# THINKING WITH SENSATIONS

Consider what your visual experience is like when you enter a relatively dark room after having spent some time in a much brighter room. While at first you cannot see much at all, as time passes your experience changes. Eventually, you are able to make out the shapes of nearby objects. Even so, it does not seem to you as though the room has gotten brighter. Now consider what your visual experience is like when you repeat this process, but instead of waiting for your eyes to adjust, you increase the light levels in the room just a little. If you control the light carefully you will be able to make out the very same objects in the very same level of detail; but in such a case it will seem to you that the room has gotten brighter. Despite the difference between these two visual experiences, there is a certain obvious respect in which what it's like for you to have them—their *phenomenal character* or *phenomenology*—is exactly the same. By way of illustration, if you were to produce drawings to capture each of these experiences, those drawings would look exactly alike. Thus, despite the fact that these experiences are both accurate presentations of different states of affairs, on a *purely sensory* level their phenomenology is the same. As we might put it, these experiences present different scenes but instantiate the same visual sensations.

Examples of this sort demonstrate that perceptual experiences instantiate phenomenal properties that are separate from or independent of how those experiences present the world to be—phenomenal properties that are not inherently representational. However, it must be granted that we almost never notice this purely sensory element of our perceptual experiences. For instance, typically when you have a visual experience of a book on the table in front of you all you seem to be aware of is the book itself: your visual experience instantiates color and shape phenomenology but the only colors and shapes you are aware of seem to you to be the color and the shape of the book. Consequently, once we recognize that perceptual phenomenology includes a purely sensory element, we face a puzzle. On the one hand, sensory phenomenology must play an intimate role in the perception of physical objects and their properties (for example, surely it is in virtue of the fact that your sensory phenomenology changes that you perceive the light levels in the room to be increasing). On the other hand, the purely sensory aspect of our experiences rarely captures our attention. So, if our perceptual awareness of physical objects depends on these phenomenal aspects of our experiences, how can we fail to notice them?

Accordingly, theories of perception that recognize non-representational phenomenal properties need to provide a plausible account of the role such properties play in the perception of physical objects.[1] However, the standard varieties of such theories—*indirect realism* and the *dual-component theory*—do not provide a satisfactory solution to the puzzle at issue. Indirect realists claim that when we perceive an ordinary physical object our awareness of the object is mediated by our awareness of our experience's sensory element. Such a theory assigns the sensory aspect of perceptual experiences an important role to play in the perception of physical objects but is inconsistent with the fact that the sensory aspect of perceptual experiences typically goes unnoticed by perceivers. Dual-component theorists claim that the sensory aspect of perceptual experiences merely *causes* a mental representation that is concerned exclusively with ordinary physical objects and their properties. Such a theory is consistent with the fact that the sensory aspect of perceptual experiences typically goes unnoticed by perceivers but cannot do justice to the important role that sensory phenomenology plays in our perceptual awareness of physical objects.

Consequently, if there were a theory that captured the important role that sensory phenomenology plays in our awareness of physical objects while respecting the fact that such phenomenology typically goes unnoticed by perceivers, that theory would constitute a significant advance over either of the available alternatives. What we require is a theory that rejects the indirect realist's claim that we are aware of a perceptual experience's purely sensory element, but which also rejects the dual-component theorist's claim that sensory phenomenology plays a merely causal role in our perceptual awareness of physical objects. I will defend the only view that appears to meet both criteria: the view that having a perceptual experience that instantiates the relevant phenomenal properties is a *way* of being aware of a physical object. The challenge facing such a theory will be to explain how one can claim both that having a perceptual experience that instantiates sensory phenomenology is a way of being aware of a physical object, and that sensory phenomenology is not inherently representational. However, I maintain that this challenge can be met by characterizing sensory phenomenology as functioning in the way that linguistic symbols function in thought.

[1] If you maintain either that perceptual phenomenology is constituted by the subject's acquaintance with ordinary objects, as naïve realists do, or that if a perceptual experience has a certain phenomenal property then it thereby possesses a certain specific representational content, as representationalists and defenders of phenomenal intentionality do, then you do not face the same challenge in explaining the role that perceptual phenomenology plays in the perception of ordinary objects. I discuss these theories in further detail below.

First, in section I, I discuss the notion of sensory phenomenology in greater detail and briefly survey the principal reasons for thinking that such phenomenology is not inherently representational. Then, in sections II and III, I examine the most influential accounts of the role that the non-representational sensory aspect of perceptual experiences plays in the perception of objects: indirect realism and the dual-component theory. I argue that these theories should be rejected because each is inconsistent with the nature of perceptual phenomenology. Finally, in section IV, I outline a distinct account of the role that sensory phenomenology plays in our perceptual awareness of physical objects that avoids these phenomenological difficulties.

## I. SENSORY PHENOMENOLOGY

The phenomenal character of a given conscious experience is typically composed of any number of distinct phenomenal properties (that is, particular aspects of an experience's phenomenal character that can be shared by experiences that differ with respect to their overall phenomenology). Sensory phenomenology comprises a particular class of phenomenal properties. Specifically, it encompasses the sorts of phenomenal properties that perceptual experience and conscious imagining possess but which conscious thought lacks. For instance, consider what it's like for you to have a visual experience as of some object, *O*, and what it's like for you to visualize seeing *O*; and consider what it's like for you to have an auditory experience as of some sound, *S*, and what it's like for you to imagine hearing *S*. Sensory phenomenology is the kind of phenomenology that all of these experiences possess—the kind that is absent when you merely consciously think about *O* and *S* (so long as we abstract from any imagery that might accompany these thoughts). While these sensory phenomenal properties are less vivid or pronounced in the case of imagery, conscious imagining always involves such properties; conversely, there is nothing intrinsically sensory about conscious thought as such.

More specific classes of sensory phenomenal properties can be distinguished. For present purposes, it is crucial to distinguish between those aspects of sensory phenomenology associated with the experience of physical properties—which I will call *sensory qualities*—and those aspects of sensory phenomenology associated with the experience of the objects that instantiate those properties—which I will call *sensory impressions* or *sensations*. (For the sake of brevity, from this point on I will focus on vision.)

For each physical property that we perceive through vision, there will be some corresponding sensory quality—a phenomenal property that experiences caused by the relevant

physical property typically instantiate in a normal human perceiver under standard conditions. For example, consider what your experience is like when you view a red wall under white light and a white wall under red light. These two experiences share a certain specific aspect of their phenomenology that neither shares with your experience of a white wall under white light. This shared aspect of these two experiences' phenomenology is a sensory quality we can call *phenomenal redness*. We could use more detailed examples to isolate the different shades that make up the class *red qualities*; and, of course, the class of red qualities is included in the more inclusive class *color qualities*.

Similar points can be made concerning the perception of physical shape. For instance, consider what your visual experience is like when you view a circular object that is tilted relative to your vantage point, and what your experience is like when you view an elliptical object head on. These two experiences share a certain specific phenomenal property that neither shares with your experience of a circular object viewed head on—a sensory quality we can call *phenomenal ellipticalness*.[2] A similar procedure could be used to identify *phenomenal squareness*, *phenomenal circularity*, and so on; and all of these sensory qualities are included in the more general class *shape qualities*. In addition to color qualities and shape qualities, the sensory qualities instantiated by visual experiences include, for example, the phenomenal properties characteristic of the experience of size and spatial location.

When you have a visual experience as of a particular object instantiating a variety of visible properties, the corresponding sensory qualities are united in a sensory impression or sensation. The sensation corresponding to the perceptual experience of an object is not simply a collection of sensory qualities; added to the relevant sensory qualities is a distinct phenomenological unity that makes a sensation a single phenomenal entity. For example, consider the two incompatible visual experiences that are produced by the ambiguous image in Figure 1.[3] This image can be seen as either two faces in profile or one rather wide face partially obscured by a candlestick. When your experience switches from one "interpretation" to the

[2] I am borrowing both this example and the previous example from Benj Hellie, "Beyond Phenomenal Naiveté," *Philosophers' Imprint*, VI, 2 (May 2006): 1–24, at p. 6.

[3] Image: "Egyptian-eyezed Tete-a-tete" from the book MIND SIGHTS: Original Visual Illusions, Ambiguities, and Other Anomalies, With a Commentary on the Play of Mind in Perception and Art by Roger N. Shepard. Copyright © 1990 by Roger N. Shepard. Reprinted by permission of Henry Holt and Company. All rights reserved.

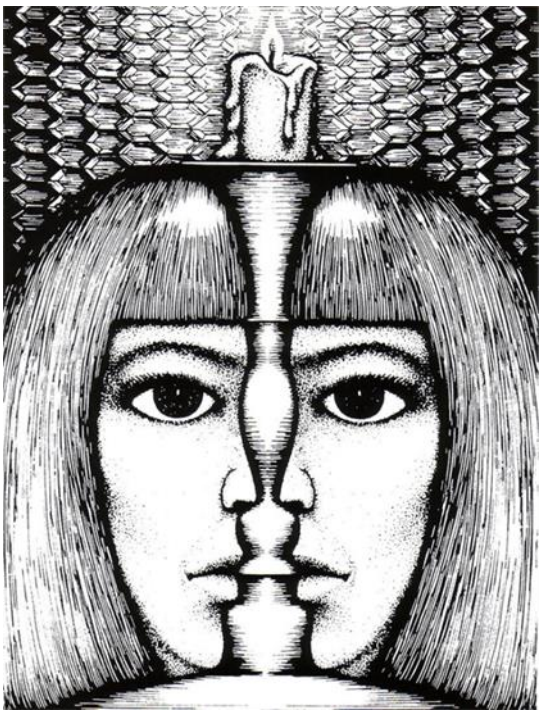

Figure 1

other, the most significant change does not concern the visible properties you seem to be aware of, but whether those visible properties seem to belong to a single object. The corresponding phenomenal change is that when you undergo the "one face" experience, all of the relevant sensory qualities are phenomenally unified, whereas when you undergo the "two faces" experience, there are two distinct unified collections of sensory qualities. That is, ignoring the other elements of the image, your "two faces" experience instantiates two sensations, and your "one face" experience instantiates a single sensation.

*I.1. Sensationalism.* There are two standard views regarding the relationship between a perceptual experience's sensory phenomenology and how that experience presents the world to be: *purism* and *sensationalism*.[4] Purists maintain that there is a necessary connection between an experience's sensory phenomenology and how it presents the world to be: either sensory phenomenology is constituted by how the experience presents the world to be, or sensory phenomenology determines how the experience presents the world to be. For instance, *naïve realists* maintain that sensory phenomenology is constituted by the subject's acquaintance with

[4] I am taking the purism/sensationalism terminology from Ian Phillips, "Afterimages and Sensation," *Philosophy and Phenomenological Research*, LXXVII, 2 (2013): 417–53.

ordinary objects and their properties.[5] According to this theory, for your experience to instantiate phenomenal redness just is for you to be perceptually acquainted with the redness of some ordinary physical object. Similarly, *representationalists* and defenders of *phenomenal intentionality* maintain that if a perceptual experience possesses a certain specific sensory phenomenal property, it thereby possesses a certain specific representational content.[6] Some defenders of such theories claim that for an experience to instantiate phenomenal redness just is for that experience to represent that something is red; others maintain that all perceptual experiences that instantiate phenomenal redness represent that something is red in virtue of instantiating phenomenal redness.

Conversely, sensationalists deny that there is a necessary connection between an experience's sensory phenomenology and how it presents the world to be: an experience does not present the world to be any way at all simply in virtue of possessing sensory phenomenology, and experiences that present the world to be different ways can possess the same sensory phenomenology. That is, a sensationalist denies that sensory phenomenology is inherently representational.[7]

[5] Contemporary defenders of naïve realism include, for instance, John Campbell, *Reference and Consciousness* (Oxford: Oxford University Press, 2002); M. G. F. Martin, "The Limits of Self-Awareness," *Philosophical Studies*, CXX, 1/3 (2004): 37–89; William Fish, *Perception, Hallucination, and Illusion* (Oxford: Oxford University Press, 2009); Bill Brewer, *Perception and Its Objects* (Oxford: Oxford University Press, 2011); and Heather Logue, "Why Naïve Realism?," *Proceedings of the Aristotelian Society*, CXII (2012): 211–37.

[6] Defenders of representationalism include, for instance, Fred Dretske, *Naturalizing the Mind* (Cambridge, MA: MIT Press, 1995); Michael Tye, *Ten Problems of Consciousness* (Cambridge, MA: MIT Press, 1995); Alex Byrne, "Intentionalism Defended," *The Philosophical Review*, CX, 2 (2001): 199–240; David Chalmers, "The Representational Character of Experience," in Brian Leiter, ed., *The Future for Philosophy* (Oxford: Oxford University Press, 2004), pp. 153–81; and Adam Pautz, "Intentionalism and Perceptual Presence," *Philosophical Perspectives*, XXI (2007): 495–541. Defenders of phenomenal intentionality include, for instance, Charles Siewert, *The Significance of Consciousness* (Princeton: Princeton University Press, 1998); Terrence Horgan and John Tienson, "The Intentionality of Phenomenology and the Phenomenology of Intentionality," in David Chalmers, ed., *Philosophy of Mind: Classical and Contemporary Readings* (New York: Oxford University Press, 2002), pp. 520–41; and Uriah Kriegel, "Intentional Inexistence and Phenomenal Intentionality," *Philosophical Perspectives*, XXI (2007): 307–40.

[7] Contemporary defenders of sensationalism include, for instance, Christopher Peacocke, *Sense and Content: Experience, Thought, and Their Relations* (Oxford: Oxford University Press, 1983); Paul Boghossian and David Velleman, "Colour as a Secondary Quality," *Mind*, XCVIII, 389 (1989): 81–103; Howard Robinson, *Perception* (London: Routledge, 1994); Ned Block, "Mental Paint and Mental Latex," *Philosophical Issues*, VII (1996): 19–49; A. D. Smith, *The Problem of Perception* (Cambridge, MA: Harvard University Press, 2002); Paul Coates, *The Metaphysics of Perception: Wilfrid Sellars, Perceptual Consciousness and Critical Realism* (New York: Routledge, 2007); and many of the papers included in Edmond Wright, ed., *The Case for Qualia* (Cambridge, MA: MIT Press, 2008).

There are a number of compelling reasons to endorse sensationalism and reject purism.[8] First, some experiences that instantiate sensory phenomenology are not putative presentations of mind-independent reality. Such experiences are sometimes called *brute sensations*. For example, when you close both eyes, your resulting visual experience clearly instantiates sensory phenomenology: there is a kind of phenomenal darkness permeated by an irregular light and dark fuzz or static.[9] In order to maintain that this experience is a presentation of mind-independent reality, presumably you must claim that it presents the subject with a field of darkness. But if you consider what your experience is like when you close your eyes, it should be clear that you do not seem to be encountering some dark field that is distinct from your experience. In addition, if a closed-eye experience were a presentation of darkness, then when you close one eye and keep the other open either some part of your visual field would be dark, or binocular rivalry would result, in which case you would alternate between an experience of darkness and whatever is visible to your other eye.[10]

Second, even visual experiences that are presentations of mind-independent reality instantiate some sensory qualities that do not contribute to the physical objects and properties the subject perceives. For example, consider the flickering or visual static that permeates your visual field at all times (although it is most noticeable in low light).[11] If you view an object the surface of which is a single uniform color, the object will typically look to you as though every part of its surface is the very same shade; however, if you attend carefully to your experience, you will notice that your experience of the surface is overlaid by a persistent phenomenal flickering. Thus, the phenomenal variation involved in such visual static does not constitute a variation in the visible properties with which you seem to be presented. Instead, such visual static is

[8] The literature concerning this debate is extensive; in order to avoid a lengthy digression, I will not attempt to survey the different ways a purist might respond to the following arguments.

[9] The visual experience you enjoy when your eyes are closed is given as an example of brute sensation by Smith, *The Problem of Perception*, *op. cit.*, p. 129; Hellie, "Beyond Phenomenal Naiveté," *op. cit.*, p. 12n; and Susanna Siegel, *The Contents of Visual Experience* (Oxford: Oxford University Press, 2010), p. 24. For a detailed discussion, see Eric Schwitzgebel, "When Your Eyes Are Closed, What Do You See?," in *Perplexities of Consciousness* (Cambridge, MA: MIT Press, 2011).

[10] For an overview of binocular rivalry, see Randolph Blake, "A Primer on Binocular Rivalry, Including Current Controversies," *Brain and Mind*, II, 1 (2001): 5–38.

[11] This example is due to Benj Hellie, "Noise and Perceptual Indiscriminability," *Mind*, CXIV, 455 (2005): 481–508, at p. 493.

plausibly regarded as a non-representational aspect of your experience's sensory phenomenology.

Finally, it is not the case that all perceptual experiences that instantiate a certain specific sensory quality thereby present a certain specific physical property to the perceiver. For instance, experiences instantiating the same phenomenal colors can represent distinct physical colors (at least if we assume that colors are objective physical properties). Your visual experiences accurately represent the color of an object's surface under a variety of lighting conditions; as a result, two of your visual experiences might instantiate the very same phenomenal color and yet attribute different physical colors to the relevant objects.[12] Similar examples arise when we compare the color experiences of different subjects due to the fact that color phenomenology can be "shifted" from person to person. As a result, two subjects can have visual experiences that accurately represent a particular surface's physical color despite the fact that their experiences instantiate different phenomenal colors.[13] More dramatic examples can be found by considering the color phenomenology of different species or by constructing spectrum-inversion scenarios. There are even reasons to think that experiences that instantiate phenomenal colors could represent something other than physical colors. For instance, we can imagine a creature whose perceptual experiences instantiating color phenomenology represent an object's temperature rather than its color.[14]

## II. INDIRECT REALISM

While the sensory phenomenology a visual perceptual experience instantiates does not in and of itself present you with ordinary physical objects, it nonetheless plays a crucial role in your perceptual awareness of such objects. Having determined that sensory phenomenology is not inherently representational, then, we now need an account of the role such phenomenology plays in the perception of physical objects.

[12] See Brad Thompson, "Colour Constancy and Russellian Representationalism," *Australasian Journal of Philosophy*, LXXXIV, 1 (2006): 75–94; Brad Thompson, "Senses for Senses," *Australasian Journal of Philosophy*, LXXXVII, 1 (2009): 99–117; and Boyd Millar, "Colour Constancy and Fregean Representationalism," *Philosophical Studies*, CLXIV, 1 (2013): 219–31.
[13] See Ned Block, "Sexism, Racism, Ageism, and the Nature of Consciousness," *Philosophical Topics*, XXVI, 1 (1999): 39–70; and Ned Block, "Wittgenstein and Qualia," *Philosophical Perspectives*, XXI (2007): 73–115.
[14] This example is due to Thompson, "Senses for Senses," *op. cit.*, p. 112.

Historically, indirect realism has provided the most popular account. According to indirect realism, you are directly aware of your experience's sensory phenomenology and are *thereby* aware of ordinary physical objects. Hence, the perception of ordinary objects is indirect: your awareness of your perceptual experiences' purely sensory element mediates your awareness of ordinary objects. The question the indirect realist faces is how being directly aware of an experience's sensory phenomenology makes you indirectly aware of an ordinary object. Defenders of this theory answer this question in a variety of different ways, but none of the resulting accounts is ultimately acceptable.[15]

One natural way for the indirect realist to address the question at hand is to claim that perceivers *infer* that ordinary physical objects exist. Specifically, the proposal is that to perceive an ordinary physical object is to infer that such an object exists on the basis of your awareness of the sensory phenomenology that that object has caused. For example, Russell claims that in order for you to perceive a given ordinary physical object, you must be acquainted with sense-data that have been caused by and that "correspond" to that object, and then you must infer that an object of the relevant sort is in your vicinity.[16] When we perceive a physical object like a table, Russell says, the table "is not *immediately* known to us at all, but must be an inference from what is immediately known."[17] On this account, then, your perceptual awareness of a particular physical object is constituted by your awareness of a sensory intermediary together with your inference that the presence of an ordinary physical object has caused that sensory intermediary.

However, this proposal is inconsistent with the fact that, typically, when you undergo a visual experience of some ordinary physical object, it does not seem to you as though your awareness of that object involves an awareness of some sensory intermediary. For instance, when you see the book on the table in front of you, it does not seem to you that your awareness of the book depends on your awareness of something distinct from that book. But whenever you are directly aware of *X* and consequently infer that *Y* is present (on the basis of your assumption that *X* is caused by *Y*), you recognize that your awareness of *Y* goes through an intermediary. Even if the indirect realist insists that the relevant inference occurs automatically and without

[15] Some indirect realists maintain that what it is for an experience to instantiate sensory phenomenology is for the subject to be acquainted with a special mind-dependent object—a sense-datum. Other indirect realists reject the appeal to sense-data; they claim instead that what we are directly aware of when we perceive are properties instantiated by our own experience. The criticisms of indirect realism that follow apply to both versions of the view.
[16] Bertrand Russell, *The Problems of Philosophy* (1912; reprinted with a new introduction by John Perry, New York: Oxford University Press, 1997), p. 22.
[17] *Ibid.*, p. 11.

any effort on the subject's part, such an inference would still require that the subject recognize sensory phenomenology as something distinct from, and causally related to, ordinary physical objects. For example, suppose you see a tree moving and automatically infer that there is an animal climbing the tree and causing it to move; suppose further that you are unaware of how you were able to draw this conclusion regarding what is causing the tree to move; nonetheless, you still recognize that your awareness of the animal is mediated by your awareness of something distinct from that very animal.

Alternatively, an indirect realist might claim that you are aware of ordinary objects when you perceive them in the same way that you are aware of represented objects when you view a realistic painting, photograph, or video.[18] When you view a realistic painting, for instance, you are not aware of a represented object in virtue of an inference to the effect that the relevant object has caused the paint to be on the canvas; instead, you "interpret" the paint as a representation of the object. As Wollheim puts it, you see a three-dimensional object *in* the two-dimensional surface of the painting.[19] According to this proposal, then, a perceiver is aware of her experience's phenomenal properties (or sense-data) and sees an ordinary object in this *mental paint* in the same way that one sees a represented object in the paint on a canvas.[20] As such, your perceptual awareness of a particular physical object is constituted by your awareness of your experience's sensory phenomenology together with your "interpretation" of that sensory phenomenology.

However, this suggestion does not fully address the difficulty at hand. In typical cases in which you are aware of a represented object by viewing a painting or video, you recognize that your awareness of the paint or the pixels mediates your awareness of the represented object. Crucially, this awareness of the mediating role that the paint or pixels plays is a distinctive phenomenological feature of your typical visual experiences of paintings or videos. As Wollheim claims, when you look at a painting, your visual experience possesses a phenomenological *twofoldness* that results from being simultaneously aware of both the paint on the canvas and the object the paint represents.[21] Therefore, if typical visual experiences involved seeing a physical

[18] Robinson (*Perception*, *op. cit*., pp. 188–89) calls this proposal the "classic" version of the sense-datum theory.
[19] Richard Wollheim, *Art and Its Objects*, 2nd ed. (Cambridge, UK: Cambridge University Press, 1980). The appeal to Wollheim's notion of 'seeing-in' in this context is due to Hellie, "Beyond Phenomenal Naiveté," *op. cit.*
[20] The expression 'mental paint' is used this way by Gilbert Harman, "The Intrinsic Quality of Experience," *Philosophical Perspectives*, IV (1990): 31–52; and by Block, "Mental Paint and Mental Latex," *op. cit.*; see also Ned Block, "Attention and Mental Paint," *Philosophical Issues*, XX (2010): 23–63.
[21] Wollheim, *Art and Its Objects*, *op. cit*.

object *in* mental paint, such experiences would possess a similar phenomenological twofoldness that they do not in fact possess.[22,23]

## III. THE DUAL-COMPONENT THEORY

The dual-component theory avoids indirect realism's phenomenological difficulties by characterizing the role that sensory phenomenology plays in our perceptual awareness of ordinary objects in purely causal terms.[24] According to this theory, a perceptual experience has a phenomenal component, which consists of sensory phenomenology, and a distinct representational component, which consists of a thought or judgment; the representational component is caused by the phenomenal component, but its content is concerned exclusively with ordinary objects. For instance, when you view a tilted coin, the coin causes your experience to instantiate phenomenal ellipticalness, and this sensory phenomenology typically causes you to judge that there is a tilted circular object in front of you. The dual-component theorist claims, then, that your perceptual awareness of a particular physical object is constituted by a judgment concerning that object that is caused by the relevant sensory phenomenology. So, while your perceptual awareness of a physical object is causally mediated by sensory phenomenology, it is not mediated by an awareness of sensory phenomenology.

For example, according to Sellars, having a perceptual experience of a given object and merely thinking about that object are both "propositional" mental states. There is a sense in which, he claims, "perceiving essentially is or involves a *thinking*"—for instance, "seeing *this* to be a pink ice cube involves a thinking *this* to be a pink ice cube."[25] But while thinking and perceiving are both representational mental states, there is an obvious phenomenological difference between them. According to Sellars, the crucial difference between perceiving and thinking is that perceptual experiences are not simply representational mental states: perceptual

[22] Walter Hopp makes this same point. See Hopp, *Perception and Knowledge: A Phenomenological Account* (Cambridge, UK: Cambridge University Press, 2011), p. 151.
[23] Indirect realists sometimes suggest that we simply mistake our sensations for mind-independent objects (see, for example, Russell, *The Problems of Philosophy*, *op. cit.*, p. 24). However, as Smith points out, such a proposal is incompatible with perceptual constancy (*The Problem of Perception*, *op. cit*., p. 178); moreover, this proposal ultimately does not amount to a coherent version of indirect realism, since if you believe that your sensations constitute mind-independent reality, then you do not perceive the objects that cause them (*ibid*., pp. 14–16).
[24] I am taking the 'dual-component theory' label from Smith, *The Problem of Perception*, *op. cit.*, pp. 69–70.
[25] Wilfrid Sellars, "The Structure of Knowledge: Perception," in Hector-Neri Castañeda, ed., *Action, Knowledge, and Reality* (Indianapolis: Bobbs-Merrill, 1975), pp. 295–316, at p. 303.

experiences also include a purely sensory "non-propositional component."[26] Sellars is careful to emphasize, however, that while there is a causal connection between them, a perceptual experience's representational component is not in any way *about* the non-representational phenomenal component. "The objects referred to in the propositional component of the perceptual experience," Sellars says, "are physical objects, not private, subjective. . .items."[27]

However, because the dual-component theory claims that sensory phenomenology plays a purely causal role in our perceptual awareness of physical objects, the theory faces a separate phenomenological difficulty: namely, it is incompatible with the fact that the representational and sensory aspects of a perceptual experience are phenomenologically unified. The dual-component theory entails that, from the subject's point of view, a perceptual experience is a seeming awareness of physical objects that is merely accompanied by sensory phenomenology. But it is clear that what it's like to have a visual experience of a particular object is not like judging that an object of a certain sort is in front of you while simultaneously having a visual sensation. Rather, sensory phenomenology plays a more direct role in the presentation of physical objects. As Smith puts the point, the dual-component theory cannot "do justice to the *immediate sensory presence* of physical objects to us in perception."[28]

We can illustrate the phenomenological inadequacy of the dual-component theory with the following two examples. First, imagine a case where you take an object that you know to be white—a piece of chalk, for instance—and place it under a red spotlight that otherwise is not visibly detectable. When you look at the piece of chalk under these conditions, your visual experience will instantiate the same phenomenal redness that an experience of a red piece of chalk viewed under normal lighting conditions would instantiate. Nonetheless, we can suppose that the sensory phenomenology of this experience causes you to judge that there is a white piece of chalk in front of you. We do not need to assume that you *infer* that the chalk is white given the phenomenal redness instantiated by your experience and your knowledge of the lighting conditions; we can suppose that you judge that there is a white piece of chalk in front of you because you know from prior experience that this particular piece of chalk is white. In the

[26] *Ibid.*, p. 308.
[27] *Ibid.*, p. 311.
[28] Smith, *The Problem of Perception*, *op. cit.*, p. 74.

present case, then, you are aware that the piece of chalk in front of you is white, but there is a clear phenomenological difference between this case and a case where you *see* the chalk's whiteness. So, contrary to what the dual-component theorist assumes, being perceptually aware that there is a white piece of chalk in front of you cannot simply be a matter of being caused by a visual sensation to judge that there is a white piece of chalk in front of you.[29]

Second, imagine that you are hypnotized and taught to expect that whenever a bell rings, food is nearby. Sometime later you hear a bell ringing, and this auditory experience causes you to judge that food is nearby.[30] In this case, despite the fact that your auditory experience's sensory phenomenology causes you to think that food is nearby, and does so without you inferring that the presence of food has caused your auditory experience, you are not perceptually aware of any food. The crucial phenomenological point is that, in this case, from your point of view, the sensory phenomenology instantiated by your auditory experience merely accompanies your thought that food is nearby—the auditory phenomenology does not present the food but merely occasions a thought that food is nearby. Conversely, the representational and sensory aspects of a given perceptual experience are not phenomenologically distinct elements of that experience. In other words, what it's like to be perceptually aware that food is nearby is distinct from what it's like to think that food is nearby when that thought is caused by a sensation of some sort. The dual-component theory cannot capture this distinction, so it does not provide an adequate account of perceptual phenomenology.[31]

## IV. THINKING WITH SENSATIONS

If the foregoing arguments are successful, neither indirect realism nor the dual-component theory is acceptable. A satisfactory account of the role that sensory phenomenology plays in the perception of physical objects needs to avoid the difficulties associated with each of these

[29] Romane Clark and Richard Aquila object to the dual-component theory using similar examples. See Romane Clark, "The Sensuous Content of Perception," in Hector-Neri Castañeda, ed., *Action, Knowledge, and Reality*, *op cit.*, pp. 109–27, at p. 112; and Richard Aquila, "Perceptions and Perceptual Judgments," *Philosophical Studies*, XXVIII, 1 (1975): 17–31, at pp. 20–21.

[30] Smith (*The Problem of Perception*, *op. cit*., p. 74) describes a similar example in which a headache causes him to think that his mother is present.

[31] Coates attempts to address this difficultly by appealing to "implicitly held expectations about the possible courses of phenomenal experience that would result" if you were to change your vantage point on the object, or if the object were to move or otherwise change in characteristic ways (*The Metaphysics of Perception*, *op. cit*., p. 177). However, even if you expect that your experience's sensory phenomenology will change in certain ways under certain circumstances, the representational and sensory elements of your experience will not thereby seem to you to be any less distinct.

theories. As such, we must reject the indirect realist's claim that the subject of a perceptual experience is aware of a physical object in virtue of being aware of the sensory phenomenology that her experience instantiates. But we must also reject the dual-component theorist's claim that sensory phenomenology plays a merely causal role in our perceptual awareness of physical objects. In other words, we must claim that the subject of a perceptual experience is presented with a physical object in virtue of the sensory phenomenology instantiated by that experience but not in virtue of being aware of that phenomenology. The only remaining alternative, then, is that having a perceptual experience that instantiates sensory phenomenology is a way of being aware of a physical object.

Consequently, we face a challenge: how can having a perceptual experience that instantiates sensory phenomenology be a way of being aware of a physical object, given that sensory phenomenology is not inherently representational? For instance, when you close your eyes, your resulting visual experience instantiates sensory phenomenology but that experience does not present you with physical objects.

This challenge can be met by characterizing sensory phenomenology as functioning in the way that linguistic symbols function in thought. Linguistic symbols are not inherently representational, but by thinking with words—that is, through inner speech—we can use such symbols to think about physical objects. For instance, consider the thought you have when you token the sentence 'Trump is president' in inner speech. The resulting thought is naturally regarded as a propositional attitude: this thought consists in your standing in a certain mental relation to the proposition *that Trump is president*. The words 'Trump' and 'president' are not inherently representational, but by tokening these words in inner speech, you thereby represent a proposition that concerns the objects and properties that are connected to those words in the right way (in this case, Trump and the property of being president). Tokening linguistic symbols in inner speech is thus a means of thinking about objects and properties because it is a means of representing propositions that are about objects and properties.

Moreover, when you think about a particular physical object using inner speech, tokening certain words in inner speech constitutes a means of thinking about that object that does not seem to you to be mediated by an awareness of the words themselves. In this respect, there is a contrast between thinking with words and hearing or reading words. When you hear words

spoken or read words on a page, you are aware of the meaning of the words, but your awareness of the meaning of these words seems to you to be mediated by your awareness of the words you are hearing or reading. Conversely, when you think with words, typically you are not aware of the words you are thinking with.[32]

By characterizing sensory phenomenology as functioning like linguistic symbols in inner speech, we can thus avoid the mistakes associated with indirect realism and the dual-component theory. According to a standard view, perceptual experiences, like thoughts, are propositional attitudes—to have a visual experience as of some particular square object, for instance, is to stand in the *sensorily entertaining* relation to a proposition that concerns the relevant object and the property of being square.[33] Accordingly, we can think of having an experience that instantiates sensory phenomenology as a means of representing a proposition that concerns the objects and properties connected to that phenomenology in the right way. For instance, when you see a particular square object in front of you and you token the sentence 'that is square' in inner speech, by tokening these linguistic symbols you thereby represent a proposition that concerns the relevant physical object and the property of being square. Similarly, when your visual experience instantiates a particular sensation partly composed of phenomenal squareness, that experience thereby represents a proposition that concerns a particular physical object and the property of being square. Moreover, just as the tokening of linguistic symbols in inner speech only serves to represent certain objects if they are tokened in the right context, so too the instantiation of sensory phenomenology by an experience constitutes a means by which objects are represented only so long as the relevant phenomenal properties are instantiated in the right context.[34]

[32] Some empirical evidence suggests that there are distinct varieties of "inner speech" that may differ phenomenally; for a review, see Marcela Perrone-Bertolotti et al., "What Is That Little Voice inside My Head? Inner Speech Phenomenology, Its Role in Cognitive Performance, and Its Relation to Self-Monitoring," *Behavioural Brain Research*, CCLXI (2014): 220–39, at pp. 222–27. For present purposes, the important point is that there is a kind of inner speech that is not like hearing a voice in one's head, nor like imagining hearing a voice. That there is such a kind of inner speech is supported by the introspective reports that researchers have obtained. See Robyn Langdon et al., "The Phenomenology of Inner Speech: Comparison of Schizophrenia Patients with Auditory Verbal Hallucinations and Healthy Controls," *Psychological Medicine*, XXXIX, 4 (2009): 655–63; and Russell Hurlburt et al., "Toward a Phenomenology of Inner Speaking," *Consciousness and Cognition*, XXII, 4 (2013): 1477–94. The claims in the present paragraph are restricted to *this kind* of inner speech.

[33] See, for example, Michael Thau, *Consciousness and Cognition* (Oxford: Oxford University Press, 2002), p. 74; Alex Byrne, "Experience and Content," *Philosophical Quarterly*, LIX, 236 (2009): 429–51, at pp. 437–38; and Adam Pautz, "What Are the Contents of Experiences?," *Philosophical Quarterly*, LIX, 236 (2009): 483–507, at p. 492. The expression 'sensorily entertaining' is due to Pautz (*ibid*., p. 494).

[34] This point is discussed further in section IV.2 below.

Stated in the most general terms, then, the present proposal is that in perceptual experience, sensory phenomenology is used to represent physical objects and their properties: just as inner speech is thinking with words, perceptual experience is thinking with sensations.[35] Accordingly, when you view a particular physical object, your perceptual awareness of that object is constituted by your experience instantiating sensory phenomenology—your experience instantiating sensory phenomenology makes you aware of the object in the same way that tokening a sentence in inner speech makes you aware of its content. Moreover, just as when you token words in inner speech your awareness of the objects and properties that are connected in the right way to those words is not mediated by an awareness of the words themselves, so too when your experience instantiates sensory phenomenology your awareness of the objects and properties that are connected in the right way to the relevant phenomenology is not mediated by an awareness of that phenomenology. Consequently, in contrast to indirect realism and the dual-component theory, this account allows us to claim that the subject of a perceptual experience is presented with a physical object in virtue of the sensory phenomenology instantiated by that experience, but not in virtue of being aware of that phenomenology.

The details of this proposal can be spelled out in different ways. For instance, Hall and Clark defend similar accounts of sensory phenomenology, but they restrict their accounts to the representation of physical properties.[36] Clark claims that "the occurrences of sense impressions in acts of perception are the vehicles for the ascription of qualities to what is before one as the use of predicate words in the making of assertions is our way of describing an object of reference";[37] and he subsequently insists that perceptual experiences are "ascriptive throughout."[38] That is, according to Clark, a perceptual experience does not represent which specific properties are instantiated together by the same physical objects. Rather, each individual

[35] Because 'thinking' is potentially misleading here, I should be explicit that when I say that perceiving an object is thinking about an object with a sensation, I am using 'thinking about' in a very broad sense—roughly equivalent to "being mentally directed toward" an object. There is a long-standing debate regarding whether perceptual experiences, unlike prototypical propositional attitudes, possess non-conceptual contents; I intend the view defended here to be neutral with respect to that debate. My thanks to an anonymous referee for raising this issue.
[36] Everett Hall, *Our Knowledge of Fact and Value* (Chapel Hill: University of North Carolina Press, 1961); Romane Clark, "Sensuous Judgments," *Noûs*, VII, 1 (1973): 45–56; and Clark, "The Sensuous Content of Perception," *op. cit*. For further discussion, see Aquila, "Perceptions and Perceptual Judgments," *op. cit*.; and Smith, *The Problem of Perception*, *op. cit*., pp. 91–93.
[37] Clark, "The Sensuous Content of Perception," *op. cit*., p. 117.
[38] *Ibid*., p. 123.

sensory quality is a distinct attribution of a physical property to an object—whatever physical object happens to have caused the experience to instantiate that sensory quality.[39,40]

But Clark's claim that perceptual experiences are "ascriptive throughout" is clearly implausible (for instance, Clark's view entails that it is not possible to suffer a visual illusion concerning which visible properties belong to which objects). So, for present purposes, the most important details of the theory that need to be filled in concern the representation of particular physical objects. That is, a defender of the present theory needs to provide a specific account of how a perceptual experience's sensory phenomenology makes the subject aware of a particular physical object.

*IV.1. Sensations as Tags*. Using the terminology introduced above (section I), Hall and Clark fail to recognize that sensory phenomenology does not consist entirely of sensory qualities, but also includes phenomenologically unified bundles of sensory qualities—sensory impressions or sensations. However, once this distinction is in place, given that the present theory characterizes sensory phenomenology as analogous to linguistic symbols, it is natural to characterize sensations as analogous to singular terms. In particular, we can characterize a sensation as a label or a tag for the particular object to which it is appropriately causally related. We then have a straightforward account of the role that sensory phenomenology plays in the perceptual awareness of physical objects: by having a perceptual experience that instantiates a sensation, the subject is thereby aware of whatever particular object the relevant sensation picks out.

In a bit more detail, the present proposal is that when the light reflected by a particular object, *O*, impacts your retinas, your visual system responds to that pattern of stimulation by generating a sensation, *S*, that represents *O*. *S* is a representation of *O* rather than any other object due to the fact that the appropriate kind of causal relation obtains between *S* and *O*. An important feature of this kind of causal relationship is that a visual sensation represents the object that is presently stimulating the subject's retinas. As a result, sensations are *temporary* labels for particular objects; unlike, for example, names, which can be used on an indefinite number of different occasions to refer to a particular object, a visual sensation is only used to refer to an object when light reflected by that object is currently impacting the subject's retinas.

[39] See Clark's "Sensuous Judgments," *op. cit.*, pp. 54–55, and his "The Sensuous Content of Perception," *op. cit.*, pp. 123–24.
[40] Hall expresses this point by describing perceptual experiences as "batteries of predications" (*Our Knowledge of Fact and Value*, *op. cit.*, p. 42).

One might worry that a sensation cannot simply represent whatever object it is causally connected to in the appropriate way since a sensation is composed of sensory qualities. After all, by instantiating sensory qualities, a perceptual experience attributes specific properties to the perceived object—so there is a certain sense in which a sensation, unlike a linguistic tag, is composed of descriptions of an object.[41] However, it is clear that what particular object a sensation represents is not determined by whether that object instantiates the properties attributed by the relevant sensory qualities. For instance, if you were to view a white circle under a red spotlight through a distorting lens of the right sort, the sensation instantiated by your visual experience might be partly composed of phenomenal redness and phenomenal ellipticalness; nonetheless, because the appropriate kind of causal relation obtains between the white circle and your visual sensation, your perceptual experience is a misrepresentation of that white circle (and even if the white circle happens to be occluding a red ellipse, your visual experience is not an accurate representation of that red ellipse).

In fact, a sensation represents whatever it is appropriately causally connected to even in cases where you misperceive how many objects you are presented with. For instance, consider a case in which you view a three-dimensional version of the image in Figure 1, consisting of a single face, *F*, partly occluded by a candlestick. Imagine that while viewing *F*, your visual system generates two distinct sensations, and that you thereby misrepresent that there are two faces in front of you. Even so, in this case, each sensation is a representation of *F*. Each sensation attributes to *F* the property of being numerically distinct from objects picked out by any distinct concurrent sensations. (Just as, for example, phenomenal redness is naturally regarded as attributing physical redness to a perceived object, so too the phenomenological unity of a sensation is naturally regarded as attributing the property of being distinct from other visible objects to a perceived object.) And *F* does not possess this property, since *F* has been tagged by two distinct sensations. But your visual experience is illusory rather than hallucinatory: the sensations at issue do not fail to represent existing objects; both sensations misrepresent *F*.

A similar point can be made by considering a converse case in which you view two distinct faces, $F_1$ and $F_2$, and your visual system generates a single sensation. Again, in such a case, because you are misperceiving $F_1$ and $F_2$ rather than suffering a hallucination, we must say

[41] If in order to count as a tag or label a representation cannot have representations as components, then we can characterize sensations as temporary mental files instead. For a brief discussion of the distinction between tags and files, see John Hawthorne and David Manley, *The Reference Book* (Oxford: Oxford University Press, 2012), pp. 16–17.

that the relevant sensation represents whatever it is appropriately causally connected to (even if what it is appropriately causally connected to happens to be multiple objects rather than a single object). By way of analogy, imagine that you are attempting to keep track of the items on your desk by assigning each a number. If you accidentally assign the number three to two distinct items, the number three thereby refers to both of these items rather than neither. In the present case, the visual sensation instantiated by your experience is assigned to both $F_1$ and $F_2$, so it represents both of them rather than neither. Because the sensation attributes the property of being a single object to whatever it is appropriately causally connected to, this visual experience is illusory; but $F_1$ and $F_2$ do not need to instantiate this property in order to be picked out by the relevant sensation.

According to the present account, then, perceptual awareness of a particular physical object is constituted by the instantiation of a sensation that represents that object. When a particular object causes a perceptual experience to instantiate a sensation, instantiating that sensation is a means of thinking of the object, just as tokening a proper name in inner speech is a means of thinking of the object that is appropriately causally connected to that name.[42] To return to an earlier example, when you token the sentence 'Trump is president' in inner speech, the resulting thought is about Trump, because by tokening this sentence in inner speech you thereby represent a proposition that concerns the individual causally connected in the appropriate way to this token of the name 'Trump'. Similarly, when you have an experience that instantiates a particular sensation, your experience is about a particular object, because by instantiating this sensation your experience thereby represents a proposition that concerns the particular object standing in the appropriate causal relation to that sensation.[43]

Consequently, the present account denies that the subject of an experience is aware of a physical object in virtue of being aware of a sensation. When you think about a particular object by tokening its name in inner speech, your thought about that object does not seem to you to be mediated by your awareness of the name (as it would be if you were to read the name or hear it

[42] In cases where there is no physical object appropriately causally connected to a given sensation—that is, when you hallucinate—in virtue of having a perceptual experience that instantiates a sensation, it will seem to you that you are aware of an object, even though you are not aware of an object. Such cases are analogous to tokening an empty name in inner speech.

[43] This proposal is consistent with a variety of views regarding the nature of the propositions that constitute the contents of perceptual experiences. In particular, one might claim that the relevant propositions are partly composed of the relevant particular objects, or one might claim that these propositions are instead partly composed of modes of presentation of such objects, or one might claim that these propositions are partly composed of both particular objects and modes of presentation of those objects.

spoken). Similarly, it is the instantiation of a sensation by your perceptual experience—not your awareness of the sensation—that makes you aware of the physical object that the sensation represents.

*IV.2. Smith's Challenge*. Smith claims that theories of the present sort face a significant challenge. Not all experiences that instantiate sensory phenomenology are perceptual presentations of ordinary physical objects. Experiences of brute sensation or visual imagery both instantiate sensations, but when you undergo such experiences you do not thereby represent that ordinary physical objects are nearby. So, Smith asks, what explains the fact that the instantiation of sensory phenomenology sometimes constitutes a "world-directed judgement" and sometimes does not?[44]

In order to answer this question, we should again look to the analogy between sensations and singular terms. Usually, when you token a name in inner speech, you are thereby thinking of the name's referent. But tokening a name in inner speech can serve other purposes: you can use a name while imagining a scenario in which someone thinks of a particular object, you can focus on the purely aesthetic properties of a name, you can invent a name that does not refer to anything, and so on. Consequently, whether the tokening of a name in inner speech constitutes a thought about a particular object depends on how the name is generated and how it is used.

Similarly, whether the instantiation of a sensation constitutes a world-directed judgment depends on how the sensation is generated and how it is used. In perception, sensations are generated automatically by the visual system in response to current retinal stimulation and via a process over which the subject has no voluntary control. When (and only when) visual sensations are generated in this manner, they are being used as temporary labels for physical objects that are currently stimulating the subject's retinas. And consequently, it is only when visual sensations are used in this way that the instantiation of a visual sensation constitutes perceptual awareness of a particular object. Conversely, when you undergo a brute sensation or when you visualize seeing a particular object, the resulting sensations are not generated to serve as temporary labels for physical objects that are presently stimulating your retinas. Accordingly, the instantiation of a

[44] Smith, *The Problem of Perception*, *op. cit*., p. 92. He points out that Hall and Clark make no attempt to address this question and suggests that the reason they fail to do so may be that they "mistakenly believe that sensations are necessarily judgments" (*ibid*., p. 92). In fact, Clark claims explicitly that all "consciousness consists in representings" (Romane Clark, "Objects of Consciousness: The Non-Relational Theory of Sensing," *Philosophical Perspectives*, I (1987): 481–500, at p. 495); but this claim seems to be at odds with his view that sensory phenomenology is analogous to linguistic symbols.

sensation in these contexts does not constitute a representation of the physical objects with which you are presently in perceptual contact.[45]

## V. CONCLUSION

By characterizing sensations as tags for particular objects, we can provide an account of the perceptual awareness of physical objects that succeeds precisely where indirect realism and the dual-component theory fail. Indirect realism is unacceptable because the theory maintains that our awareness of ordinary objects is mediated by our awareness of our experiences' sensory phenomenology. The dual-component theory acknowledges that perceivers are not aware of ordinary objects in virtue of being aware of their experiences' sensory phenomenology; but in order to avoid invoking the awareness of sensory phenomenology, this theory characterizes the role that sensory phenomenology plays in purely causal terms. The theory is unacceptable, then, because sensations do not simply cause us to have thoughts about physical objects, but rather present objects to us.

By recognizing that the instantiation of a sensation by a perceptual experience is analogous to the tokening of a singular term in inner speech, we avoid the mistakes of each of these theories. According to this account, sensations do not simply cause us to have thoughts about physical objects; rather, we think about physical objects with sensations. And neither is our awareness of physical objects mediated by an awareness of sensations: just as when you token a singular term in inner speech you are typically only aware of the referent of that term, so too when your perceptual experience instantiates a sensation you are typically only aware of the object that that sensation represents. Ultimately, then, we should prefer the present proposal to both indirect realism and the dual-component theory because the latter theories are inconsistent with the nature of perceptual phenomenology while the former is not. That is, we should conclude that when you view a particular physical object, your perceptual awareness of that object is constituted by your experience instantiating a sensation—to be perceptually aware of a particular object is to think about that object with a sensation.

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[45] Smith also objects that views of the present sort characterize perceptual representation as requiring that the subject exercise concepts (*The Problem of Perception*, *op. cit.*, pp. 92–93). However, while Clark maintains that perceptual representation is conceptual in this sense ("The Sensuous Content of Perception," *op. cit.*, p. 117), a defender of the present proposal need not endorse any such thesis.