provides insight into a given property's character, we thereby alter details regarding whether the experience presents that property.

Third, suppose that Daphne has suffered neurological damage due to carbon monoxide poisoning. Consequently, when she looks at a square located directly in front of her, while she can perceive its colour and simple visual elements such as edges, she cannot tell whether the shape she sees has multiple sides, whether it has multiple corners, or whether or not it is round. In this case, even though her experience instantiates visual phenomenology that causally depends on the square in front of her (in the ordinary perceptual way), Daphne's visual experience is an uncontroversial example of an experience that fails to present squareness. But, next, imagine a scenario in which the carbon monoxide poisoning affected Daphne somewhat differently. Imagine that when visually presented with an object, Daphne can't identify the type of thing it is, but she can describe its shape in detail. In this scenario, when Daphne looks at a square object, because she acquires insight into the character of its squareness, it follows that her visual experience presents squareness. Once again, the details regarding whether an experience provides insight into a given property's character determine whether the experience presents that property. If when Daphne looks at an object her visual experience reveals the character of its shape even though she's unable to recognize the kind of object it is, then she suffers from *associative agnosia*—that is, she can perceive the shapes of objects that she is unable to

⁹ There is considerable evidence that distal attribution after sustained use of a sensory substitution device (SSD) is an experiential process: users of such devices frequently describe phenomenological changes (see Hartcher-O'Brien and Auvray [2014, 427-28] and Kiverstein et al. [2015, 669-71]); they are vulnerable to prototypical perceptual illusions when using these devices (see Renier et al. [2005]); and when explicitly instructed to attend to proximal sensations in order to draw inferences regarding distal stimuli, their performance is diminished significantly (see Siegle and Warren [2010]). In addition, Amedi et al. (2007) demonstrated that the brains of individuals who are able to perceive the shapes of objects using a SSD exhibit patterns of activity in the lateral occipital complex—a region that was once thought to process visual representations of shape, but is now generally understood to process representations of shape regardless of perceptual modality—unlike those of individuals who have simply memorized that certain objects are associated with certain sound patterns (Kim and Zatorre [2011] describe a similar finding; for a review, see Proulx et al. [2014, §5]). Finally, Merabet et al. (2009) found that disrupting activity in the relevant occipital areas dramatically decreased a trained SSD user's ability to recognize objects (but had no impact on a visual imagery task).

recognize.¹⁰ But, if when Daphne looks at an object her visual experience fails to provide even minimal insight into the character of its shape, then she suffers from *form agnosia*—that is, she fails to perceive the shapes of the objects she sees.¹¹

A second reason to endorse the insight principle is that it is required to explain the fact that certain properties that play a role in generating perceptual experiences in human beings are nonetheless unperceivable by human beings. For instance, imagine that every surface that reflects visible light has some atomic structure in virtue of which it reflects visible light, and that no physical thing lacking this atomic structure reflects visible light. If so, then human visual experiences have phenomenal features that causally depend in systematic ways on surfaces having this atomic structure. Nonetheless, we know that no human visual experience presents the atomic structure of an object's surface; and we know this because we know that no human being's visual experiences provide insight into the character of a surface's atomic structure. Moreover, if the properties experiences presented merely *tended* to produce corresponding beliefs, then the fact that human visual experiences don't directly result in beliefs concerning a surface's atomic structure would entail merely that is *unlikely* that human visual experiences present this property. But it isn't merely unlikely; given the way human perceptual experiences and beliefs are related, it *can't* turn out that humans perceive this property. And the reason it can't turn out that humans perceive a surface's atomic structure is that human visual experiences don't provide any insight into the character of this property.

Given the foregoing considerations, then, we ought to assume that the insight principle is true unless and until compelling counterexamples are produced; and, plausibly, no such counterexamples will be forthcoming. First, the most natural potential counterexamples to the minimal insight principle are ultimately unsuccessful. For instance, one might suggest that at any given moment your visual experience presents a vast array of properties, most of which you simply fail to notice. Accordingly, an experience might present some property while you fail to achieve even a minimal grasp of that property's character because you fail to attend to that property.¹² However, the minimal insight principle allows that an experience may present properties concerning which you form only *dispositions* to form beliefs as a direct result of that

¹⁰ See, for example, Devinsky, Farah, and Barr (2008).

¹¹ See, for example, Milner and Cavina-Pratesi (2018).

¹² For instance, one might appeal to Sperling's well-known experiments involving briefly presented arrays of letters. For discussion, see Smith (2001, 298-302).

experience. It's not at all clear that experiences can present properties in the total absence of attention: if your failure to attend to a property leaves you so ignorant of that property that you fail to form even dispositions to form rudimentary beliefs concerning its character, then it's reasonable to deny that your experience presents that property.¹³ (In addition, the minimal insight principle could be modified such that it applies only to properties that are both presented and attended to—this modification would have no bearing on the arguments below.)

Alternatively, one might suggest that you can perceive a property and fail to achieve even a minimal grasp of that property because you have failed to employ the corresponding concept. For instance, your visual experience might present an object's squareness but leave you without even a minimal grasp of its squareness because you fail to see it *as square*. However, even in cases of *non-conceptual seeing* you still acquire at least a minimal grasp of the property your experience presents. While you don't see the object as a square, in virtue of having your visual experience you can tell, for instance, whether the object you see has corners or multiple sides; and if you didn't possess at least this minimal grasp of its shape, we should deny that you are aware of the object's squareness even in some non-conceptual manner.

Or, one might suggest that an individual would be able to distinguish one property from another without possessing even a minimal grasp of that property's character. For instance, Campbell (2014, 54-63) maintains that when you see the number 5 in a Ishihara colour test plate, you might use colour to select the number 5, to distinguish it from the background, prior to exercising your capacity to form beliefs about the figure's colour; nonetheless, your experience must present the figure's colour, since you wouldn't be able to see it otherwise. However, seeing the number 5 in this example only requires that you perceive that the figure and background differ with respect to their properties. And an experience can present that properties differ without presenting the nature of the difference. For example, when Paul is first starting to use the sensory substitution device, his experience might enable him to distinguish some shape from its background; and yet, his experience does not present the spatial properties that distinguish this shape from its background.

(Relatedly, one might suggest that an individual would be able to reliably identify instances of some property without possessing even a minimal grasp of that property's character. But, by itself, the ability to reliably identify properties under specific conditions doesn't suggest

¹³ Siegel (2006, 430) discusses this issue as it relates to object perception.

that one's perceptual experiences present a given property. After all, Paul's initial perceptual experiences using the sensory substitution device would enable him to recognize that he is encountering the same stimulus on different occasions. In addition, if all and only surfaces that reflect visible light had some specific atomic structure, you would be extremely adept at identifying things that possess this structure by vision; and yet, your visual experiences would not present this atomic structure.)

Second, the most natural potential counterexamples to the substantial insight principle are also ultimately unsuccessful. For instance, some naïve realists might claim that in typical cases of illusion, a subject's experience directly results in her forming beliefs concerning the character of a given property that her experience does not present: an experience caused by a circle under unusual viewing conditions might directly result in the belief that *that is square*, and so provide a substantial grasp of the character of squareness, even though this experience does not present squareness (in that you aren't acquainted with squareness). However, this proposal is only plausible so long as the naïve realist can provide a plausible explanation regarding why an experience would directly result in beliefs concerning a given property, if not because it presents that property. The best candidate for such an explanation appeals to the *looks* objects possess under different viewing conditions; yet, this proposed explanation is not ultimately successful.¹⁴ If we understand looks to be perceivable environmental properties, then these properties are either partly constituted by more familiar properties, such as shape, or wholly distinct from such properties.¹⁵ In the example at issue, if the unusual look the circular object possesses is partly constituted by the object's circularity (in conjunction with other environmental features and relations), then in virtue of being acquainted with this look you are acquainted with the object's circularity; and as such, there is no reason for this experience to directly result in the belief that *that is square* (after all, you can see its circularity). Conversely, if the unusual look the circular object possesses is wholly distinct from any shape properties, then it is simply a property that square objects often or typically instantiate; and as such, while you might *infer* that the object is square based on your background knowledge of the correlation between squareness and the look

¹⁴ Alternatively, a naïve realist might appeal to different *ways* or *manners* of being acquainted with a given property. However, there isn't any obviously coherent notion of ways or manners of acquaintance that would be helpful in this context.

¹⁵ For different naïve realist accounts of the nature of looks, see, for example, Brewer (2011) and Genone (2014). For discussion, see Millar (2015).

you perceive, there is no reason for this experience to directly result in the belief that *that is square* (given that you aren't perceiving squareness).

Alternatively, one might think that in cases where your experience causally depends on some property, and where there is a *close match* between your experience and that property, that you perceive that property even though you misperceive it. For instance, Macpherson and Batty (2016, 281) describe a case in which your colour perception is systematically slightly skewed with respect to each of hue, saturation, and brightness. On a particular occasion you see a dark blue car but perceive it to be light blue. According to Macpherson and Batty, this is a property illusion: you perceive the car's colour but perceive that colour inaccurately. If so, then your experience would fail to present light blueness in this case even though it provides a substantial grasp of light blueness (so long as we assume that this experience does not present multiple incompatible properties). However, this case is only a plausible counterexample so long as we have compelling reasons to think that you perceive the car's actual determinate shade. Macpherson and Batty suggest that you perceive objects' colours in this scenario because "you can come to know some facts about the colours of objects solely based on your experience—such as which objects are lighter and darker, which are more or less saturated, which are closer and which are further apart in hue" (2016, 281). But, in this scenario, the facts that you come to know in virtue of your visual experiences all concern the relations that obtain between colours—and you can perceive that properties stand in certain relations without perceiving the determinate properties that are so related. For example, I can perceive that *A* is larger than *B* even if *A* and *B* are so far away that I don't have any sense of how large *A* and *B* are (just as a balance scale can represent that one object is heavier than another without representing what either object weighs). Accordingly, while there are compelling reasons to conclude that in the case at issue you perceive that the car is blue and perceive how the car's colour relates to other objects' colours, we do not have compelling reasons to conclude that your experience presents the determinate shade of blue that the car actually possesses.

4. Against the Continuity Thesis

Defenders of the causal-sufficiency view endorse the continuity thesis—they maintain that perceiving properties is like perceiving objects in two important respects. First, whenever some distinct phenomenal element of your experience stands in the right sort of causal relation to a

given object, you perceive that object—there is no further requirement concerning the nature of the relevant phenomenology. A defender of the causal-sufficiency view claims that the same is true of properties. For instance, if you view a square object and your resulting experience instantiates a distinct phenomenal element that stands in the right sort of causal relation to the object’s squareness, then this experience presents the object’s squareness—there is no further condition regarding the nature of your experience’s phenomenology that needs to be satisfied.¹⁶ Second, you cannot have a perceptual experience that presents a particular object unless you stand in the right sort of causal relation to that object. Again, a defender of the causal-sufficiency view claims that the same is true of properties. For instance, just as you cannot have a perceptual experience presenting Donald Trump if you have never had any causal interaction with Donald Trump, you cannot have a perceptual experience presenting squareness if you have never had any causal interaction with squares.¹⁷

However, the continuity thesis is false because it is inconsistent with the insight principle. The continuity thesis’s first component is the claim that whenever some distinct phenomenal element of your experience stands in the right sort of causal relation to an instance of some property, you perceive that property. We can demonstrate that this claim is false by reflecting on ordinary visual illusions. For example, suppose that you view a square object that, thanks to unusual viewing conditions, appears as circular objects do under ordinary viewing conditions. In this case, your experience’s shape phenomenology is causally connected to the object’s shape in the right way (i.e., the way that is characteristic of human visual perception).¹⁸ Consequently, the continuity thesis entails that your perceptual experience presents the object’s squareness.¹⁹ But,

¹⁶ For instance, Kalderon (2011) and Genone (2014) endorse claims along these lines.

¹⁷ For instance, Alford-Duguid and Arsenault (2017, §3.1.2.) defend this claim.

¹⁸ We can also suppose that there is a robust “counterfactual dependence” between your experience and the object’s shape in this case (see Lewis [1980]). That is, the nature of your experience’s shape phenomenology would vary systematically with changes to the object’s shape. In response, a defender of the causal-sufficiency view might attempt to modify his view by invoking such counterfactual dependence between a type of phenomenal property and the relevant environmental property. For instance: in order for a given experience to present squareness, your experience’s shape phenomenology has to be causally connected to an instance of squareness, and it has to be the case that your experience would possess the same phenomenology in any similar scenario where your experience was causally connected to an instance of squareness. This sort of modification would not help for at least a couple of reasons. First, it is too strong: there will be plenty of ordinary cases where you perceive some object’s squareness, but where if the conditions were slightly different you would suffer an illusion. Second, the objection at issue could be supported by appealing to someone who has been outfitted (on a permanent basis) with a sensory substitution device but whose experiences do not yet present shapes.

¹⁹ Kalderon defends this position with regard to colour: he claims that when you view a blue bead in pink light you “see the blue of the bead” even though it appears black to you (2011, 769). Ivanov (forthcoming, §2.2) also maintains that you can suffer a colour illusion yet still perceive some object’s actual shade.

in such a case, your visual experience does not provide you with even a minimal grasp of the character of the object's squareness: your experience does not directly result in the belief that the perceived object has multiple sides, that it has multiple corners, or that it is not round.

Accordingly, because your visual experience does not provide you with even a minimal grasp of the character of the object's squareness, the minimal insight principle entails that your experience does not present its squareness.

The continuity thesis's second component is the claim that you cannot have a perceptual experience that presents some property unless you stand in the right sort of causal relation to an instance of that property. We can demonstrate that this claim is false by reflecting on cases of persistent illusion or hallucination. For instance, imagine an individual, Marie, who inhabits a wholly square-free environment, but who regularly encounters circular objects that, due to complex viewing conditions, appear as square objects do under standard viewing conditions. Suppose, also, that Marie knows nothing about these complex viewing conditions and responds to these illusory experiences in much the same way as you would respond to veridical visual experiences of squares. On a particular occasion, Marie has a visual experience caused by viewing a circular object under the relevant complex viewing conditions. The continuity thesis entails that Marie's experience does not present squareness because Marie has never had any direct or indirect causal interaction with any square objects.²⁰ But, Marie's experience provides her with a substantial grasp of the character of squareness. For instance, we can suppose that her experience directly results in the belief that *that has four equal sides*. Accordingly, the substantial insight principle entails that her experience presents squareness. (Parallel points could be made by appealing to a life-long hallucinator, such as a brain in a vat.)²¹

Now, according to some versions of naïve realism, every purported illusion or hallucination ought to be explained in terms of the post-perceptual inferences or judgements that the subject makes. A naïve realist of this sort might claim that Marie's experience can't directly result in the belief that *that has four equal sides*—though, drawing on some faulty background

²⁰ Alford-Duguid and Arsenault (2017, 1772) defend this position with regard to colour: they claim that if Mary experiences a hallucination as of something red (as we might describe her experience) while confined to her black-and-white room, this experience does not present redness.

²¹ I should emphasize that the claim defended here is weaker than the claim that *every* experience with the right phenomenology provides the subject with insight into the relevant property's character, even in the total absence of causal connections to that property. Claims of the stronger sort are defended by Johnston (2004, 130-131) and Pautz (2007, 525-26; 2010, 266-68).

belief concerning present viewing conditions, Marie might respond to her perceptual experience by mistakenly *inferring* that the perceived object has four equal sides. And if so, then the substantial insight principle does not entail that Marie's experience presents squareness. However, we should reject the claim that no experience like Marie's can directly result in false beliefs about the character of nearby shapes. The suggestion that some of a perceiver's true beliefs regarding the shapes of the objects she sees result directly from her perceptual experiences, but that none of her false beliefs do, would be highly implausible. The only alternative is that *no* experiences produce beliefs in the direct way at issue (i.e., all beliefs precipitated by perceptual experiences are formed via inferences that draw on background beliefs concerning viewing conditions and the like). But this suggestion is incompatible with the naïve realist account of perceptual experience: if some perceptual experiences are constituted by the subject's awareness of an object's shape, there is no need for such a subject to draw on background beliefs about viewing conditions and the like when forming beliefs about an object's shape.

5. Against the Phenomenal-Sufficiency View

The insight principle entails that the continuity thesis is false—it entails that there is a fundamental discontinuity between the manner in which perceptual experiences present objects and the manner in which they present properties. First, whenever some distinct phenomenal element of your experience stands in the right sort of causal relation to a given object, you perceive that object; but it is not the case that whenever some distinct phenomenal element of your experience stands in the right sort of causal relation to a given object's property, you perceive that property. Second, you cannot have a perceptual experience that presents a particular object unless you stand in the right sort of causal relation to that object; but you can have a perceptual experience that presents a given property even if you've never had any causal interaction with that property. So, while the objects that your experiences present seem to be largely determined by the nature of the causal relations between your experiences and those objects, the same cannot be said concerning the properties your experiences present.

The phenomenal-sufficiency view is particularly well-suited to accommodate these differences between perceiving objects and perceiving properties. A defender of this view makes two claims. First, the environmental properties that a perceptual experience presents are

determined by the phenomenal properties it instantiates: necessarily, every experience that instantiates a given phenomenal property presents the corresponding environmental property.²² Second, the phenomenal properties an experience instantiates are not determined by the environmental properties that caused the experience to instantiate those properties. One version of the phenomenal-sufficiency view understands perceptual presentation in terms of acquaintance: for an experience to instantiate a given phenomenal property just is for the subject to be acquainted with the corresponding environmental property; and to be acquainted with a given environmental property, the subject's experience does not need to be causally connected to an instance of that property.²³ The other version of this view understands perceptual presentation in terms of representation: because phenomenal properties are inherently representational, every experience that instantiates a given phenomenal property thereby represents a specific environmental property; and for an experience to instantiate a given phenomenal property, it does not need to be caused by an instance of the corresponding environmental property.²⁴ (Some defenders of the second version of this view maintain that simply in virtue of having an experience that represents a given property, you are aware of that property. Others maintain that in order to be aware of a given property, you must have an experience that both represents and is caused in the right way by that property.)

Both versions of the phenomenal-sufficiency view entail that the continuity thesis is false. For instance, you might have an experience that instantiates *phenomenal squareness* but which is caused by a circular object viewed under unusual conditions; according to the phenomenal-sufficiency view, this experience presents squareness rather than circularity. In addition, according to the phenomenal-sufficiency view, every experience that instantiates phenomenal squareness thereby presents squareness, regardless of the experience's causal provenance. So, when someone who has never had any causal interaction with any square objects (such as Marie, or a brain in a vat) has an experience that instantiates phenomenal squareness, that experience nonetheless presents squareness.

²² A defender of the phenomenal-sufficiency view might claim that the specific environmental property an experience presents in virtue of instantiating a given phenomenal property depends on the experience's overall phenomenal character. This complication won't make a difference to the arguments that follow, so I will ignore it.

²³ For instance, Johnston (2004) defends this view.

²⁴ For instance, Dretske (1995), Horgan, Tienson, and Graham (2004), and Pautz (2007; 2010) defend this view.

However, the phenomenal-sufficiency view is false; and, just like the causal-sufficiency view, it is false because it is inconsistent with the insight principle. We can demonstrate that this view is false by reflecting on perceptual experiences that instantiate novel phenomenal properties. A defender of the phenomenal-sufficiency view maintains that every experience that instantiates a specific phenomenal property—such as phenomenal squareness—presents a specific environmental property—such as squareness. However, it is possible that the first time an individual has an experience instantiating some specific phenomenal property, he fails to achieve even a minimal grasp of the corresponding environmental property in virtue of having this experience. The minimal insight principle entails that such an experience fails to present the relevant environmental property.

We can illustrate this point with a thought experiment. Imagine that over the course of your life you've not had any visual experiences of any kind. However, some neuroscientists have developed a procedure that, while it doesn't result in normal three-dimensional vision, will provide you with useful vision of a sort. Specifically, you will end up with one or the other of two possible visual systems. The first allows you to visually perceive objects in two spatial dimensions: you will be able to perceive the height and width of the facing surfaces of objects occupying your visual field, and where they are located in the vertical and horizontal dimensions relative to your vantage point. The second allows you to visually perceive objects in a single spatial dimension over time: you will be able to perceive the height of the facing surfaces of objects occupying your visual field, where they are currently located in the vertical dimension of your visual field, and where they have been so located for each moment stretching back into the recent past. You aren't told in advance which visual system you will end up with and, as far as you know, neither outcome is more likely than the other.

Now, imagine that, after undergoing the procedure, amongst your very first visual experiences is one instantiating *phenomenal squareness*. From your perspective, there are two equally likely possibilities: this experience might be caused by an object that is located directly in front of you at the current moment, the facing surface of which is square; or, this experience might be caused by some object that entered your visual field at a given time, didn't move in the vertical dimension for a time, and then exited your visual field. As such, surely it's at least possible that no beliefs about the nature of the scene before your eyes would directly result from this initial visual experience. That is, it's possible that this experience would fail to provide you

with any insight concerning whether the object you perceive has multiple sides, has multiple corners, or even whether or not it is round. Consequently, the minimal insight principle entails that it is possible for an experience to instantiate phenomenal squareness and yet fail to present squareness; and so, the phenomenal-sufficiency view is false.

In addition, individuals who have had their sight restored after a long period of blindness may provide real-world examples of the possibility at issue. The initial visual experiences of such individuals often enable them to identify colours, but sometimes leaves them entirely ignorant of the shapes of the objects they see. There are reasons to think that some such individuals' initial visual experiences instantiate phenomenal properties characteristic of two-dimensional shape perception: for instance, these individuals can sometimes tell that shapes are distinct even if they can't identify them, and they can sometimes re-identify shapes by sight alone.²⁵ And yet, some of these same individuals will sometimes attend to visually presented objects and not be able to determine whether those objects are round or have corners.²⁶ An individual who is so ignorant of the character of the shapes of the objects she sees that she cannot determine whether they are round or have corners does not possess a minimal grasp of those shapes. Accordingly, the minimal insight principle entails that, despite instantiating the corresponding phenomenal properties, these visual experiences do not present the shapes of perceived objects.²⁷

One might object that when an individual has even his very first experience instantiating a specific phenomenal property he necessarily comes to know something about the character of the corresponding environmental property, because he necessarily comes to know how the latter property relates to other similar properties.²⁸ A natural response would be that this objection

²⁵ See von Senden (1932/1960, 107 & 114), Valvo (1971, 31), and Held et al. (2011). Held and colleagues assume that the newly sighted subjects of their experiment were able to re-identify objects by sight alone because their initial visual experiences represented "two-dimensional features, such as corners, edges and curved segments" (2011, 552). However, visual representation of these features was not required to successfully re-identify the relevant objects. Rather, the subjects would have been able to perform this task by attending to the phenomenal properties that those objects caused their experiences to instantiate while remaining entirely ignorant of the corresponding shapes (just as you would be able to re-identify words in a foreign language without understanding the meaning of those words, or as someone using a sensory substitution device would be able to re-identify patterns of auditory sensations while remaining entirely ignorant of the distal stimuli causing those patterns).

²⁶ See von Senden (1932/1960, 108-109 & 113-114) and Valvo (1971, 27 & 31-33).

²⁷ I develop this paragraph's argument at greater length in Millar (2020).

²⁸ For instance, Johnston (2004, 130-131) claims that if Mary were to hallucinate something red for the first time while still in her black-and-white room, she would then be in a position to know how similar or dissimilar redness is to other colours. See, also, Pautz (2007, 525-526).

already presupposes that the subject's experience confers insight into the character of the corresponding environmental property in virtue of instantiating the phenomenal property at issue. But, for present purposes, the simplest response is that this objection is only plausible in cases where an individual has had a range of experiences instantiating phenomenal properties that belong to the same family. For instance, suppose a newly sighted individual's initial visual experience instantiates the phenomenal properties characteristic of seeing a square, a circle, and a triangle. Perhaps any such experience will enable the subject to determine that the square is more like the triangle than it is like the circle (though, again, in order to have an experience that presents two stimuli to be similar, your experience does not need to present the specific respect in which those stimuli are similar). Even so, it does not follow that any newly sighted individual who has an experience instantiating phenomenal squareness must thereby acquire insight into what squares are like independently of experience.

6. An Alternative Proposal

The phenomenal-sufficiency view attempts to capture the fact that the continuity thesis is false by claiming that the properties a perceptual experience presents are fixed by its phenomenology rather than its causal origin. However, we must reject this proposal because it is inconsistent with the minimal insight principle. What's required, then, is an account of property perception that captures the ways in which perceiving properties is distinct from perceiving objects, but which is consistent with both the minimal and substantial insight principles.

Some of the examples discussed above point toward just such an account. The initial visual experiences of some newly sighted individuals fail to present the shapes of perceived objects despite instantiating phenomenal properties like phenomenal squareness. Yet, after a sufficient adjustment period, some of these same individuals develop something like normal visual shape perception, at least with respect to two-dimensional shapes—by which point, presumably, they perceive objects' shapes in virtue of having visual experiences that instantiate phenomenal properties like phenomenal squareness.²⁹ And when individuals are outfitted with a visual-to-auditory sensory substitution device, at first they have experiences instantiating auditory phenomenal properties that do not present objects' shapes; yet, after sufficient training, some such individuals have perceptual experiences that present objects' shapes in virtue of

²⁹ See Valvo (1971, 31), Ostrovsky et al. (2006, 1012), and Held et al. (2011, 552).

instantiating the same auditory phenomenal properties.³⁰ The fact that phenomenal properties instantiated by perceptual experiences are not inherently presentational, but can come to present properties, and the fact that the properties that a given phenomenal property presents can be altered, suggests that we should think of phenomenal properties as *representational vehicles* or *manners of presentation*. (The suggestion that phenomenal properties are not inherently presentational, but come to present objects and properties, requires that we think of experiences presenting properties specifically in terms of representation, rather than acquaintance. So, from this point forward I will assume that perceptual experiences constitutively involve representation of rather than acquaintance with objects and properties.)

We can clarify this proposal by means of an analogy with linguistic symbols. Linguistic symbols are not inherently representational, but when we think with words we use such symbols to think about objects and their properties. For instance, consider the thought you have when you token the sentence “that is square” in *inner speech*. The words “that” and “square” are not inherently representational, but they function as representational vehicles—by tokening these linguistic symbols in inner speech you thereby think that some object is square. So too, by having a perceptual experience that instantiates various phenomenal properties, you thereby mentally represent objects and their properties. For instance, when you have an experience that instantiates phenomenal squareness, this specific phenomenal property functions as a representational vehicle—by instantiating this phenomenal property your experience thereby represents that some object is square. Crucially, phenomenal properties are instantiated but not represented by perceptual experiences. By analogy, when you token “that is square” in inner speech, the resulting thought is concerned exclusively with the relevant object and its squareness and does not involve any explicit awareness of the words themselves.³¹

The proposal that phenomenal properties are perceptual manners of presentation suggests a natural strategy for accommodating the fact that the continuity thesis is false: appeal to the

³⁰ See note 9 above. Subjects report that the proximal sensations persist after extended SSD use, and they can attend to these sensations when instructed to do so: see Block (2003) and Deroy and Auvray (2015, §2.2). For direct neurological evidence, see Kupers et al. (2006) and Kupers and Ptito (2014).

³¹ Hall (1961) and Clark (1973; 1975) also suggest that perceptual experiences involve representational vehicles that are analogous to linguistic symbols; however, they explicitly restrict their theories to the representation of properties and so deny that experiences represent particular objects. I defend the view as it relates to object perception in Millar (2017). Wishon (2012), Papineau (2014), and Morrison (2020), all claim explicitly that phenomenal properties function as representational vehicles; however, there is no overlap between the motivations they offer for their views and the argument presented here. For related views, see Matthen (2005), Hatfield (2016), and Lande (2018).

standard distinction between *satisfactional* and *relational* mental representations.³² Specifically, a satisfactional representational vehicle (or manner of presentation) represents the thing it does in virtue of the fact that that thing satisfies a certain condition—a condition to which the subject stands in a representational relation. And because the subject stands in a representational relation to this condition, the subject must understand the condition at least implicitly.³³ A relational representational vehicle (or manner of presentation) represents the thing it does in virtue of the fact that it stands in a certain specific relation (typically a causal relation) to that thing—but not in virtue of the fact that the subject represents this relation. As such, the subject need not understand the relevant relation even implicitly.

If we think of phenomenal properties as analogous to linguistic symbols, a natural suggestion is that an experience’s phenomenal properties function as satisfactional manners of presentation for properties, and relational manners of presentation for objects. After all, when you token “that is square” in inner speech, plausibly the particular token of “that” represents the object to which it is causally connected in the right way—even if you’re quite mistaken regarding the nature of that object. Equally plausibly, the particular token of “square” doesn’t represent the property it represents via the same purely relational mechanism—even if you’ve never encountered a square before, your present thought is true only if the object you’re attending to has four equal sides. So too, we should characterize those phenomenal properties that serve as representational vehicles for objects as representing whatever environmental objects (if any) they are causally connected to in the right way. And we should characterize those phenomenal properties that serve as representational vehicles for properties as representing whatever environmental properties (if any) satisfy the conditions that have come to be associated with those phenomenal properties for a given subject.

This natural characterization of perceptual representational vehicles thus provides a satisfying explanation of the crucial differences between perceiving objects and perceiving properties. Why is it that the right sort of causal connection is sufficient for a perceptual experience to represent a particular object, but not sufficient for an experience to represent a given property? It is because perceptual manners of presentation represent objects, but not

³² See, for example, Harman (1977), Perry (1979), and Bach (1987).

³³ For discussion of what merely *implicitly* understanding such a condition might amount to, see Jackson (1998), Chalmers (2002), and deRosset (2011, §2).

properties, purely relationally. And why is it that you can't have a perceptual experience that represents a particular object unless you stand in the right sort of causal relation to that object, but you can have a perceptual experience that represents a specific property even if you've never had any causal interaction with that property? First, because phenomenal properties serve as relational manners of presentation for objects, they fail to represent any particular object when they aren't caused by a particular object in the right way—just like when you token an empty name in inner speech, your resulting thought does not represent any particular individual. Second, a given phenomenal property represents whatever environmental property satisfies the condition with which it is associated for the subject, and a given environmental property does not need to have any causal connection to that phenomenal property in order to satisfy the associated condition. For example, for a perceiver like Marie, phenomenal squareness will be associated with something like the following condition: *being a shape that has four equal sides*. So, when Marie has a visual experience that instantiates phenomenal squareness, her experience thereby attributes squareness in virtue of the fact that squareness is the property that satisfies this condition—even though this experience, and every other similar experience she's ever had, is caused by a circular object. (A defender of the present proposal would be free to maintain that whenever you have an experience that represents squareness in virtue of instantiating phenomenal squareness, you are thereby aware of an instance of squareness. On my preferred version of the view, in order to be perceptually aware of an instance of squareness, your experience must represent squareness, and the relevant representational vehicle must be caused in the right way by an instance of squareness.)³⁴

Finally, so long as we make an additional assumption regarding the conditions in virtue of which phenomenal properties represent environmental properties, the present proposal is also consistent with the insight principle. By way of contrast, suppose that phenomenal squareness represented the property that satisfies the following condition: *being the property that normally causes experiences like this in me*.³⁵ If your experiences instantiating phenomenal squareness

³⁴ For an overview of the difficulties facing someone who maintains that one is aware of a property whenever one's experience represents that property, see Pautz (2007, 514-519).

³⁵ See Chalmers (2004) and Thompson (2009). Another reason it's unacceptable to characterize the conditions at issue in terms of the causal relations between perceivers and properties, is that many typical human beings do not grasp the nature of those causal relations. For instance, in order to avoid the consequence that Marie's experiences instantiating phenomenal squareness represent circles, a causal condition of this sort would need to appeal to some technical notion of *standard conditions*. And presumably some further complication would need to be added so that

represented squareness in virtue of the fact it satisfies this condition, then it would be possible for you to have an experience that represented squareness but that failed to provide you with even a minimal grasp of that property's character. Accordingly, a crucial feature of the present proposal is that the conditions at issue always concern what environmental properties are like independently of experience.³⁶ The details concerning how specific conditions become associated with any given phenomenal property is largely an empirical question; but, very generally, it's plausible that, over time, via some automatic process analogous to language acquisition in children, increasingly more specific conditions are associated with a given phenomenal property until some natural stopping point is reached (though we can allow that this process is sometimes developed further via perceptual learning). For instance, in typical mature human perceivers, the maximally specific condition associated with phenomenal squareness will be *having four equal sides*.

Consequently, the present account of property perception is consistent with both the minimal and substantial insight principles. First, phenomenal properties are satisfactoral manners of presentation for environmental properties; and satisfactoral manners of presentation represent the thing they represent via a condition to which the subject stands in a representational relation, and so understands (at least implicitly). In addition, the conditions in virtue of which phenomenal properties represent environmental properties concern these properties' experience-independent character. So, whenever a perceiver capable of forming beliefs has a perceptual experience that represents a given property, her experience will provide her with at least a minimal grasp of that property's character thanks to her understanding of the condition associated with the relevant phenomenal property. That is, when a subject has a perceptual experience that instantiates a certain phenomenal property, the instantiation of that phenomenal property gives rise to beliefs concerning the represented environmental property's character in virtue of the fact that the subject associates a certain condition with that phenomenal property (just as tokening "that is square" in inner speech gives rise to beliefs concerning squares in virtue of the fact that you associate a certain condition with the word "square"). As such, the present proposal is consistent with the minimal insight principle.

this condition has the consequence that some of a life-long hallucinator's (such as a brain in a vat) perceptual experiences represent squares.

³⁶ Again, if some perceptual experiences represent *appearance properties* or the like, this proposal would have to be modified. See note 6 above.

Second, because the mechanism in virtue of which a perceptual experience provides the subject with beliefs concerning a given property's character is the condition associated with the corresponding phenomenal property, every experience that provides a given perceiver substantial insight into some property's character will also represent that property. For instance, once phenomenal squareness has become associated for you with *having four equal sides*, every experience that provides you with beliefs such as *that is square* will be an experience that instantiates phenomenal squareness; and every experience that instantiates phenomenal squareness will thereby represent squareness. As such, the present proposal is consistent with the substantial insight principle as well.

7. Conclusion

There are good reasons to think that having a perceptual experience that presents a given property is the kind of thing that provides you with insight into the character of that property—that is, there are good reasons to think that the insight principle is true. The insight principle entails that perceiving properties is unlike perceiving objects in at least two important respects: first, while the right kind of causal connection is sufficient for a perceptual experience to present a particular object, it is not sufficient for an experience to present a given property; second, while you can't have a perceptual experience that presents a particular object unless you stand in the right sort of causal relation to that object, you can have a perceptual experience that presents a specific property even if you've never had any causal interaction with that property. That is, because we should endorse the insight principle, we should reject the continuity thesis.

The phenomenal-sufficiency view is able to account for the fact that the continuity thesis is false; but, just like the causal-sufficiency view, it is inconsistent with the insight principle. Any acceptable account of property perception, then, must explain the fact that the continuity thesis is false and also be consistent with the insight principle. We've now seen that the present proposal—characterizing the phenomenal properties perceptual experiences instantiate as representational vehicles analogous to linguistic symbols—satisfies both criteria. Consequently, assuming there are no viable competing theories that succeed so well, we should conclude that an experience's phenomenal properties function as relational manners of presentation for objects and satisfactional manners of presentation for properties.³⁷

³⁷ Earlier versions of this material were presented at the 2019 American Philosophical Association Eastern Division

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