SEEING AND SAYING

The Language of Perception and the Representational View of Experience

BERIT BROGAARD

SEEING AND SAYING

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INTRODUCTION

WHEN I LOOK at the coffee table in front of me, I see a blue coffee mug. Blue on the outside. White on the inside. It's large for a mug. And it's nearly full of freshly made coffee. It's a fact that I see all those aspects of the scene in front of me, but it remains a question of ferocious debate whether the visual experience that makes up my seeing is a perceptual relation between me and the coffee mug and its attributes, or a mental state that has a content that represents the mug and its features. If visual experience involves a "perceptual" relation to an external, mind-independent object, it is unlike familiar mental states such as belief and desire states, which are widely considered to be relations to contents, or propositions. Visual experience, on this view, involves a relation that is not unlike the distance relation that obtains between my couch and my television. Like the relation between my couch and my television, the perceptual relation is unmediated by sense-data or contents, and extends some distance through space. If visual experience is representational, by contrast, it is more similar in its ontological structure to belief states than to the complex of my couch, my television, and the distance relation obtaining between them.

This book is an extended defense of the view that visual experience in creatures like us is fundamentally representational (for other advocates of this view, see, e.g., Lycan, 1987, 1996; Tye, 1995, 2000; Dretske, 1995; Crane, 2001; Chalmers, 2004a; Byrne, 2009; Siegel, 2010; Bourget, 2010b; Schellenberg, 2014). When

I say 'fundamentally' I mean that the representational feature of visual experience is required to explain its phenomenal, functional, or epistemic properties. In non-deviant cases—that is, cases of accurate perception—visual experience represents things and features in the perceiver's environment. In deviant cases—that is, cases of misperception—visual experience represents things that would have been present in the perceiver's environment and features that would have been instantiated if the perceiver and the environment had both been normal.

In the recent literature on the philosophy of perception there has been a lot of focus on whether visual experience has content (see, e.g., Siegel, 2010; Brogaard, 2014). This seems to be a fairly new trend. Not so long ago the question would not even have been considered. Perhaps it would not have seemed intelligible. But things have changed, and there are now a considerable number of articles, theses, and books aimed at answering it, positively or negatively. What are the factors responsible for this topic's becoming a "live" one? Why is it only now receiving so much attention?[1]

I believe the answer to this question is largely historical. On the face of it, traditional debates about perception were typically concerned with a different question— viz. that of whether we perceive the external world directly or indirectly. In *Perception: A Representative Theory* (1977), for example, Frank Jackson argues that when we see things in the environment, we see them in virtue of perceiving something else. The things that we perceive without having to perceive something else are sense-data, which, to a first approximation, are replicas of an external object. Jackson thought that sense-data are something we literally perceive and the only things we are directly perceptually aware of.

Though the debate about whether we perceive the external world directly or by virtue of perceiving something else is orthogonal to the debate about whether perceptual experience has content, it may be argued that the two debates concern some of the same issues. As we will see below, particular ways of understanding perceptual content may, at least at first glance, appear to imply that if perception has content, then the content is an intermediary between the perceiver and the external world, and the perceiver experiences the world by being acquainted with the content. Things are not quite as simple as this, of course. But it does raise the following question: If the debates about the directness of perception and perceptual content are intermingled, what has caused the relatively sudden interest in whether perceptual experience has content?

The notion of perceptual content is not new, of course. In *Perception: A Representative Theory*, for example, Jackson (1977: 40) casually refers to perceptual

[1] Thanks to the anonymous reader for Oxford University Press reviewing my volume *Does Perception Have Content?* for encouraging me to consider these issues and questions.

content, but his endeavors are not aimed at answering the question of whether perception has content. I believe the recent considerable interest in the question may have been a result of the rise of cognitive science and its focus on the idea of a representational state of the mind. It seems that the debates in cognitive science have sparked analogous debates in the philosophy of perception about what it means to say that perceptual experience has content and whether perceptual experience has content in the first place.

The interest in the question, of course, also has to do with the different phenomenal, functional, and epistemic roles that experience is thought to play depending on whether or not it has content. Many philosophers have argued against the view that experience has content, on the grounds that such a view cannot adequately address the skeptical challenge (McDowell, 1982; Millar, 2008) or explain the transparency of visual experience (Moore, 1903; Jackson, 1977: ch. 1; Shoemaker, 1994; Sturgeon, 2000: 9; Harman, 1990; Tye, 1995, 2000, 2002; Kind, 2003).[2]

Despite the considerable interest in whether experience has content, the important debate, however, turns out not to be specifically about content. The reason for this is that many thinkers agree there is a minimal sense in which experience has content, regardless of what one's other commitments are. For example, if the accuracy conditions of visual experience are treated as the content of the experience in a minimal sense, then some of the most hardcore opponents of representational views of perception, such as naïve realists who treat illusions as inaccurate experiences, can nonetheless still agree that perception has content.

The naïve realist holds that visual experience obtains in virtue of the perceiver standing in a perceptual relation to an object (Hinton, 1973; Snowdon, 1980–81; McDowell, 1982,; Putnam, 1999, Martin, 2002; Campbell, 2002; Travis, 2004; Langsam, 1997; Johnston, 2004; Neta, 2008; Fish, 2009a, b). When the perceiver does not stand in this sort of relation, because she is hallucinating, the inaccurate appearance the perceiver is subject to is not a perceptual experience. Some naïve realists treat illusions as perceptual experiences, albeit experiences that are inaccurate

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[2] Transparency captures the idea that when we try to introspect, it seems that we look right through the experience only to find external objects and their properties (Moore, 1903; Jackson, 1977: ch. 1; Shoemaker, 1994; Sturgeon, 2000: 9; Harman, 1990; Tye, 1995, 2000, 2002; Kind, 2003). Moore put it succinctly as follows:

> The moment we try to fix our attention upon consciousness and to see what, distinctly, it is, it seems to vanish: it seems as if we had before us a mere emptiness. When we try to introspect the sensation of blue, all we can see is the blue: the other element is as if it were diaphanous. (1903: 41, in 1993 reprint).

Moore's point is that in visual experience it is as if the external scene is simply presented to us. If we try to access features that are internal to experience, it seems as though we access the external object and its attributes. Arguments from transparency, if successful, primarily go against views that treat experience as having phenomenal features that cannot be reduced to features in the perceiver's external environment.

(e.g., Langsam, 1997; Snowdon, 1980–81; Johnston, 2004; Brewer, 2011), whereas others treat them as a different kind of mental state (e.g., Martin, 2002).[3] Naïve realists in the second category deny that experience can be meaningfully said to be accurate or inaccurate. Experience simply does not have accuracy conditions. If the perceiver does not stand in a perceptual relation to entities in the perceiver's environment, or the relation does not track what is out there, then the perceiver does not truly experience anything but, rather, is in some other mental state. For example, she might be imagining or believing that her environment is a way that it is not. Naïve realists in the first category tend to agree with thinkers in the second category about the perceptual relation:[4] if the perceiver does not stand in a perceptual relation to a mind-independent object, then the perceiver is not undergoing a perceptual experience. However, the folks in the first category treat cases of illusions as genuine perceptual experiences, albeit experiences that have gone wrong. These thinkers thus take experiences to have accuracy conditions.

A popular account of illusions provided by naïve realists in the first category states that while the perceiver stands in a perceptual relation to a mind-independent object in the case of illusions, the object is not as it seems to be. It seems to have a property it doesn't have (Brewer, 2011:108). On this view, experiences are accurate (or veridical) just when the perceiver stands in a perceptual relation to an object *o*, and it is *not* the case that *o* seems to have a property that it does *not* have.

This version of naïve realism can shed some light on why the question of whether visual experience has content isn't the question at the center of debate. If, for example, we take contents to simply be accuracy conditions, then the naïve realist who treats illusions as inaccurate perceptual experiences could attribute the following content

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[3] Disjunctivism is typically construed as the view that good (veridical perception) and bad cases of perception (hallucinations and sometimes also illusions) have different kinds of entities among their essential constituents. On Hinton's way of defining disjunctivism, good and bad cases of perception have no common factor (1967, 1973). This claim, that good and bad cases of perception have no common factor, should not be taken to mean that good and bad cases can always be distinguished subjectively. Rather, it is probably best treated as a claim to the effect that good and bad cases are fundamentally different kinds of mental states. For example, one could hold that in cases of veridical perception, perception is a relation between a subject and a mind-independent object, whereas hallucinations are sensory experiences with representational content. Or, one could hold that veridical perception cases are cases of direct acquaintance with a mind-independent object, whereas hallucination cases are belief-like states. Martin (2002: 404; 2004: 43, 54, 60) defines disjunctivism in terms of the notion of a fundamental kind. Veridical perception cases and hallucination cases are of different fundamental kinds. McDowell (1982), Snowdon (1980–1981), and Martin (2006) hold that good and bad cases of experience are both cases in which it looks to one as if things are a certain way (or something cognate). Irrespective of the differences, perhaps fundamental, between good and bad cases of experience, they are the same in this respect.

[4] Johnston (2004) rejects disjunctivism and offers a different account of hallucinations. Smith (2002) defends a naïve realist position that allows for direct acquaintance with an object in both good and bad cases of

to a perceiver *S*'s perceptual experience of *o: it is not the case that* o *seems to have a property it does not have*. Whether the experience is accurate or not, the perceiver stands in a perceptual relation to a mind-independent object. If, however, this content is true, the experience is accurate. If it is false, then the external object has a property it does not have, and the experience is inaccurate. But this kind of content clearly is rather insignificant. It does not entail that experience is representational, let alone fundamentally representational (Brewer, 2011). This, of course, is as it should be, as the naïve realist holds that perceptual experience consists in being perceptually related to a mind-independent object, not in being perceptually related to a content.

There are other ways in which experiences can be said to have content in a minimal and uninteresting sense. As Susanna Schellenberg (2014) argues, a naïve realist could treat perceptual experience as a perceptual relation to a mind-independent object and yet allow us to speak of a 'content of experience' that is merely associated with the experience, perhaps by being the content of a belief based on the experience or by being the content of a sentence that is used to describe how things seem to the subject. As she puts it:

> Every experience can be associated with (propositional) content in the sense that sentences can be articulated that describe how the environment seems to the subject, without the content expressed being a proper part of the experience. (201)

As Schellenberg argues, any account of experience should be willing to accept that we can at least partially describe how the environment seems to the perceiver. So, the question of whether experience has minimal content in this sense does not settle the dispute between advocates and opponents of representational views of experience.

Minimal or weak content, therefore, is not a characteristic that can help us distinguish between naïve realism and representational views of perception. Nor is the question of whether visual experience has weak content one that should be of particular interest to philosophers or scientists. No interesting scientific issues turn on whether visual experience has content in the weak sense.

Being fundamentally representational, by contrast, is a mark of representational views but not of non-representational views, such as naïve realism. Moreover, the question of whether visual experience is representational is an issue that matters to whether we can provide an adequate solution to the skeptical challenge to the common belief that we can have knowledge through perception (see, e.g., Brogaard, 2016a) and whether we can account for the role of perception in action and the transparency of visual experience.

As just noted, the question of whether visual experience is representational is also a question of interest to people in the cognitive sciences. The question plays an important role in the debate between traditional cognitive science, on the one hand, and enactivism and embodied cognitive science, on the other. Traditional cognitive scientists regard representational mental states as central to the computational theory of mind. A core question is that of which states are made up by the computation and storage of mental representations—the information-bearing structures of the mind or brain (Fodor, 1975, 1987; Newell & Simon, 1976; Kosslyn, 1980; Marr, 1982; Johnson-Laird, 1983; Dretske, 1995). Enactivism and other forms of embodied cognitive theories deny that perceptual and cognitive states are representational, or at the very least that their representational feature is essential to them (Noë, 2004; Shapiro, 2011). For example, in *Action in Perception*, Alva Noë argues that perception is not a process in the brain, but a kind of skillful activity of the body as a whole, an exercise of sensorimotor know-how. As he puts it, 'the basis of perception, on our enactive, sensorimotor approach, is implicit practical knowledge of the ways movement gives rise to changes in stimulation' (2004, 8). According to Noë, the skillful activity involved in the exercise of sensorimotor know-how is not representational. The representational theory of experience I am defending in this book is thus more in line with traditional cognitive science than with the newer enactivist theories. My envisaged opponent here is not the enactivist but, rather, the naïve realist, who holds that visual experience is a perceptual relation between a perceiver and a mind-independent physical object. However, as enactivists deny that perceptual states are representational states, the conclusions argued for in this book imply a refutation of enactivism.

The majority of my arguments ultimately rest on the semantics of 'seem', 'look', and 'see', as well as the nature of the mental states expressed by perceptual reports that make use of these verbs. Here are some examples of sentences used to report on seemings:

(1)
(a) Premise (1) seems right.
(b) Her skin seemed very pale.
(c) She seemed more amused than shocked.
(d) It seems that Hurricane Sandy is not the scariest of them all.
(e) This election seems a lot like the election in 2000.
(f) The Dewey school seems to have the best educational philosophy.
(h) I always thought she seemed like a lazy pillow princess.

'Seem' serves many different roles in ordinary language. 1(a) is most naturally used to express a belief or partial belief, whereas 1(b) is most naturally used to express a visual

seeming or experience. Unlike 1(b), 1(e) has a comparative structure. It compares two elections in terms of how they seem. Identifying which reports are reports of features of visual experience is one of the aims of this book.

Considerations of how we talk and think about our experiences, I argue, can help us establish that our experiences are representational, not simply by having weak content but also by having a representational phenomenology. Establishing this does not show that experience is fundamentally representational, but it does nonetheless undermine most relational views of experience.

A common complaint against this sort of approach is that language cannot in general be thought to provide insight into the nature of the world. Language is not a guide to metaphysics. I think this sort of complaint is widely exaggerated. As Brendan Balcerak Jackson has argued, there are several reasons one might suspect a strong link between language and metaphysics (Balcerak Jackson, 2016). Take the concept of ground, which has received a lot of attention in recent years (Schaffer, 2009; Fine, 2012a, b). First, a theory of ground captures relations of metaphysical determination among facts in a given domain. That is, it captures what holds in virtue of what. For example, consciousness may obtain in virtue of certain brain states obtaining. According to Balcerak Jackson, theories of ground should respect patterns of structural entailment. For example, if *Kermit boiled the water* partially constitutes the ground of a particular truth, then *the water boiled* also partially constitutes the ground of that truth. The inference from *Kermit boiled the water* to *the water boiled* is valid in terms of the compositional structures of the sentences involved, according to our best compositional semantics. So, features of what can constitute a ground depend on compositional semantics.

Second, theories of ground should respect the theories of natural semantics. So, setting aside context-sensitive expressions, we should expect what is known as 'the disquotational principle' to hold. The disquotational principle says, for instance, that 'Brutus stabbed Caesar' is true iff Brutus stabbed Caesar. Initial appearances to the contrary, this principle has implications for the link between language and metaphysics. Consider the claim that a linguistic theory of 'know-how' does not shed light on the nature of knowledge-how. This claim can be refuted using a simple argument. Let us suppose that our best linguistic theory of 'know-how' states that '*S* knows how to *A*' is true iff for some way *w*, '*S* knows that *w* is a way to *A*' (Stanley & Williamson, 2001; Brogaard, 2008a, 2008b, 2009; Bengson & Moffett, 2007). We can then offer the following argument in favor of semantic involvement in metaphysics:

1. '*S* knows how to *A*' is true iff there is a way *w* such that *S* knows that *w* is a way to *A*.
2. '*S* knows how to *A*' is true iff *S* knows how to *A*.

Conclusion: S knows how to *A* iff there is a way *w* such that *S* knows that *w* is a way to *A*.

This sort of argument illustrates that our theories of the nature of reality do indeed depend on semantic theories of language (Balcerak Jackson, 2016).

A similar argument can be provided to demonstrate that our best theories of 'looks' have implications for the nature of the underlying mental states. As I will argue, 'look' functions semantically as a subject-raising verb. This means that '*o* looks *F*' is true iff it looks as if *o* is *F*. Now, consider the following argument:

1. '*o* looks *F*' is true iff it looks as if *o* is *F*.
2. 'o looks *F*' is true iff *o* looks *F*.
Conclusion: *o* looks F iff it looks as if *o* is *F*.

The semantics of 'look' thus has direct implications for the nature of looks. As we will see, if 'look' is a subject-raising verb, then looks are not observational features of objects, as Martin (2010) argues, but mental states. There are thus strong reasons to think that the semantics of 'looks' provides insight into the nature of looks.

Even if (against all odds) there is no good reason to think that language can provide insight into the nature of the world in general, the language we use to speak of seemings, looks, and seeings, I argue, can be a reliable guide to the nature of those mental states.

As just noted, the arguments that rest on the semantics of 'seem', 'look', and 'appear', as well as the mental states underlying our talk of seemings, looks, and appearances, only establish that experience is representational. Although this conclusion is stronger than the very weak claim that experience has content, it does not establish that experience is fundamentally representational. My main argument for the view that our visual experiences are fundamentally representational proceeds by showing that a satisfactory explanation of the phenomenology of visual experience requires that the phenomenology be representational. A perceptual relation sometimes obtains between the subject and a mind-independent physical object in cases of visual perception, but this relation does not suffice to explain the differences in the phenomenology of experience in individuals with different developmental or evolutionary histories. Consider two individuals with visual systems operating according to different perceptual principles, perhaps because of radically different developmental paths in early childhood. The two perceivers might make different adjustments for variations in illumination. That would potentially lead to different phenomenal seemings associated with the same object instantiating the same visually perceptible property instances. We need not suppose that either of the two experiences is illusory, as adjustments for differences in illumination are made by us

all the time, and it is not always clear which adjustments can be properly said to be the correct ones. In a case like this, we cannot appeal to the perceptual relation between the perceiver and a mind-independent physical object of perception to explain the difference in the phenomenology of the two individuals' experiences. Both perceivers stand in a non-deviant causal relation to the external object of perception. As I will argue, cases like this show that the phenomenology of experience is not exhausted by the external object and its perceptible properties instances. This counts against naïve realism when understood as the view that visual experience is constituted by a perceptual relation between a subject and a mind-independent physical object.

Faced with these difficulties, the naïve realist might attempt to construe the perceptual relation as a relation between a phenomenal seeming and a mind-independent physical object. But, as I will argue on the basis of the language of perception, it is beyond doubt that phenomenal seemings are representational. So, if the naïve realist takes phenomenal seemings to be constitutive of experience, then experience turns out to be fundamentally representational. There are indeed thinkers who hold that visual experience is fundamentally a matter of (i) representing the environment in a certain way *and* (ii) being perceptually related to objects in the environment (see, e.g., Schellenberg, 2014; Logue, 2014), but it is not the view normally endorsed by naïve realists (see, e.g., Brewer, 2011), and it entails that a form of the representational view is correct.

The structure of this book is as follows. The first three chapters consist of a defense of the premises of my main arguments. My main arguments run as follows:

Phenomenal Seemings Are Representational

1. 'Look' is a hyperintensional mental-state operator.
2. Hyperintensional mental-state operators operate on representational content.
3. So, 'look' operates on representational content.
4. If 'look' operates on representational content, then looks are representational states.

Conclusion: Looks are representational states.

Reflection Argument

1. True phenomenal 'look'-reports reflect *representational* phenomenal properties of experience.
2. If (1), then visual experience is representational.

Conclusion: Visual experience is representational.

Visual Experiences Are Fundamentally Representational

1. Phenomenal looks are needed to explain the phenomenology of visual experience.

2. If phenomenal looks are needed to explain the phenomenology of visual experience, then experiences are *fundamentally* representational.

Conclusion: Visual experiences are *fundamentally* representational.

The first argument establishes that phenomenal looks, seemings, and appearances are representational states. This runs counter to what has been argued by some opponents of representational theories (e.g., Martin, 2010). If it could be established that phenomenal visual seemings just are visual experiences (Ghijsen, 2015; Chudnoff & Didomenico, 2015), then this would suffice for establishing that visual experiences are representational. However, I argue, there are reasons to doubt that we can simply equate visual seemings and visual experiences.[5] This leads me to the second argument, which establishes that visual experiences are representational. It is generally agreed by opposing sides in the perception literature that this conclusion does not suffice for a representational theory of perception. For the representational theory to be true, it must further be shown that perception is fundamentally representational. My third argument aims at showing this.

In chapter 1, I establish that 'seem' is a mental-state operator by looking at the semantics for 'seem' and 'look'. This will form an important part in my argument for the view that 'seem' and 'look' are hyperintensional operators. In chapter 2, I defend the other premises in my first argument. In chapter 3, I defend the premises of my second and third arguments. In chapter 4, I consider arguments presented by Bill Brewer, Susanna Siegel, Mark Johnston, and Charles Travis against the representational view or aspects of the representational view, and I defend particular ways of blocking the arguments. In chapter 5, I consider alternative arguments based on the semantics of 'look' or the nature of looks that have been presented in favor of the representational view. In chapter 6, l provide a semantics of 'seeing'. I argue against the current belief that 'see' has a purely perceptual use, and that it functions as an intensional transitive when so used. I then argue on the basis of the intensional properties of seeings that a purely relational account of seeing lacks credibility. In the last chapter, I look at whether the semantics for the visual verbs carry over to non-visual perceptual verbs, such as 'sound', 'taste', 'smell', and 'feel'. Although the focus of the book is not on non-visual experiences, these preliminary considerations suggest that arguments similar to the ones I have presented for the representational view of visual experience can also be made for representational views of other forms of experience.

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perception. In hallucinations, the perceiver is directly acquainted with a nonexistent object that supervenes on the experience's subjective properties.

[5] See also Tucker (2010), Lyons (2015), Conee (2013), Brogaard (2013), Bergman (2013), and Reiland (2015).

1

THE SEMANTICS OF 'APPEAR' WORDS

AS I WILL use the expression, perceptual reports are particular speech acts made by utterances of sentences that contain a perceptual verb.[1] More specifically, they are assertions made by utterances of these types of sentences. Perceptual verbs include, among others, 'look', 'sound', 'feel', 'taste', 'smell', 'see', 'hear', and 'perceive'. As examples of perceptual reports, consider:

(1)

(a) My chair looks red but it's actually white.

(b) His voice sounded deep and earnest.

[1] Utterances are used to perform speech acts (or illocutions, cf. Austin, 1962), such as assertions, promises, warnings, threats, demands, resignations, and apologies. For example, an utterance of the sentence 'there is a bull behind the fence' can be used to warn the listener not to enter the fenced area. Direct speech acts are performed by explicitly saying what one is doing. For example, if you explicitly say 'I am warning you not to enter', you explicitly express your intention to issue a warning. Indirect speech acts are performed without explicitly saying what one is doing, for example, you can use 'there is a bull behind the fence' not just to assert something but also to issue a warning, and you can use 'I am telling you that there was a bull behind the fence' to issue a warning by way of informing. The same distinction can be drawn with respect to perceptual reports. Likewise, we can make a perceptual report indirectly by way of explicitly performing a different speech act. For example, you can use 'I fear that I look like my mom' to make a perceptual report by way of explicitly expressing an emotion, and you can use 'I promise that it doesn't look the way our old bed looked to make a perceptual report by way of making a promise'. Indirect speech acts can be conventionally implied by utterances. For instance, an utterance of 'It doesn't matter to me' in response to the question 'Where do you want to eat?' conventionally implies that you are giving the questioner permission to decide where you eat.

(c) Vegemite tastes like spreadable beer.
(d) Last night my house smelled like a Mexican restaurant.
(e) The entrance is so white that it feels as if you're walking into a huge iPod.
(f) This fabric feels like velvet.
(g) John saw Mary cry.
(h) The witness heard a noise and found the victim on the ground.

Perceptual reports such as these purport to assert how objects in the world and their perceptible property instances are perceived by subjects. A subset of these reports purport to assert how objects in the world and their *visually* perceptible property instances are visually perceived by subjects. Those are the ones that will be the primary focus of this book.

It is natural to suppose that in many cases, these reports reflect aspects of the phenomenal character of a subject's visual experience. Whether visual reports actually reflect such aspects is a substantial question, and one I deal with in subsequent chapters. In this chapter, I am primarily concerned with the semantics of 'seem' and 'look'. I argue that 'seem' and 'look' are subject-raising verbs. Verbs in this word class are so-called because the true subject of the sentence can move to the front of the sentence without any change in meaning. For example, 'the chair' in 'it seems that the chair is red' can move to the front, yielding the semantically equivalent sentence 'the chair seems red'. Subject-raising verbs function as intensional operators at the level of logical form, as with 'it is possible', 'it was the case', and 'it might be the case'. My main argument for the representational view, as we will see, rests on this fact about 'seem' and 'look'.

EPISTEMIC VERSUS PHENOMENAL USES OF 'SEEM'

'Seem'-reports are utterances of sentences that contain the perceptual verb 'to seem'. The following are some core examples:

(2)
(a) You seem to have lost weight.
(b) Her skin seemed very pale.
(c) She seemed more amused than shocked.
(d) It seems that Hurricane Sandy is not the scariest of them all.
(e) This hurricane seems worse than Hurricane Katrina.
(f) The Dewey school seems to have the best educational philosophy.
(g) She seemed like a fairy that, after playing its tricks for a while on the cottage floor, would flit away with a mocking smile.

(h) I always thought she seemed like a lazy pillow princess.
(i) This election seems a lot like the election in 2000.

One way of dividing up 'seem'-reports is in terms of the mental state they purport to describe in the conversational context. 'Seem'-reports can be used to describe perceptual seemings, memory-based seemings, and intellectual seemings. The following are some illustrative examples:

Perceptual

(3)
(a) My chair seems to be on fire.
(b) John seems to be in a bad mood.
(c) Lisa seemed to really enjoy the party.

Memory-Based

(4)
(a) It seems to me that you wore a red shirt last Monday.
(b) It seems that Trump won the last election.
(c) It seems that 'ranarian' means frog-like.

Intellectual

(5)
(a) The theory of superstrings seems right.
(b) It would seem that the shortest distance between two points in a Euclidean plane is a straight line.
(c) It doesn't seem to me that all unmarried men are bachelors.

These three types of seemings need not be mutually exclusive. For example, it may turn out that intellectual seemings are always partially based on memory (episodic or semantic memory) and hence are ultimately derived from experience. Whether all memory-derived seemings are intellectual is a substantial question and not one I will be concerned with here.

Roderick Chisholm (1957: ch. 4) familiarly drew a distinction among three uses of 'appear' words—perceptual verbs such as 'seem', 'appear', and 'look'—that cuts across the aforementioned uses of 'seem'. He distinguished among epistemic, comparative, and non-comparative uses of 'appear' words. Strictly speaking, his "three" uses amount to four: non-comparative non-epistemic, non-comparative epistemic, comparative non-epistemic, and comparative epistemic uses.

The Epistemic Use

'Look' is used epistemically to comment on aspects of things or events that we are not directly aware of in experience. Later I consider more precise ways of drawing the distinction between the epistemic and the non-epistemic use of 'look'. But the lack of a direct connection to what we are directly aware of in experience provides a good starting point. Here is an example of an epistemic use: If you see a person park a 1963 Ferrari 250 GTO racer in a driveway, the sentence 'he looks filthy rich' may be true in the context. As this use of 'look' does not reveal anything about what you are directly aware of in perception, the use is epistemic.

The epistemic use of an 'appear' word does not have a unique grammatical manifestation. That is, whether a use of an 'appear' word is epistemic can never be read off of the language of the sentence in which it occurs. For example, if I utter the sentence 'John seems to be worn out', my use of 'seem' could be either epistemic or non-epistemic. If my utterance is based on John's having a grayish complexion and dark circles under his eyes, then my use is in all likelihood non-epistemic.[2] If, by contrast, my utterance is based on a CNN reporter's reporting that John did not land any film roles this year, then my use is epistemic.

So, the epistemic/non-epistemic distinction is not a case of lexical ambiguity (as in the case of 'bank'), structural ambiguity (as in the case of 'every boy kissed a girl'), or polysemy (as in the case of '*healthy* fruit' versus '*healthy* child').[3]

Whether a use of 'seem' is epistemic or non-epistemic does not depend on the language in question but, rather, on which mental state the speaker aims to express when making the report. 'Express', as I shall use the phrase here, is a term of art. To a first approximation, a report attributing a seeming to *S* expresses mental state *m* iff if the report were correct, then *S* would be in *m*.[4] For example, if I use the sentence

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[2] Of course, the epistemic use can also be 'based' on some perceptually available data. In this particular case, you could take back the claim 'John seems to be worn out' if you have got some further data—e.g., that John is a goth. In this scenario, the use would count as epistemic. Thanks to an anonymous reviewer here.

[3] If a string of letters is lexically ambiguous, then the fact that the same string of letters spells two different words is a linguistic coincidence. 'Bank' is a good example of this. If a string of letters is polysemous, then the given string of letters spells a single word with different but related meanings. 'Fine' is a good example of this. 'Fine' as it occurs in 'a fine restaurant' and 'fine' as it occurs in 'finely shaped features' have different but related meanings. Polysemy can be explained semantically or pragmatically. A polysemous word is a semantically underspecified lexical entry. Because the lexical entry is underspecified, linguistic or extra-linguistic context is required in order to determine which proposition is conventionally conveyed by a sentence containing it. Whether the full proposition conventionally conveyed is best treated as semantically expressed or pragmatically conveyed by the sentence will depend on further theoretical assumptions.

[4] As I use the term 'express' here, it is to be distinguished from the term as it is used in metaethics. In metaethics, expressivism refers to views that aim at constructing a semantics for moral sentences by pairing them with the states of mind that the sentences are said to express. Expressivists hold that the meanings of all sentences

'the neighbors seem to be arguing' to report on loud noises next door, my report expresses a seeming with the content *the neighbors are arguing*. Even if I am insincere when making my utterance, my utterance still expresses a seeming with the content *the neighbors are arguing* in this sense of 'expresses'. Notice that this notion of 'express' does not commit us to a specific semantics of 'seem' or 'look'. Nor does it commit us to a specific analysis of what looks and seemings are. I will return to the nature of looks and seemings in chapter 2.

How do we distinguish epistemic uses of 'appear' words from non-epistemic uses on more principled grounds? Let us say that an epistemic use of 'seem' is evidence-bearing for the speaker if the report correctly describes something that is subjectively probable for the speaker. When so used, 'seem' functions as a (generic) evidential. I shall take it as one mark of epistemic uses of 'seem' that when the use is evidence-bearing, the cognitive state goes away in the presence of a defeater—if the agent is rational.[5] It may seem like a good idea to you to evacuate because the radio host announced that there will be flooding in your neighborhood, but if he comes back on the radio and announces that the earlier warning was a hoax, then it will no longer seem like a good idea to evacuate, at least not if you are rational. Likewise, if it seems to you that John is in his office on the basis of seeing his hat hanging in the hall, but your colleague tells you that John took off to Rome this morning, then it will no longer seem to you that John is in his office, again assuming that you are rational.[6] Non-epistemic seemings, on the other hand, persist, at least to some degree, in the presence of a defeater. If the roads look wet, then they will continue

containing moral terms are determined by the mental states that they serve to express. For example, 'lying is wrong' and 'lying sucks' may both be taken to express a disapproval of lying (Schroeder, 2008a, 2008b).

[5] If it seems to me that a bimonthly event should occur once a month, and you then explain to me that bimonthly events, by definition, occur twice in a month, then it no longer ought to seem to me that a bimonthly event should occur once a month. So the seeming is epistemic. One could argue that this extends to intellectual seemings. For example, if you convince me that 'plus' really means something completely different, one may argue that it no longer will seem to me that 2 + 2 = 4. However, I think there really is a difference between the two cases. I think in the latter case it would continue to seem to me that 2 + 2 = 4, even if I changed my belief about it. One could also argue that there are unwanted defeaters of many perceptual seemings. For example, people who are self-confident are more reliable in recognizing their own voice on tape than people whose self-confidence has been shattered. So a seeming that a taped voice is my own would go away if my self-confidence were shattered. However, shattering my self-confidence is not a defeater, so the seeming is not epistemic.

[6] A question arises concerning epistemic seemings of the kind people have with respect to the Linda the Bank Teller case and other similar cases. Linda the Bank Teller case runs as follows: Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student she was deeply concerned with issues of discrimination and social justice, and she also participated in antinuclear demonstrations. Now, rank the following options in terms of the probability of their describing Linda: (A) Linda is a bank teller; (B) Linda is a bank teller and is active in the feminist movement. In cases like these, option B seems to be more likely than option A to many people. These seemings do not always go away in the presence of a defeater (e.g., having knowledge of probability theory). I am tempted to say that in these cases people do not exhibit rationality with respect to issues of probability and prediction. For further discussion of these cases, see Brogaard (forthcoming).

to look wet even if you tell me that the city painted them as a part of their 'drive safe' campaign.

It may be argued that this mark of non-epistemic seemings is also a mark of many other mental states, such as Hume's natural belief about causation. So, it cannot be a defining feature of non-epistemic seemings. I grant that this is so. But I don't expect that the characteristic I propose as a way of distinguishing epistemic and non-epistemic seemings can also serve as a way of distinguishing seemings from non-seemings. Rather, if something seems a certain way to us, then when the seeming has a tendency to linger in the presence of defeaters under conditions of human rationality, it is non-epistemic.

There are other ways that one could, in principle, draw the distinction between epistemic and non-epistemic seemings. Elijah Chudnoff (2013, 2014), for example, draws a distinction between mental states that have a presentational phenomenology and those that do not as follows:

> One principled way to restrict phenomenal conservatism, then, is to restrict it to those propositions with respect to which seemings have presentational character: whenever it seems to you that *p* and your seeming has presentational character with respect to *p*, then you thereby have at least prima facie justification for believing that *p*. If it seems to you that *p* and your seeming lacks presentational character with respect to *p*, you still might have prima facie justification for believing that *p*, but, as the cognitive penetration cases suggest, it will depend in part on background information. (Chudnoff, 2014; cf. Chudnoff, 2013: 90, 94; Chudnoff, 2016)

To a first approximation, seemings have presentational character only when their accuracy conditions 'include both *p* and awareness of a truth-maker for *p*' (Chudnoff, 2016). It is the bit about awareness of a truth-maker that is supposed to do the work in terms of distinguishing between states that have a presentational phenomenology and states that don't. Consider a case in which you and a blindfolded clairvoyant enter a room with a blue mug. Because the clairvoyant has the magical abilities she does, it comes to seem to her that there is a blue mug in the room. It also comes to seem to you that there is a blue mug in the room after you look around. The difference between your experience and that of the clairvoyant is supposed to be that it does not seem to the clairvoyant that she is visually aware of a blue mug (the truth-maker), whereas it does seem that way to you.

Occluded parts of objects and the backside of objects also lack presentational phenomenology. Consider figure 1.1.

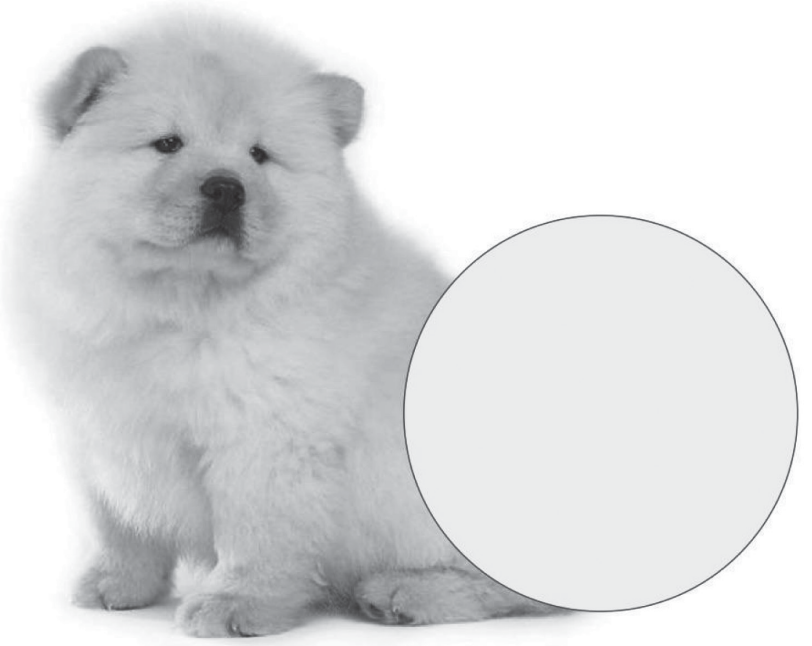

FIGURE 1.1 The dog is partially occluded. The truth-conditions for your appearance of the dog include both the proposition that it is a dog and awareness of the truth-maker for that proposition, but the truth conditions do not include awareness of the dog's tail. So, while your experience of the dog has presentational phenomenology, your experience that the occluded parts are parts of a dog does not.

Your visual experience of the dog makes you aware of the proposition that the dog is sitting, as well as the truth-maker for that proposition. It does not make you aware of a truth-maker for the proposition that the dog has a short tail, a long tail, or no tail or that the tail continues in one direction rather than another.

According to Chudnoff, if an experience makes you visually aware that *p*, then in the absence of defeaters, your experience can serve as an immediate justifier of a belief that *p*. So, you can be immediately justified in believing that the dog is sitting, but not in believing that the dog has a tail.

One could perhaps take non-epistemic seemings to be the class of seemings that have a presentational phenomenology. Although there is much to be said for this way of drawing the distinction between epistemic and non-epistemic seemings, I will not be able to make use of it here, as the notion of presentational phenomenology presupposes that experiences are representational, or at least that they have accuracy conditions. That speaks in favor of drawing the distinction between epistemic and non-epistemic seemings in terms of their robustness in the presence of defeaters.

The notions of a non-epistemic seeming and a seeming with presentational phenomenology also seem to come apart in a way that favors the epistemic/

non-epistemic distinction. While there may be a question of whether super-high-level properties, such as personality traits and moral properties, can be presented in visual experiences, it is highly plausible that such properties can be presented in our visual appearances.[7] People can visually appear to have a certain personality trait, even when we know that they do not have this trait (Brogaard, 2017b). This suggests that appearances of personality are perceptual rather than epistemic. Yet the truth-conditions for most appearances of personality do not require that we are aware of the whole truth-maker for the trait presented in appearance. Expressive behavior often leaves marks on people's faces (e.g., frown lines or laugh lines), which partially ground how people appear. Yet we are surprisingly often not visually aware of such minutiae and are not even able to report on them. For this reason, it is highly doubtful that appearances of personality have a presentational phenomenology. What makes appearances of personality good justifiers of our judgments about personality are

[7] One way to draw the distinction between high-level and low-level properties is to take low-level properties to be those that are the output of computations in the brain's sensory regions within the sensory modality under consideration (Brogaard & Chomanski, 2015). For example, motion is processed in V5/MT, a part of the brain's visual cortex. Accordingly, on this way of drawing the distinction, many motion properties are low-level. Visually perceptible properties of faces such as facial expressions, by contrast, are processed in brain regions beyond the visual cortex. Accordingly, these properties can reasonably be counted as high-level.

Although this way of drawing the distinction certainly can serve as a helpful heuristic, it cannot serve as a defining principle, for several reasons. The most pertinent is that where a property is computed in the brain doesn't always neatly line up with whether or how it is presented in experience. The prefrontal cortex is arguably part of the minimally sufficient neural basis of awareness of any visually perceptible property, yet that doesn't make all visually perceptible properties high-level properties. Or take hue, one dimension of color. There is good evidence for believing that hue isn't processed in the brain's visual cortex, but most philosophers would take it to be an indisputable fact that hue is a low-level property that is presented in visual experience (Brogaard & Gatzia, 2017).

Another reason that a neurologically grounded distinction between low-level and high-level properties is unfortunate is that it doesn't have any bearing on why we are interested in the question of whether high-level properties are sensorily presented to us in the first place. Many philosophers and psychologists are interested in the question only insofar as it has bearing on perceptual learning. When we learn to perform new tasks, it seems initially plausible that this is sometimes a result of a change in our perceptual abilities. For example, a chess player may through learning develop the ability to quickly perceive highly complex chessboard configurations and later regenerate those configurations. Assuming that highly complex chessboard configurations are high-level properties, it could be argued that what changes during learning is (among other things) the nature of the content of the visual experience that the chess player has when looking at chessboard configurations. If, however, high-level properties are not presented in visual experience (and chessboard configurations are high-level properties), we would need a different explanation of what so-called perceptual learning consists in.

Presumably the best way to understand high-level properties is in relative terms. Some properties are high-level compared to quintessential low-level properties in the sense that the awareness of the former depends on neural processing of the latter—for instance, our awareness of the high-level property of being a face or the property of gazing in a particular direction depends on neural processing of lower-level properties, such as shape, texture, direction, and brightness. Likewise, our awareness of *wanting the peanut butter cup rather than the chocolate bar* or *trying to look trustworthy* may depend on neural processing of lower-level properties, such as *gazing in a particular direction* or *simultaneously smiling and frowning* (see Lyons, 2005b, for an account along

not their presentational phenomenology but their evidence-resistant character. So, the notion of presentational phenomenology is not ultimately a good way to capture the notion of a non-epistemic seeming.[8]

One might, however, attempt to ground the distinction in a different notion of perceptual presentation, for instance, what Alva Noë calls 'perceptual presence' (2004). Although we always see an object from a particular perspective, it phenomenally feels as if the object is not locked within our current perspective. It is fully present to us even if we can't see its backside, say. On Noë's view, perceptual presence is virtual: we fill out occluded parts of objects based on sensorimotor knowledge and all the different perspectives we could take with respect to the object—for instance, by moving around it. This approach, however, seems to face multiple challenges:

1. One problem is this: although the objects we perceive are perceptually present to us, all the details of the occluded parts of the objects are not filled in. In some respects, filling in the occluded parts of an object are like filling in an imagination (Nanay, 2010). Suppose I ask you to imagine a unicorn. You imagine a white unicorn. Then I ask you, 'Does it have a black spot on the side left out of sight?' You are about to say that you have no idea. But then you think again and imaginarily decide that it does. The unicorn you are imagining now has a black spot on the occluded part you cannot "see." Filling in occluded parts arguably is like imagining (Nanay, 2010). When filling in occluded parts, you don't fill in every detail you could possibly perceive by using your sensorimotor skills to examine the object. You just fill in whatever contours are needed to produce a stereotypical instance of the type of object whose parts you are perceiving. Of course, unlike imagination, perception allows for error: you may fill in incorrectly; your experience then is illusory. But the imprecision that accompanies the filling in of occluded parts of

[8] I am now inclined to think that the mark of nonepistemic experiences is also the mark of immediately justifying experiences. But the mark of the latter, arguably, is not evidence-insensitivity but of *felt* evidence insensitivity—phenomenal evidence sensitivity, that is, the evidence insensitivity is intrinsic to the phenomenology of the experience. One reason for taking phenomenal evidence insensitivity to be a mark of immediate justifying experiences turns on what I have called 'the new evil demon problem' (Brogaard, 2017b). Consider a demon world in which an evil demon would make all your looks evidence sensitive, were you to form a belief on the basis of them. For example, you look at the Müller-Lyer illusion (figure 1.3), but don't form a belief that the line segments have different lengths because you know they have the same length. However, your experience is not evidence-insensitive because an evil demon would make you see things as they are, were you to form a belief on the basis of the illusion. So, if evidence insensitivity is the mark that makes your experience a prima facie reason, then you fail to have a prima facie reason for said belief. Yet your doppelganger in this world where there are no evil demons has prima facie justification. So, in spite of the fact that you and your doppelganger are internal duplicates, you are not justified to the same extent on the basis of your experience. This is potentially problematic for the same reason that the standard evil demon problem is problematic.

Phenomenal evidence sensitivity avoids this problem insofar as your experience is phenomenally evidence insensitive in both the evil demon world and in the actual world. In this book, however, I stick to evidence insensitivity rather than phenomenal evidence insensitivity, as very little hinges on this difference outside the

FIGURE 1.2 The four matchboxes. Upper row: the standard Swan Vestas and Scottish Bluebell matchboxes. Lower row: 0.8-scale replica Swan Vestas matchbox and 1.25-scale replica Scottish Bluebell matchbox. (McIntosh & Lashleya, 2008)

objects makes Noë's enactive account of perceptual presence implausible, as there is no way the perceptual system calculates all or even a fraction of the indefinite ways one could view or move around an object.

Noë may counter this objection by saying that amodal completion does not require actually calculating the ways one could view or move around an object. In the introductory remarks of his book, Noë states that 'the basis of perception, on our enactive, sensorimotor approach, is implicit practical knowledge of the ways movement gives rise to changes in stimulation' (2004: 8). While it is more plausible to think that we possess knowledge-how of the ways movement gives rise to changes in stimulation than to think that we possess some sort of factual information about the ways, this approach fails to explain how we fill in when we in fact perceive occluded objects. So, it fails to account for how objects come to be perceptually present.

2. But even if we can explain perceptual presence in terms of imagination, a further problem with the idea that perceptual presence is the mark of experiences (or seemings) that makes them phenomenal as opposed to non-phenomenal is this: perception need not be conscious (Brogaard, 2011b). Perception preparing us for quick, unreflective action need not be associated with corresponding phenomenal seemings. For example, when you reach toward and grasp an object, your brain must unconsciously estimate the exact size and weight of the object, so you can adjust your hand aperture accordingly and use the exact effort it takes to lift and carry the object. Sometimes we unconsciously miscalculate the size or weight of the object. If you unconsciously estimate that you are reaching to and grasping a mug full of coffee and it is actually empty, the mug may almost fly out of your hand, because your brain calculated the effort needed on the basis of an

incorrect expectation of weight. We can sometimes unconsciously over- or underestimate the size of an object. Robert McIntosh and Gavin Lashley (2008) asked subjects to reach to and grasp the standard large Swan Vestas and the standard small Scottish Bluebell matchboxes in a series of baseline trials. In a series of perturbation trials, subjects were instructed to reach for a smaller replica of the Swan Vestas matchbox and a larger replica of the Scottish Bluebell matchbox (figure 1.2).

The researchers found that the expected size of the matchboxes affects both the preshaping of the hand and the amplitude of reaches to grasp them. The researchers hypothesized that the grasp effects could arise either because the retinal size of the targets was modified by familiar size or because familiar size contributed more directly to the programming of grasp formation. The upshot is this: there are properties of objects that are perceived unconsciously but that are nonetheless perceptually present. This strongly suggests that perceptual presence need not occur at the level of conscious awareness. Hence, perceptual presence need not have anything to do with phenomenology and hence cannot serve as a defining characteric of phenomenal seemings.

There is, however, another way to draw the distinction between epistemic and non-epistemic seemings besides the one I adopted earlier.[9] Epistemic uses of 'appear' words imply that the speaker believes or is inclined to believe that things are as they appear, in the absence of defeaters. For example, in the absence of defeaters, 'He looks filthy rich to me' implies 'I am inclined to believe that the person is filthy rich'.

Chisholm's (1957) idea that locutions containing epistemic uses of 'appear' words imply that the speaker believes or is inclined to believe that things are as they appear can plausibly be formulated in terms of subjective probability. To a first approximation, we can say that when 'look' is used epistemically, the sentence conveys what is subjectively probable conditional on the (total, total relevant, total relevant presented so far, . . .) evidence.[10] If we hear on the radio that there will be flooding in our area, I might say 'It seems that we ought to evacuate'. My statement expresses a cognitive state about what is subjectively probable, for example, given my total evidence.

Unlike epistemic uses of 'appear' words, non-epistemic uses do not imply that the speaker believes or is inclined to believe that things are as they appear. As Chisholm puts it:

> The locutions '*x* appears to *S* to be so-and-so' and '*x* appears so-and-so to *S*' sometimes do not imply that the subject *S* believe *s*, or is even inclined to

[9] This notion is arguably interchangeable with phenomenal evidence insensitivity even if the two come apart conceptually. This, however, is not an issue suitable for discussion in this volume.

[10] I owe this proposal to Hannes Leitgeb.

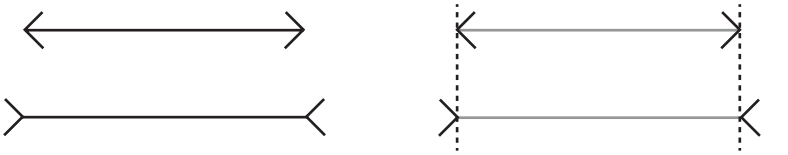

FIGURE 1.3 The Müller-Lyer illusion. In this illusion, you believe the lines are of the same length, but no matter how long you look, you continue to experience them as being of different lengths.

> believe, that x is so-and-so. I tell the oculist that the letters on his chart 'now appear to run together' because both of us know that they do not run together. And when people point out that straight sticks sometimes 'look bent' in water, that loud things 'sound faint' from far away, that parallel tracks of ten 'appear to converge', or 'look convergent', that square things 'look diamond-shaped' when approached obliquely , they do not believe that these things have the characteristics which they appear to have. In these instances '*x* appears so-and-so' does not mean that *x* is apparently so-and-so. (Chisholm, 1957: 44)

In the Müller-Lyer illusion, for example, the line segments look unequal, even though I know that they are not (see figure 1.3). So, the locution 'the line segments appear to me to be of equal length' does not imply 'I am inclined to believe that the line segments are of equal length'.

We could thus say that epistemic uses of 'appear' words imply that the speaker believes or is inclined to believe that things are as they appear, in the absence of a defeater, whereas statements containing non-epistemic uses do not imply that the speaker believes or is inclined to believe that things are as they appear. In what follows I shall use both of the proposed characteristics in determining whether a use of an 'appear' word is epistemic or non-epistemic.

The Comparative Use

Whereas the language of sentences containing 'appear' words does not reveal whether a use is epistemic or not, the language does reveal whether a use is *grammatically* comparative or non-comparative. For example, 'John seemed pale' is non-comparative, whereas 'John looks like his brother' is comparative. Grammar, however, does not reveal whether the *meaning*, or semantic value, of a 'seem'-report (as opposed to the grammar) is comparative or non-comparative (Chisholm, 1957: 48; Jackson, 1977: 33; Thau, 2002: 230; Byrne, 2009; Brogaard, 2015a). Consider:

(6) Michael Vick looks unwell but ready to go.

Although (6) is grammatically non-comparative, its meaning may well be comparative. Suppose, for instance, that Michael Vick looks pale and his muscles shrunken,

but that he is dressed in a Philadelphia Eagles team uniform. In these circumstances, (6) may be saying that Michael Vick looks like someone who is sick and looks like someone who is ready to play a game. (6), then, is *semantically* or *pragmatically* comparative even though it is *grammatically* non-comparative.

When 'appear' words are used comparatively, the locutions in which they occur imply that a thing appears the way that relevantly similar things appear under certain contextually specified circumstances. As Chisholm (1957) puts it:

> When we use appear words comparatively, the locution
>
> *x appears to S to be . . .*
>
> and its variants may be interpreted as comparing *x* with those things which have the characteristic that x is said to appear to have. A more explicit rendering of such locutions, therefore, would be something like this:
>
> *x appears to S in the way in which things that are . . . appear under conditions which are . . .*
>
> The way in which we should complete the reference to conditions in the second part [of] this locution varies, depending upon the conditions under which the appear sentence is made. (45)

For example, under Chisholm's comparative reading, '*x* looks like a pig' may mean '*x* looks the way pigs may normally be expected to look'.[11]

Comparative 'seem'-reports can be either epistemic or non-epistemic. For example, your past visual acquaintance with Mary may lead you to conclude that Mary shares certain features in common with nice girls. In this case, you could correctly utter the sentence 'Mary seems like a nice girl.' Here 'seems' presumably is non-epistemic. Or I could say about the Müller-Lyer illusion that one line segment looks lengthwise like the other line segment. This use is non-epistemic, as the look is not undermined by defeaters and 'To me, line segment 1 looks lengthwise like line segment 2' does not imply 'I am inclined to believe that line segment 1 and line segment 2 have the same length'. If, however, you hear on the radio that Hurricane Sandy will cause more damage than Hurricane Katrina, you may form a probabilistic belief in the proposition that Hurricane Sandy will cause more damage than Hurricane Katrina. You can now correctly utter the sentence 'Hurricane Sandy seems worse than Hurricane Katrina'. Here 'seems' presumably is epistemic. So, some but not all comparative uses are epistemic.

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[11] Constructions such as 'John seems sadder than Mary' are comparative, but the verb 'seem' is not used comparatively here, 'sad' is.

As grammatically comparative 'seem'-reports have a distinctly comparative structure, it is likely that they are structurally related to more familiar comparative sentences. Consider:

(7)
(a) Loki is taller than every girl.
(b) Freyja dances like Frigg.
(c) Stein eats like a bird.
(d) Dustin is as rich as his mother.

There is an extensive literature on the semantics of comparative sentences. Richard Larson (1988) argues that 7(a) can be dealt with by positing that (i) the quantified noun-phrase (e.g., 'every girl' or 'one of the girls') moves to a wide-scope position, and (ii) the comparative expression 'taller than' combines with two type *e* expressions (i.e., variables or referring terms).[12] On this view, 7(a) is of the form '[Every girl, *x*] taller than(Loki, *x*)'. However, 'than'-clauses are syntactically akin to relative clauses such as 'that every girl likes' as it occurs in 'John is a guy that every girl likes'. Quantified noun-phrases, such as 'every girl', cannot scope out of relative clauses, which means that they cannot move to a wide-scope position. So, we cannot move from 'John is a guy that every girl likes' to 'every girl is such that she likes John'. That move is grammatically prohibited. As 'than'-clauses are syntactically akin to relative clauses, it is extremely implausible to think that quantified noun-phrases (e.g., 'every girl') can move to a wide-scope position.

The semantic proposal that I find most plausible is the degree account offered by Irene Heim (2006). On this view, comparative sentences contain semantically vacuous 'wh'-items in the sentence structure. We can think of those items as placeholders for answers to implicit questions. For example, 7(a) can be read as: 'Loki is taller than every girl is wh.' The relevant implicit question here is 'How tall is every girl?' The placeholder answer is 'wh'. Thus, a 'wh'-item is so-called because it plays the role of a placeholder for a reply to a 'what', 'why', 'which', or 'how' question, such as 'How tall is that girl?' To a first approximation, 'every girl is wh' can be understood as 'every girl *x*: *x* is this tall'. This item scopes out of the comparative clause, and the 'wh'-item raises to a wide-scope position. Hence, 7(a) has the following underlying structure:

$[\text{wh}_1[\text{every girl is } t_1]]_2$ [Loki is taller than t_2]

[12] In type theory utilized in formal semantics, expressions of type *e* denote the set of entities the discourse is about. Examples of type *e* expressions include 'John' and 'she.'

The truth-condition for 7(a) can be articulated as follows: for every girl *x*, there is a height *y* such that *x* is *y* tall and Loki's height is greater than *y*. Similarly, 7(b) can be cashed out as: 'Freyja dances like Frigg does wh', where 'Freyja does wh' is to be understood as 'Freyja dances this way.' This item scopes out of the comparative clause and takes wide scope. So, 7(b) is of the form: $[\text{wh}_1[\text{Freyja dances } t_1]]_2$ [Frigg dances t_2]. We can assign the following truth-condition to 7(b): for some way *w* such that *w* is a way that Freyja dances, Frigg dances that way, too.

If we suppose that putatively comparative 'seem'- and 'look'-reports are truly comparative, which their grammar suggests, then it makes sense to apply Heim's analysis of comparative sentences to them, too. The natural way to do so is as follows. Take '*x* seems worse than *y*'. This structure contains the implicit 'wh'-clause 'wh_1[*y* seems t_1 bad]', which takes wide scope. So we get: $[\text{wh}_1[y \text{ seems } t_1 \text{ bad}]]_2$ [*x* seems worse than t_2]. For example, 'Hurricane Sandy seems worse than Hurricane Katrina' contains the implicit 'wh'-clause: wh_1[Hurricane Katrina seems t_1]. This item takes wide scope, so the sentence is of the form: $[\text{wh}_1[\text{Hurricane Katrina seems } t_1]]_2$ [Hurricane sandy seems worse t_2]. We can assign the following truth-condition to this structure: there is an *x* such that *x* is how bad Katrina seems, and this hurricane seems worse than *x*.

As this analysis of comparative 'seem'- and 'look'-reports makes unreduced appeal to the notion of 'seem *x*', it is not meant to provide a complete answer to the question of how to assign truth-conditions to the underlying linguistic forms. Because the non-comparative 'seem *x*' can be epistemic or non-epistemic, the truth-conditions for comparative 'seem'-reports are parasitic on the truth-conditions for non-comparative non-epistemic and epistemic 'seem'-reports.

Grammatically, non-comparative uses of 'seem' and 'look' are typically expressed using the locution '*x* seems (to be) *F*' or '*x* looks *F*', as in 'you seem angry', 'Lisa looks pale', 'that bear looks fluffy', and 'the poster looks rectangular'. While these latter examples can also be read comparatively, Chisholm's non-comparative and non-epistemic reading is supposed to reflect directly how things are presented in visual experience. Frank Jackson (1977) dubs the non-comparative and non-epistemic use the 'phenomenal use'. I shall follow Jackson's terminology here (for discussion, see Brogaard, 2015a). Chisholm provides the following argument for thinking that there are semantically non-comparative non-epistemic (phenomenal) uses of 'appear' words. Consider the locution 'look yellow'. On the one hand, if 'look yellow' is given a comparative reading, 'yellow things look yellow in daylight' is an analytic truth. It says 'things that are yellow look the way things that are yellow look', which is trivially true. If, on the other hand, 'look yellow' is given a non-comparative reading, then 'yellow things look yellow in daylight' is a synthetic truth. Even before she started studying neuroscience and physics, Frank Jackson's Mary knew that in daylight yellow things look the way yellow things look. But she didn't know that yellow things looked

non-comparatively yellow. This argument offers some support for the existence of a semantically non-comparative, non-epistemic use of 'look' and other 'appear' words.

One might wonder whether all phenomenal uses of 'look' and 'seem' are perceptual. I don't think that this is the case. There is good reason to think memory-derived and intellectual uses of 'look' and 'seem' can be classified as either epistemic or non-epistemic, depending on the conversational context. Consider a dialogue between a counselor and her client.

COUNSELOR: When you recall that episode from your childhood, what are you seeing?
CLIENT: I am seeing a little girl walk down the stairs. She *seems* sad.

In the envisaged case, the seeming would not fade away in the presence of a defeater. For example, if the client is told that her memory is caused by a drug, the little girl in her visual image will still seem sad. So, despite the memory-derived nature of the report, 'she seems sad' here appears to be used non-epistemically. If, by contrast, you tell me 'your colleagues seem to think you are a really strict teacher', then the use of 'seem' probably is both memory-derived and epistemic.

Even intellectual uses of 'look' and 'seem' can be used non-epistemically. Suppose a rational agent utters the following Moore sentences (the hash marks indicate semantic incoherence—as in #Colorless green ideas sleep furiously—or infelicity, i.e. pragmatic failure—as in A: How are you doing?" B: #His goat now sleeps through the night.):

(8)
(a) # Your view is correct but I don't believe it's correct.
(b) # I know Newton's theory of gravity is correct but it's incorrect.
(c) Your view is correct even though it doesn't *seem* that way to me.
(d) Newton's theory of gravity is incorrect, but it *seems* right to me.

Unlike the analogous Moore paradoxes with belief and knowledge in 8(a)–8(b), the two instances with 'seem' (8c, 8d) are perfectly fine. But the propositions expressed by the initial conjuncts are defeaters of the operant clause of the second conjunct. So if the uses were epistemic, we should expect 8(c) and 8(d) to be awkward-sounding. The fact that they are not awkward-sounding suggests that the uses here are non-epistemic, despite being intellectual. Compare (the question marks indicate relative unacceptability):

(9)
(a) ? It seems that we ought to evacuate but we ought not to evacuate.
(b) ? The Dewey school seems to have the best educational philosophy but it really doesn't.

If I uttered 9(a) immediately after hearing on National Public Radio (NPR) that there will be flooding in my area, then my utterance would be awkward-sounding. Similarly, 9(b) would be odd if expert testimony supports the proposition that the Dewey school has the best educational philosophy. This is because my uses of 'seem' in these contexts are epistemic and expert testimony supports the embedded clause in the first conjunct.[13]

'seem' as a subject-raising verb

Verbs such as 'to seem', 'to appear', 'to feel', 'to prove', and 'to turn out' function as subject-raising verbs. Later I will argue that 'look' functions the same way. But here I will focus on 'seem'. I sometimes use 'raising verb' as shorthand for 'subject-raising verb'. Raising verbs, like linking verbs (e.g., 'to grow' as in 'to grow stronger'), join the sentence subject with an adjectival or infinitive complement, as in:

(10)
(a) Lisa seemed angry.
(b) John turned out to be a crook.
(c) Publishing in the top journals proved to be difficult.
(d) Paul's students were expected to turn in their papers on time.

Some raising verbs also function as transitive verbs, as in 'John looked (shy, shyly) at Mary', 'Tom (eagerly) expected the car crash', and 'Alice (enthusiastically) tasted the soup'. When they function as transitive verbs, they describe acts or actions of the referent of the semantic subject. When they function as intransitive raising verbs, they describe a passive experiential or epistemic state of an implicitly or explicitly mentioned perceiver. For example, 'Lisa seemed angry to Paul' describes a passive experiential or epistemic state of Paul, and 'The tomato seems rotten' describes a passive experiential or epistemic state of the speaker.

Raising verbs are followed by adjectives or infinitive clauses rather than adverbs. The 'to be' of the infinitive clauses takes an adjectival complement, not an adverbial one, as is apparent in 'John was found to be missing' and 'Susan turned out to be guilty'. Hence, while the complements of raising verbs can be modified by adverbs, as in 'extremely beautiful', they cannot themselves be adverbs.

[13] There might be contexts that would render these sentences felicitous. For example, I might have evidence that supports the embedded clause in the first conjunct but overruling evidence that supports the second conjunct.

On the face of it, sentences with raising verbs have the same surface grammar as sentences containing intensional verbs, such as 'want'; witness 'John wants to be happy' and 'John seems to be happy'. Despite having the same surface grammar, however, they don't have the same underlying grammatical structure. One of the big advances of transformational grammar was that it provided a way to distinguish between the different underlying forms of sentences like 'John wants to be happy' and 'John seems to be happy'. The 'want'- and the 'seem'-sentences may be taken to have the underlying forms:

John wants [John to be happy].[14]
Seems [John to be happy].

The surface forms are produced by applying two transformation rules, known as Equi-NP-Deletion and Subject-to-Subject-Raising to the sentences, respectively. Equi-NP-Deletion allows identical phrases—for example, noun phrases or 'for'-phrases, to be deleted, as in 'It's good for her for her to stay here' and 'It's good for her to stay here' (Partee, 1975). In Subject-to-Subject-Raising, a subject that belongs semantically to a subordinate clause becomes realized in the surface grammar as a constituent of a higher clause. In the case of 'John seems happy', the subject 'John' is the surface-grammatical subject of the raising verb 'seems', but it is the semantic subject of 'to be happy'. 'John seems happy' has the underlying derivational structure:

[*e* seems [John to be happy]]

In the transformation of deep grammar into surface grammar, 'John' becomes raised to become the subject of 'seems'. The subjects of raising verbs like 'seem', 'prove', and 'turn out' thus have no semantic relation to the raising verbs. Rather, they are associated with the infinitive predicate or the verb of the embedded clause. For example, in 'the apple seems red', the subject 'the apple' is associated with 'to be red', and in 'John seems to prefer red wine', the subject 'John' is associated with the verb 'prefers'. The formal way to put this is that raising verbs do not assign a theta-role to their subjects.

One test that a verb does not assign a theta-role to a subject is that we can express the same meaning by raising different elements in the derivational structure.[15]

[14] On a more recent analysis, the subject of the infinitival clause is treated as some sort of hidden pronoun that is anaphoric to John, not a second occurrence of John.

[15] The argument is not unproblematic. Many speakers do not have the intuition that 'John appears to have passed the exam' is equivalent to 'The exam appears to have been passed by John,' for example (since the conclusions one would draw based on John's appearance might be very different from the conclusions one would draw based on the exam's appearance). However, the argument is less problematic when the seeming involves identity. Thanks to Peter Lasersohn here.

For example, 'John seems to be the first author of the article' and 'The first author seems to be John' have the same meaning. This shows that 'seem' does not assign a theta-role to 'John' or 'the main author of the article'. Rather, these semantic roles are assigned in the subordinate clause 'John to be the main author of the article'.

Raising is specified in the lexical entry of raising verbs. For example, 'seem' states in its lexical entry, among other things, that it does not assign a theta-role to its subject. For example, in 'John seems happy', John is not the grammatical subject of 'seem' and 'seem' therefore is said not to assign a theta-role to 'John'. There are different theories of why raising happens in the case of subject-raising verbs. In relational grammar, Subject-to-Subject-Raising is driven by the rule that in English all clauses must ultimately have a subject, which can be either the expletive subject 'it' (as in 'it seems that John is happy') or the raised subject (as in 'John seems happy') (Postal, 1974). In Government and Binding Theory, subject-raising it is an instance of determiner phrase (DP) movement (Chomsky, 1986). The determiner phrase 'a girl' can move out of its position in 'every boy kissed a girl', yielding the wide-scope reading 'some girl *x* is such that every boy kissed *x*'. Similarly, 'John' can move out of 'it seems that John is happy', yielding the wide-scope reading 'John seems happy'.

One reason in favor of treating raising as an instance of DP movement is that it can explain why the unraised and raised forms of a sentence containing a subject-raising verb are not always equivalent in all respects. Consider:

(11)

(a) It seems as if the King of France is in the living room.
(b) The King of France seems to be in the living room.
(c) John believes the King of France is in the living room.
(d) The King of France *x* is such that John believes *x* is in the living room.

Unlike 11(a) and 11(c), 11(b) and 11(d) are acceptable only if it is presupposed that France has a king. This is because on the wide-scope readings, the sentences have existential commitment. When the presupposition is in place, however, the unraised and the raised forms of sentences containing subject-raising verbs are equivalent.

There are many different theories of presupposition, and this is not the place to go into the details. The following quick overview should suffice for our purposes. One popular proposal is due to Robert Stalnaker (1972, 1974). He articulates the gist of the view in the following passage:

> When a speaker says something of the form A and B, he may take it for granted that A (or at least that his audience recognizes that he accepts that A) after he

> has said it. The proposition that A will be added to the background of common assumptions before the speaker asserts that B. Now suppose that B expresses a proposition that would, for some reason, be inappropriate to assert except in a context where A, or something entailed by A, is presupposed. Even if A is not presupposed initially, one may still assert A and B since by the time one gets to saying that B, the context has shifted, and it is by then presupposed that A. (1974: 90)

Stalnaker's proposal predicts that 11(b) presupposes that France has a king, but that 11(a) does not, because when 11(b) is uttered, the speaker will add 'France has a king' to the common ground, as in:

(12)
(a) The king of France is bald.
(b) France has a king, and the king of France is bald.

The three main problems with Stalnaker's proposal can be articulated as follows:

1. The audience may not take for granted what the speaker asserts. If the speaker asserts that the earth is flat, the audience may just conclude that he is an idiot.
2. The proposal does not extend to embedded conjunctions. For example, "none of my students is both incompetent and aware that he is" presupposes nothing; "none of my students is aware that he is incompetent" presupposes that all my students are incompetent. But because the conjuncts are embedded under a negative quantifier, they are not asserted. So, Stalnaker's analysis does not extend to these cases.
3. It is not clear how to extend Stalnaker's proposal to sentences with connectors other than conjunction (e.g., disjunction).

Philippe Schlenker (2008) has proposed an alternative to Stalnaker's account that bypasses these issues. Let *pp** be a propositional meaning with truth-conditional content: *p* and *p**, where *p* is the precondition of *pp**. For example, the truth-conditional content of 'John knows it is raining' can be written as 'it is raining, and John knows it'. Here 'it is raining' is the presupposition '*p*' and 'John knows it' is the full expression '*pp**'.

Now, Schlenker suggests that the following rules must be followed if we are to avoid violating presuppositions.

Be Articulate!
In any syntactic environment, express the meaning of an expression *pp** as (*p* and *pp**), unless independent pragmatic principles rule out the full conjunction.

In other words, if possible, say '*p* and *pp**' rather than just '*pp**'. For example, say 'there is a king of France, and he is bald' rather than 'The King of France is bald'. The latter makes a presupposition violation, whereas the former is false. This leads Schlenker to propose the following rule:

Incremental Presuppositional Transparency
A conjunct is transparent if it is superfluous given the context set, and transparent conjuncts should be left unsaid.

More precisely, an utterance of a sentence that begins with *p and* is infelicitous if, regardless of what follows this string, the expression *p and* can be eliminated without modifying the contextual meaning of the result. However, it may be fine to include a conjunct that is indispensable if its indispensability can only be determined after the conjunction has been uttered. Consider the following discourse fragments:

The audience doesn't know that Mary is pregnant.
Jill: Mary is pregnant, and she is expecting a son.
Jack: # Mary is expecting a son, and she is pregnant.

Jack's utterance 'Mary is expecting a son, and she is pregnant' is infelicitous because Jack and the audience do not share the common background assumption that Mary is pregnant.

Schlenker allows for local and global accommodation, which means, roughly, that we are happy to add assumptions to our background information if the uttered information and our current background allow for it. Consider the following discourse fragments:

BACKGROUND: It is not presupposed that Jill has a sister.
Jill: My sister is pregnant.
Jack: Oh, when is she due?

BACKGROUND: It is presupposed that A does not have a sister.
Jill: My sister is pregnant.
Jack: But you don't have a sister. What the h*$% are you talking about?

In the second discourse fragment, Jill is making a presupposition violation because the listener (Jack) is presupposing that Jill does not have a sister.

Let's return now to the unraised and raised forms of sentences containing subject-raising verbs. Consider 11(a)–(b), repeated from above:

(11)
(a) It seems as if the King of France is in the living room.
(b) The King of France seems to be in the living room.

In 11(a), no presupposition is violated, as material embedded under 'it seems' does not have a presupposition (cf. 'It seems to John as if the King of France is in the living room. Those magic mushrooms must be really intense'). But once the determiner phrase becomes raised, it introduces an existential commitment. It presupposes that there is a king of France. If this is not an assumption shared among the speakers, uttering 11(b) violates the rules of presupposition.

WHY THE SEMANTICS OF 'SEEM' DOES NOT LEND SUPPORT TO ADVERBIALISM

One might object to an account of 'seem' as a subject-raising verb (as outlined in this chapter) on the grounds that phenomenal 'seem'-reports involve adverbs. Adverbs are words that modify the verb that they are grammatically adjacent to. Adding an adverb in its correct sentence position leads to further specification of features of the denotation of the verb or an alteration of the meaning of what was said. For example, if I am told that John spilled the beans, I might be interested in knowing whether he did it *slowly, clumsily, gracefully, angrily*, or *carelessly*. 'Slowly', 'clumsily', 'gracefully', 'angrily', and 'carelessly' are adverbs that provide information about features of the action picked out by the verb. Consider:

(13)
(a) John spilled the beans clumsily.
(b) John dances clumsily.

13(a) means 'John spilled the beans in a clumsy manner', and 13(b) means 'John dances in a clumsy manner'. Adverbs that describe the manner of the activity picked out by the verb are also known as 'manner adverbials'. Adding these adverbs to the original sentence does not cancel out the original meaning. If John spilled the beans clumsily, then he spilled the beans. However, other adverbs will alter the meaning of the original sentence when added. Consider:

(14)

(a) John barely made a sandwich.
(b) Sandy nearly choked on the grape.
(c) Logan almost finished his term paper on time.

14(a) doesn't entail that John made a sandwich, 14(b) doesn't entail that Sandy choked on a grape, and 14(c) doesn't entail that Logan finished his term paper on time.

It might be argued that 'seem'-reports involve manner adverbials—that is, adverbs that occur in final position and that describe the manner of the activity picked out by the verb, as in 13(a)–(b). So 13(a)–(b) can be assigned the following truth-conditions using Davidsonian event semantics:

$\exists e$[spill(e, John, beans) & clumsily(e)]
$\exists e$[dance(e, John) & clumsily(e)]

If phenomenal 'seem'-reports involve manner adverbials, the truth-condition for '*o* seems *F*' involves 'seems *F*-ly,' where '*F*-ly' is a manner adverbial. Consider:

The tomato seems red to me.

On the adverbial reading, the truth-condition comes out as follows:

$\exists e$[seem(e, tomato, me) & redly(e)]

In other words, there is a seeming event with the tomato and the speaker as participants (agent and patient, respectively), and the event takes place in a redly manner. This would be consistent with adverbialism, a theory of perception whose name derives from the word group made up of adverbs. Adverbialism holds that features of perception play a role analogous to manner adverbials (Fish, 2010: ch. 3; Siegel, 2015a). They specify a way in which the subject perceives the world. For example, if John has a visual experience of a red cat, then the adverbialist will say that John is perceiving, or is "appeared to", redly and cat-wise. On this view, perception is neither a perceptual relation between a subject and a mind-independent physical object nor a representational mental state. It is a *way* of perceiving without perceiving an object or a cluster of properties. Adverbialists thus do away with the notion of an object of perception. Perception simply is an activity, and different perceptual experiences are modifications of that

activity. 'Experience', on this view, is an intransitive verb rather than a transitive verb. You don't experience that this or that is the case; you simply experience in a certain way. Chisholm (1957) and Michael Tye (1984) are usually cited as the legendary defenders of the adverbial theory, although Chisholm's view, as we will see, is different from standard forms of adverbialism. In fact, it arguably is not a form of adverbialism but, rather, a version of the theory of appearance. Uriah Kriegel (2007), Wylie Breckenridge (2018)and Carrie Figdor (in press) are the main contemporary defenders of the theory.

In spite of its name, the semantics of 'appear' words does not support the adverbial theory, as 'appear' words do not behave like adverbial phrases. To see this, we need to briefly consider Chomsky's Case Theory, which is part of his Government and Binding Theory. Case Theory deals with a special property that all noun-phrases have if the sentence in which they occur is grammatical. Two cases are generally recognized in English: the nominative case and the accusative case (or objective case), whereas the genitive and dative cases generally are not. To a first approximation, the subject of a tensed clause is assigned nominative case. For instance, 'John' is assigned nominative case in 'John is happy'. The object of a verb and the object of a preposition are assigned the accusative case. For instance, 'the window' is assigned the accusative case in 'John broke the window' and 'the table' is assigned the accusative case in 'the book is on the table'.

Nominative and accusative cases are typical examples of the so-called structural case, which is licensed in a purely structural way, whereas genitive and dative cases are typical examples of the so-called non-structural, or inherent, case, which marks words as agents, patients, or goals (Chomsky 1981). In spite of the fact that the genitive and dative cases are not generally recognized in English, inherent case can occur in English. Consider the following sentences:

(15)
(a) John kicked her.
(b) John believed in her.
(c) John slept in a bed.

In 15(a), the transitive verb 'kick' assigns structural case to 'her'. In 15(b), 'believe' assigns inherent case (a patient role) to 'her'. In 15(c), the 'sleep' assigns inherent case (a patient role) to 'a bed'. Only verbs that assign structural case can be true accusative (or agentive) verbs. As the transitive verb 'kick' as it occurs in the active sentence in 15(a) assigns structural case to 'her', it is a true accusative. Verbs that assign inherent case are not true accusatives. So, 'believe' as it occurs in 15(b) and 'sleep' as it occurs in 15(c) are not true accusative (or agentive) verbs.

Intransitive verbs such as 'resemble', 'aggravate', and 'desire' do not assign structural case and hence do not allow manner adverbials. Consider (the asterisk here indicates ungrammaticality):

(16)

(a) John dried the dishes enthusiastically.
(b) Mary walked to school quickly.
(c) ∗John resembled her carefully.
(d) ∗John aggravated me revoltingly.
(e) ∗Mary desired a raise slowly.

In 16(a), 'dried' assigns structural case to 'the dishes' and hence is truly agentive. Because it is truly agentive, it may be combined with the manner adverbial 'enthusiastically'. The same goes for 'walked' in 16(b), which allows for a combination of 'walked' and the manner adverbial 'quickly'. Sentences 16(c)–16(e), however, are clearly infelicitous (or ungrammatical). 'Resembled', 'aggravated', and 'desired' are not truly agentive and hence do not allow for a manner adverbial. 'John resembled her closely' and 'Mary desired a raise immensely', of course, are felicitous. But 'closely' and 'immensely' are not manner adverbials. They do not specify a way of resembling or desiring but, rather, a quantity. In support of this view, note that there is a marginal reading of 16(e) that is felicitous. On this reading, 16(a) means something like 'Mary gradually came to desire a raise' and not that her desire was slow.

Unlike true agentive verbs such as 'kick' and 'eat', the 'appear' word 'seem' is intransitive and does not assign structural (or agentive) case to any noun-phrases or determiner phrases occurring in the same sentence. Because 'appear' words do not assign structural (or agentive) case to any noun-phrases or determiner phrases, they do not allow for the combination with a manner adverbial. 'Susan is appeared to redly', for example, is infelicitous (or ungrammatical). So, to the extent that the semantics of 'appear' words provides insight into the nature of visual experience, the adverbial view of experience is incorrect. To be sure, 'seem' does permit manner adverbials in other positions. Consider:

(17)

(a) John suddenly seemed a lot less attractive.
(b) The sky visually seemed breathtaking.
(c) The steak gradually seemed tastier than the burger.

In 17(a), 'suddenly' is a manner adverbial and belongs to 'seem', not to 'less attractive'. That is, the sentence is paraphrasable as 'It suddenly seemed that John was a lot less

attractive', rather than as 'It seemed that John was suddenly a lot less attractive.' But the adverbialist cannot appeal to cases like those in (17) to support her position, as 'It redly seemed to John' is also infelicitous. The adverbialist could, of course, provide independent arguments for her position and then give some good reasons why the semantics of perceptual verbs should not be taken to yield insight into the nature of visual experience. But this has yet to be done.

'seem' as a contextually flexible expression

Still focusing on 'seem', the question here arises whether 'seem'-reports have a contextual semantics. Bare uses of 'seem', of course, are context-sensitive. For example, 'It seems that John has arrived' can express the proposition that it seems to me that John has arrived when I utter it, and it can express the proposition that it seems to you that John has arrived when you utter it. It is tempting to think that 'seem' is a flexible contextual expression, like 'local' and 'nearby' (see, e.g., Cappelen & Hawthorne 2009). On the standard treatment of 'local' and 'nearby', the expressions are associated with a hidden variable at the level of logical form. Context can supply just about any value for the variable. Consider:

(18) John went to a local bar.

(18) need not be interpreted as 'John went to a bar that is local to the speaker', but may be interpreted as 'John went to a bar that is local to John', 'John went to a bar that is local to the hearer', 'John went to a bar that is local to his grandmother', and so on, depending on the conversational context. In this case, the speaker can more or less freely fix the value of the hidden indexical variable associated with 'local'.

'It seems', however, is not flexible in this liberal way. Suppose you are on the phone with your aunt in California. She tells you that it is raining. After you get off the phone, your girlfriend asks you 'How is the weather there?' You reply with 'It seems that it's raining.' Even if the aunt did say that it seemed to her that it is raining, the hidden variable associated with 'seems' in your utterance can only take you as a value (or you and your girlfriend), not the aunt. If you had responded with 'It seems that it's raining. But it doesn't seem to me that it's raining', your response would have been infelicitous. So, 'seems' is not flexible in the same way as are 'nearby' and 'local'.

However, despite not being as flexible as 'nearby and local', 'seem' does have some similarities to these expressions. When I turn to you and say 'It seems that we need to evacuate', the hidden variable could be occupied by the speaker or the speaker and her audience (or group). Linguistic context can also sometimes fix the value of the variable. Consider, for example, 'John peered into the room. It seemed to be empty'.

Furthermore, when epistemic uses of 'seem' are not evidence-bearing for the speaker, the variable may take a third party as a value. Suppose after stating the usual antidote and Fink problems, I say 'It seems, prima facie, like one cannot analyze dispositions in terms of conditionals'. I then give a new more elaborate theory in which the proposal is in fact to analyze dispositions in terms of conditionals. Here, the report is not evidence-bearing for the speaker because it makes implicit reference to the evidence of a person who is not acquainted with the new theory. So, 'seem' here is not semantically equivalent to 'seem to me'. In this case, 'seem' is equivalent to 'seem to you' or 'seem to someone not familiar with my theory'.

Here is another example. According to political scientists, in the 2012 election, Republicans lost in the national race because they bet on the angry white male vote and disregarded the overall force of minority-trend voting in key states. So it is true to say:

(19) It seems like Republicans got it all wrong on the demographics.

The embedded claim is not absolutely certain as a claim, but it is probable (given known data after the fact). Here, 'seem' likely is not equivalent to 'seem to me' but is probably equivalent to 'seem to those who are rational and have the available evidence'. So 'seem' is a special kind of flexible contextual expression.

Given that values other than the speaker can occupy the variable associated with 'seem', the question arises whether 'seem'-reports have relativistic contents (Kölbel, 2002, 2003, 2007; MacFarlane, 2005a, 2005b; Egan, et al. 2004; López de Sa, 2007). One piece of evidence traditionally used to argue for relativistic contents in the case of taste predicates, 'know', and epistemic modals is the possibility of meaningful disagreement among interlocutors about discourse containing the relevant term. For example, the fact that you and I can disagree about whether Brian knows where his car is parked, despite having the same knowledge about Brian's evidence, has sometimes been taken to indicate that the truth-value of knowledge claims is relative to a perspective, or a judge. The thought is that, if the speakers commit no factual errors, then the difference in their assignment of truth-values must originate in the fact that the truth-values are relative to perspectives.

Another piece of information that has been used to argue for a relativistic framework for certain word groups is the felicity of retraction claims for relative terms. For example, John might say 'I know where my car is parked.' When told (perhaps wrongly) that car theft is prevalent in the area, he might retract his previous claim: 'I guess I don't know where my car is parked after all. I was wrong in thinking that I did'. In the case of knowledge, the retraction claim sounds felicitous. This has been taken to indicate that the assignment of a truth-value, even to one's own

earlier utterances, is relative to one's perspective at the time (see, e.g., MacFarlane, 2005a).

There has been a lot of criticism of these tests for assessing whether a certain word class is relativistic or not (see, e.g., Cappelen & Hawthorne, 2009). Even if we grant the effectiveness of the tests, however, 'seem' does not appear to be a relativistic verb. Suppose we both hear on the radio that there will be a hurricane in our area. 'It seems that our home will be flooded,' I say. You reply that it does not seem that way. If we are equally rational, one of us has evidence not available to the other—for example evidence that the radio station is notoriously unreliable. In this case, then, we disagree about the facts about the situation; so the disagreement is not faultless. Retraction data do not support a relativistic semantics for 'seem'-reports, either. Consider the following exchange:

JOHN: It seems that we need to evacuate.
RADIO HOST: The earlier announcement about flooding was a hoax.
JOHN: It seems that we don't need to evacuate after all.
MARY: But earlier you said that it seemed that we ought to evacuate.
JOHN: It seemed that way to me then. I didn't know that the announcement was a hoax.

Here John is not willing to retract the earlier claim that it seemed to him that they ought to evacuate. What he admits is that he did not have all the information that was needed for him to correctly judge that the complement clause was true. It would seem, then, that 'seem'-reports do not have a relativistic semantics.

SEMANTIC AND LOGICAL PROPERTIES OF 'SEEM'

As 'seem' is a subject-raising verb, it can be treated as a kind of sentential operator when the sentence occurs in its unraised form. For example, 'it seems' as it occurs in 'it seems that $2 + 2 = 4$' can be treated as a sentential operator on the operant clause 'that $2 + 2 = 4$'. What are the logical properties of 'seem'?

One question we might ask is whether 'seem' is extensional, intensional, or hyperintensional. Co-referential terms are intersubstitutional in extensional contexts. To illustrate, consider the Superman story. Superman just is Clark Kent. So, Superman can fly just in case Clark Kent can. In other words, since 'Superman' and 'Clark Kent' refer to the same person, 20(a) is true iff 20(b) is:

(20)
(a) Superman can fly.
(b) Clark Kent can fly.

'Superman' and 'Clark Kent' are said to be intersubstitutable in 20(a) and 20(b) *salva veritate,*—that is, without any change in the truth-value of the reports. The principle of *Intersubstitutability* of co-referring terms can be formulated as follows:

> *Intersubstitutability*
> If two terms refer to the same individual in a given linguistic environment (or context), then in that environment they are intersubstitutable *salva veritate*.

Intersubstitutability in extensional contexts is compelling. It is motivated by semantic considerations of compositionality. In compositional semantics, the truth-value of an (uttered) sentence is determined by the reference (denotation, extension) of the constituents of the sentence. So, if two terms co-refer, substituting one for the other in a sentence ought to have no effect on truth-value. But sentences embedded under logical operators appear to violate *Intersubstitutability*. Consider:

(21)
(a) Lois Lane believes that Superman can fly.
(b) Lois Lane believes that Clark Kent can fly.

21(a) is true and 21(b) false (in the world of Superman). As 'Superman' and 'Clark Kent' co-refer when embedded under 'Lois Lane believes', 'Superman' and 'Clark Kent' do not satisfy *Intersubstitutability* in this context. The apparent violation of *Intersubstitutability* is also known as 'Frege's puzzle'. Frege's solution to the puzzle was to argue that co-referential terms like 'Superman' and 'Clark Kent' do not co-refer when embedded in non-extensional contexts. In non-extensional contexts, referring expressions undergo a reference shift: the semantic argument of 'Lois Lane believes' will not be a truth-value but, rather, a proposition or 'sense'—which is to say, to adequately deal with expressions like 'Lois Lane believes', we need an intensional semantics. That is, what matters to the truth of our sentence is the content of the Superman stories as they are in the evaluation world. In the evaluation world, referring expressions such as 'Superman' refer to the concept (or sense) that they express. In its technical sense, the sense or concept of a name is a function from worlds (indices, circumstances of evaluation) to individuals that satisfy certain properties associated with the name. But senses may also be thought of as ways of presenting things. For example, the sense of 'Superman' may be thought of as a way of presenting Superman as a flying superhero, and the sense of 'Clark Kent' may be thought of as a way of presenting Clark Kent as a mild-mannered office worker.

Since 'Superman' and 'Clark Kent' do not co-refer in attitude contexts, if Frege is right, the non-intersubstitutability of 'Superman' and 'Clark Kent' in 21(a) and

21(b) does not violate *Intersubstitutatibility*. There are two kinds of non-extensional contexts: intensional and hyperintensional. In intensional contexts, co-referential expressions that are not necessarily co-referential can be substituted *salva veritate*. So, 'the boring office worker' can be substituted for 'Clark Kent' in the intensional context 'Clark Kent might have been a carpenter'. In hyperintensional contexts, logically equivalent expressions cannot be substituted *salva veritate*. Operators like 'believe' and 'According to the Sherlock Holmes stories' generate hyperintensional contexts.

Like 'According to the Sherlock Holmes stories' and 'I believe', 'seem' generates a hyperintensional context. Consider, for example:

(22)

(a) It seems to John that 2 + 2 = 5.
(b) It seems to Lois Lane that Superman is not Clark Kent.
(c) It seems to the person viewing the waterfall illusion that subsequent stimulus is moving and not moving.
(d) It seems to Twin Oscar that water is XYZ.

Substituting '4' for '2 + 2', 'Superman' for 'Clark Kent', '2 + 2 = 5' for 'the subsequent stimulus is moving and not moving' and 'H_2O' for 'water' could affect the truth-value of the sentences in (22). 'It seems' thus satisfies the criterion for hyperintensionality.

Logically, 'it seems' behaves in some respects like well-known quantifiers and sentential operators. Sentential operators such as the knowledge operator and the universal quantifier distribute over conjunction but do not distribute over disjunction. 'It seems' is similar in this respect. We can infer '(it seems that *p*) and (it seems that *q*)' from 'it seems that (*p* and *q*)' but we cannot infer '(it seems that *p*) or (it seems that *q*)' from 'it seems that (*p* or *q*)'. It seems to me that it is raining or it is not. But it does not follow that it seems to me that it is raining, or it seems to me that it is not.

Like the knowledge operator, 'it seems' does not commute with negation. Your shirt may not seem like anything to me, in which case it is not the case that it seems to me that your shirt is blue. So from 'It's not the case that it seems to me that your shirt is blue', it does not follow that it seems to me that your shirt is not blue.

There is reason to think that 'it seems' does not agglomerate with conjunction (that is, closure fails). Let *p* be: 'Ticket 1 will win.' And let *q* be: 'Ticket 2 will win.' Suppose there is 0.8 probability that 1 will win and 0.8 probability that 2 will win. It might seem to me that ticket 1 will win, and it might seem to me that ticket 2 will win. But it may not seem to me that (both ticket 1 and ticket 2 will win). The chance of both tickets winning is 0.64. The relatively low probability may not be high enough for it to seem to me that both will win. Alternatively, it may not seem that way to me because I know that only one ticket can win in this particular lottery. Here is another example

due to Mark Lance (pers. comm.). It really does seem to Lance that the Axiom of Choice (AC) is true, and it seems to him that Well Ordering (WO) is false. But it does not seem to him that AC & ~WO because he realizes that AC and WO are equivalent.

It is a bit more difficult to determine whether 'it seems' distributes over indicative conditionals. Suppose it seems to Jack that if your argument is correct, then it is raining. Does it follow that if it seems to Jack that your argument is correct, then it seems to Jack that it is raining? In other words, is the following inference valid?

> It seems to Jack that (if your argument is correct, then it's raining).
> So, if it seems to Jack that your argument is correct, then it seems to Jack that it's raining.

I am inclined to think that it does not. Of course, we have to be careful not to equivocate on 'seems'. We cannot read some of the occurrences of 'seems' as phenomenal and others as epistemic. But even on an unequivocal reading, the premise could be true while the conclusion is false. The premise might be true in virtue of Jack's belief that your argument is incorrect. As he knows that a conditional with a false antecedent is true, it seems to him that the conditional is true. Even if Jack believes that your argument is incorrect, it can still seem to him that it is correct. So the antecedent of the conclusion could be true. But it need not seem to Jack that it is raining (or that it is not). So, the antecedent of the conclusion could be false.

Presumably 'it seems' does not distribute over strict conditionals or semantic entailments either. Consider:

> It seems to me that necessarily (if water exists, then there are H_2O molecules).
> So, necessarily (if it seems to me that water exists, then it seems to me that there are H_2O molecules).

Assume that the premise is true on the grounds that in the actual world I have a probabilistic belief in the proposition that, necessarily, water is H_2O. In a world in which the clear, potable liquid that fills oceans, rivers, and lakes consists of XYZ and not H_2O, I probably will not have a probabilistic belief in the proposition that necessarily, water is H_2O or the proposition that there are H_2O molecules. However, it may seem to me that water exists.

The failure of distribution of 'seem' over generalized conditionals seems involved in the phenomenon of paradox. A paradox is an argument for which each of the premises seems true, and which seems valid, but for which the conclusion not only fails to seem true but also positively seems false. Consider an instance of the sorites paradox.

A man with 50,000 hairs on his head is not bald.
If a man with *n* hairs on his head is not bald, then a man with *n*-1 hairs on his head is not bald.
So, a man with 0 hairs on his head is not bald.

At first glance, the argument seems valid and the premises seem true, but the conclusion seems false. Since the argument is valid, this is a good example of a case in which 'seem' fails to distribute over semantic entailment. The case also adds additional support to the view that 'it seems' does not agglomerate over conjunction. The premises seem true to me, the argument seems valid, but the conclusion seems false. It does not follow from this that it seems to me that (the argument is valid, the premises are true and the conclusion false). After all, I know that a valid argument with true premises cannot have a false conclusion. The Preface Paradox is another paradox that can illustrate the failure of 'it seems' to agglomerate over conjunction. Individually the sentences in a preface seem true but taken together they do not seem true.

'LOOK' AS A SUBJECT-RAISING VERB

'Seem' and 'appear' are uncontroversially subject-raising verbs. It is a more controversial issue whether 'look' is also a subject-raising verb. However, I think there are several good reasons to think that 'seem', 'look', and 'appear' belong to the same word class. If indeed 'look' is a subject-raising verb, it will have the same properties as 'seem' and 'appear'. Thus, the semantics of 'look' will not support an adverbial theory of perception, and it will function as a hyperintensional operator at the level of logical form. The reasons for thinking that 'look' is a subject-raising verb (as opposed to, say, a copular verb) can be summarized as follows:

(i) *Etymology*: 'Seem' originates from the Old English 'beseon', which is a contraction of 'be' and 'seon' (literally, 'to see') (OED) and Mitchell & Robinson, 2012: 325). 'Beseon' was used in most of the grammatical constructions where 'look' is used in modern English. Consider the following examples:

'Hwa don Willelm of Normandige beseon gelic?'
What-does-William-of-Normandy-be-see-like?
(What does William the Conqueror look like?)

'Angelcynn beseon micel lytlian nu'.
England-be-see-very-different-now.
(England looks so different now.)

'Beseon' functions as a subject-raising verb. 'England looks so different now' is a raising construction because 'England' is the surface-grammatical subject of 'look' but it is the semantic subject of 'to be different now'. The semantic subject of 'look' is implicit. In old English, 'beseon' is derived from 'see'. The subject of 'see' could be 'I' or 'people'. If the implicit subject of 'see' is 'I', then 'I see England as very different now' is the raised form of 'England be see so different now [by me]'. Likewise, 'People see William of Normandy in which way?' is a raised form of 'What does William of Normandy be see like [by people]?'

'Look' comes from the Old English verb 'locian', which means 'to see, to gaze'. 'Locian', in turn, comes from the West Germanic 'lokjan'. 'Locian' in the sense of 'having a certain appearance' entered Old English around 1400, at which point it began to occur in the positions in which 'beseon' had previously occurred. As 'look' originated from 'locian', and 'locian' occurs in the same positions as the older 'beseon', it is very plausible to think that 'look' and 'seem' function in the same way (Brogaard, 2015a).

(ii) *Transitive Forms*: Like most uncontroversial subject-raising verbs, 'look' can also function as a transitive verb. Consider:

(23)

(a) John looked (shy, shyly) at Mary.
(b) Tom (eagerly) expected the car crash.
(c) Alice (reluctantly) tasted the soup.
(d) Bob (enthusiastically) believed everything Mathias said.
(e) Paulo (willingly) proved him guilty.

When the verbs function as transitive verbs, they describe acts or actions of the referent of the semantic subject. When they function as intransitive raising verbs, they describe a passive experiential or epistemic state of an implicitly or explicitly mentioned perceiver. For example, 'Lisa seemed angry to Paulo' describes a passive experiential or epistemic state of Paulo, and 'The tomato looks red' describes a passive experiential or epistemic state of the speaker. Unlike subject-raising verbs, quintessential copular verbs, such as 'be' and 'become', do not split into transitive and intransitive verbs.

(iii) *Unraised Forms*: In its unraised form, 'look' occurs syntactically in many of the same positions as 'seem' and 'appear'. Consider:

(24)

(a) It looks/seems/appears as if Gerard Depardieu will be able to live in France after all.
(b) It looks/seems/appears like Shakira's baby could arrive any day now.

Benj Hellie (2015) has argued that the perceptual verbs 'look', 'feel', 'taste', 'smell', and 'sound' are copular verbs just like 'be' and 'become'.[16] These verbs take an adjectival predicate as its syntactic complement, as in:

(25)
(a) Andrea is/becomes/looks tall.
(b) Kim is/becomes/looks similar to a cat.
(c) Luke is/becomes/looks like a dog.

Both the verb 'look' and the copular verbs, Hellie points out, resist taking 'that'-clauses as their complements and only reluctantly take non-finite verb phrases (e.g., 'to have had a good time') as their complements. In this respect, they behave differently from subject-raising verbs, such as 'seem', 'appear', 'believe', 'prove', 'expect', 'turn out', 'find', 'deem', and 'assume'.

(26)
(a) It appears/seems that Sam is running for office.
(b) *It looks that Sam is running for office.
(c) My shoes seem to have been left out in the rain.
(d) ?My shoes look to have been left out in the rain.

Hellie takes this to suggest that the perceptual 'look does not operate syntactically on clauses but on predicates, which means that it does not operate semantically on propositions but on properties. Hellie proceeds from these linguistic considerations to offer an account of perceptual copular verbs as expressing special kinds of beliefs.

Though I grant that 'look' does not take 'that'-clauses as its complement, I do not think this observation gives us a sufficient good reason for treating it as semantically different from 'seem' and 'appear'. It is more plausible to think this behavior of 'look' is an irregularity of the verb.

My suggestion that we should not give too much weight to the irregularities of 'look' that Hellie cites can be backed up by the observation that 'seem' and 'appear' do not function exactly like most other subject-raising verbs, either. Compare:

(27)
(a) Tom was found missing.
(b) Susan was proven guilty.
(c) A laptop was reported stolen.

[16] Note that subject-raising verbs and copular verbs are sometimes all classified as copular verbs. I don't have a problem with this standard classification. If, however, 'look' functions as a genuine copular verb, then it should be more similar semantically to quintessential copular verbs such as 'is' and 'become' than to subject-raising verbs.

(d) Patrick was assumed dead.
(e) Some 67 percent of the students' writing was deemed outstanding.
(f) John is expected to arrive on time.
(g) Mary is believed to have stolen two library books.
(h) Tom was seen eating a sandwich.

(28)
(a) Carrie seemed guilty.
(b) Brady appeared to have been eating a sandwich.

In the raised forms in (27), a copular verb precedes the subject-raising verb. This is not so in the raised forms in (28). Irregularities like these are to be expected in a language that constantly develops and adopts words from other languages.

Even if Hellie is right that 'look' is a true copular verb, however, his argument does not provide a compelling reason for treating perceptual seemings or appearances as beliefs. The main reason for this is that even though perceptual seemings can be expressed in terms of 'look', they are equally well expressed in terms of 'seem' or 'appear'.

OBJECTIONS TO THE PHENOMENAL USE OF 'LOOK'

Michael Thau (2002), Alex Byrne (2009), Mike Martin (2010) and others have argued that there is no genuinely phenomenal use of 'look', where the phenomenal use is the non-epistemic non-comparative use in Chisholm's sense. Martin (2010) explicitly grants that there are both comparative and non-comparative uses of 'look'. But he argues that there is no narrow phenomenal use of 'look', in Jackson's (1977) sense. Most of his arguments, however, turn on the nature of looks rather than on the semantics of the word itself. So, I will deal with Martin's argument in the next chapter.

Thau (2002) and Byrne (2009) also question whether there is a genuine phenomenal use of 'look'. They argue that all uses of 'look' may be implicitly semantically comparative, even if they are grammatically non-comparative. Byrne, however, adds that even if there are no semantically non-comparative uses of 'look', this does not show that 'look' statements are irrelevant to the nature of perception. 'Look' statements may *convey* how things look in a conversational context. For example, 'Peter looks Scandinavian' may convey that Peter has the stereotypical Scandinavian bodily features (tall and straight stature, straight blond hair, small nose, pale skin, etc.). That is, a 'look'-statement may convey non-comparative, non-epistemic looks.

Although Byrne rejects the view that there is a phenomenal use of 'look' in a narrow sense, what he says about the non-comparative, non-epistemic looks that may be conveyed by 'look' statements could be turned into an argument for a phenomenal use of 'look'. Surely, we can express at least some of the propositions conveyed by 'look' statements using the locution 'look'. For example, 'Peter looks Scandinavian' may convey the proposition that his skin looks pale. But the 'look' in 'looks pale' is used phenomenally here.

Charles Travis (2004, 2013) is sometimes taken to deny, or fail to recognize, that there are non-comparative non-epistemic looks (see, e.g., Byrne, 2009). However, his position may be more accurately interpreted as the view that non-epistemic looks fail to specify a determinate representational content. Since his only examples of non-epistemic uses of 'look' are comparative, it may seem that he reaches this conclusion by setting aside any potential phenomenal uses of 'look'. His point, however, seems to be that uninterpreted phenomenal appearances cannot determine a unique representational content. So, visual experience does not have a unique representational content independently of the agent's higher epistemic states. One way to respond to this kind of argument is to grant that certain perceptual inferences go into producing phenomenal looks. Perceptual inferences, I will argue, are determined, not by rational principles, but by intraperceptual principles inherent to the perceptual system (see Pylyshyn, 1999). I shall return to Travis's argument in chapter 4.

SIGNPOST

As Chisholm argues, there are three uses of 'appear' words, such as 'seem' and look': epistemic uses, comparative uses, and non-comparative uses. What Jackson calls 'phenomenal uses' are non-epistemic non-comparative uses. Comparative uses of 'appear' words are analyzable in terms of non-comparative uses. Semantically, 'seem' and 'look' function as subject-raising verbs, which means that they function as operators on content at the level of logical form, much like operators such as, 'it was the case', 'it could have been the case', and 'it might be the case'. 'It seems' is a hyperintensional and contextually flexible operator. The operator distributes over conjunction but not over disjunction, conditionals, or semantic entailment. I have also argued that the operator does not commute with negation and does not agglomerate with conjunction. These semantic features of 'seem' and 'look' will play crucial roles in the arguments for the representational nature of visual seemings and visual experiences. I now turn to the question of the nature of the visual seemings expressed by perceptual reports.

2

LOOKS AND SEEMINGS

IN CHAPTER 1, I spoke rather uncritically about the looks and seemings expressed by 'look'- and 'seem'-reports. Using 'express' as a term of art, I stipulated that a report attributing a seeming to *S* expresses mental state *m* iff if the report were true, then *S* would be in *m*. However, there is still a question of what looks and seemings are, and whether they are indeed mental states. In this chapter I argue that 'look'- and 'seem'-reports do indeed express mental states rather than observational properties, as Mike Martin has proposed. I then provide evidence for thinking that looks and seemings fall into two kinds: phenomenal (non-epistemic, non-comparative) and epistemic. At the end of this chapter, I present my argument for thinking that looks and seemings are representational and address the question of whether this conclusion implies that visual experiences are representational.

MARTIN ON PHENOMENAL LOOKS

Martin (2010) has objected to the hypothesis that 'look'-reports express psychological states. He explicitly grants that there are both comparative and non-comparative uses of 'look'. But, he says, looks are objective states of external objects.[1] These states

[1] Price (1932) held a sense-datum view that, despite differences in terminology, is strikingly similar to Martin's view.

are constituted by observational properties, such as *being cubic* and *being bent*. For the case of visible objects, Martin argues, there is a necessary correlation between having a look of a property and having that property (206). For example, there is a necessary correlation between *looking bent* and *being bent*. So, it is necessarily the case that a bent candle looks bent.

Martin argues that the semantics of 'look' supports his claim that looks are observational properties. The reasons he provides for this are similar to those Chisholm (1957) provided for thinking that 'look'-reports express look-relations between objects and perceivers. According to Martin, 'The candle looks bent' is a subject-predicate sentence at the level of logical form that attributes the property of looking-bent to the candle. The property of looking-bent is an observational property that is necessarily co-instantiated with the property of being-bent.

The problem with this argument is that it rests on a mistaken semantic analysis of 'look'. As we have seen, 'look', like 'strike', functions as a subject-raising verb, which strongly suggests that looks are psychological states rather than observational properties of objects. 'Look', used as an intransitive verb, functions as a sentential operator at the level of logical form: '*o* looks red' has the underlying structure 'looks (*o* is red)'. In the transformation of the underlying structure, '*o*' raises to become a constituent of the higher clause '*o* looks to be red'. This then undergoes infinitive deletion to yield '*o* looks red'. '*o* looks red' thus has the same underlying structure as 'a laptop was reported stolen' and 'Patrick was assumed dead'. In all of these cases, the underlying structure contains a subject-predicate subordinate clause with a predicate that expresses a property attributed to the referent of the semantic subject term. For example, 'a laptop was reported stolen' says that it was reported that a laptop was stolen. The subordinate clause thus attributes *being stolen* to some laptop. Likewise, the subordinate clause in '*o* looks red' attributes property *being red* to *o*. The subordinate clauses of 'look'-reports thus attribute properties expressed by the predicate term to the referent of the subject term of the subordinate clause.

A further problem with Martin's proposal, as it stands, is that it does not account for 'look'-reports that seem true, in spite of the fact that the thing that is said to look a certain way doesn't have the property it is said to appear to have. Martin does recognize that we often say that a thing looks a certain way, even when the thing does not have the property it is said to appear to have. However, he argues, when we report on the look of a thing, we may not be commenting on the objective look of the thing. We may simply be saying how an object 'strikes us visually' (Martin, 2010: 215). For example, if I say that a straight stick half immersed in water looks bent, I may simply be saying that it strikes me the way bent objects normally strike us. Thus, the look of the stick is associated with the characteristic psychological state associated with the look bent things have. The stick is similar to bent things simply in terms of how it strikes me.

While the suggestion may seem reasonable, it is in fact incoherent. On Martin's proposal, 'the stick looks bent' cannot be understood as a non-comparative 'look'-report, as the straight stick half immersed in water isn't bent. So, it must be understood as a comparative 'look'-report. But as argued above, comparative 'look'-reports make unreduced appeal to *non-comparative looks*. On the comparative reading, 'the stick looks bent' cashes out to: 'There is an *x* such that *x* is how bent sticks look, and the stick looks *x*'. On Martin's analysis, this can be true only if the stick has certain observational properties that bent sticks also have. But which observational properties might those be? It seems that the property that the straight stick would need to have to be similar to bent sticks would be the property of striking me in a certain way. But the property of striking me in a certain way is not an observational property. It is not a property things can *look* to have. The only relevant observational property the stick can look to have is that of being bent. Yet the stick does not have that property. So, on Martin's analysis, 'the stick looks bent' turns out to be false, which is not the result he wanted. As *being bent* cannot be an observational property of the stick when the stick does not have that property, it seems that Martin must be prepared to admit that *being bent* is a property of a mental object or a constituent of a mental content. But if this is so, then looks are not observational properties (or states of objects) but, rather, psychological states.

The main reason Martin finds it tempting to treat looks as observational properties, it seems, is that that he treats grammatically non-comparative 'look'-statements as subject-predicate sentences. He may, however, also be motivated by the fact that most non-epistemic 'look'-reports do not explicitly mention psychological states. They do not even need to mention an observer or a viewing condition. Consider:

(1)

(a) Australian mailboxes look red.
(b) MacBook computer screens look rectangular.
(c) Scandinavians look blonde and pale.

The sentences in (1) do not explicitly mention any psychological states, perceivers, or viewing conditions. However, this is because 'look'-reports, like color-reports, can be used generically. If you were to utter 1(a)–1(c), you would likely mean something like:

(2)

(a) In general, Australian mailboxes look red relative to a normal perceiver in normal viewing conditions.
(b) In general, MacBook computer screens look rectangular to a normal perceiver in normal viewing conditions.
(c) In general, Scandinavians look blonde and pale relative to a normal perceiver in normal viewing conditions.

Used this way, 1(a) could still be true if uttered by a colorblind person or Oliver's Sack's Jonathan I, who suffered from achromatopsia, a condition that prevents afflicted individuals from visually experiencing hues (i.e., red, yellow, green, blue). 1(b) could still be true if uttered by a person with El Greco vision, which makes people see thin rectangular objects as square (Chalmers, 2006). 1(c) could still be true if uttered by someone wearing yellow sunglasses. Generic 'look'-reports contrast with reports such as:

(3)

(a) The tomato looks gray to Elliott, who is colorblind.

(b) Michael Jackson's skin looks pale to me.

(c) Ross Lynch's hair looks blonde to me.

Even in these cases, the viewing conditions are not made explicit. So, the reports have two readings. Take 3(a). On one reading, it says that the tomato looks gray to Elliott in the viewing conditions Elliott is in at the time of speech. On the other reading, it says that the tomato looks gray to Elliott in normal viewing conditions. Only the former reading is entirely non-generic.

Because generic 'look'-reports describe how things look to a normal perceiver in normal viewing conditions, one might be tempted to say that they describe observational properties—viz. properties instantiated by the object that can be observed by normal perceivers in normal viewing conditions. However, this temptation should be resisted. If a crazy person went on a killing spree and killed off 99 percent of people who are not colorblind, then the generic 'Australian mailboxes look red' would be false.[2] Australian mailboxes would not look red in the generic sense, even though one could argue that they still would *be* red. Here is another example. As Chalmers (2006) argues, there could be an El Greco universe in which everything is stretched ten times in one direction compared to our world but in which the perceptual systems of perceivers make up for the stretching. So, when they observe a long, thin rectangle (which in our world would be a square), it seems to them that it is a square. In such a world, the perceivers' experiences might be said to be veridical. But consider a variation on this scenario: a case in which the perceivers observe the shapes as they are (actual scenario), but in which certain people with an El Greco mutation develop perceptual system that make long, thin rectangles look square. At some point the people with the mutation may outnumber the people without the mutation (actual scenario populated by people with El Greco perceptual systems). In a case like this, the generic 'rulers look square' is true in spite

[2] One might argue that 'mailboxes look red' involves some sort of modal, in which case the generic would not turn out false instantaneously. However, if some time passed, it presumably would become false. Thanks to an anonymous reviewer here.

of the fact that rulers are rectangular. So, we cannot take generic 'look'-statements to attribute observational properties to objects in Martin's sense. The properties these statements attribute are properties of mental objects or constituents of the contents of psychological states.

EPISTEMIC VERSUS PHENOMENAL SEEMINGS

If 'seem'- and 'look'-reports express psychological states, as I have just argued that they do, then the question arises: which kinds of psychological states do they express? Chisholm talks about *uses* of the words 'look' and 'seem' rather than the looks and seemings expressed by reports in which the words occur. His main focus thus is not on what makes a seeming or a look epistemic as opposed to phenomenal. However, much of the evidence he provides for distinguishing among the different uses of 'appear' words depends on qualities of the psychological states that the different uses aim at describing. There are good reasons for this. As we have seen, there is no way to identify all the different uses of 'seem' and 'look' by their logical form. As we saw in chapter 1, 'Michael Vick looks ready to go' could be used comparatively or non-comparatively, as well as epistemically or non-epistemically, depending on context. Accordingly, the distinctions among the different uses of 'look' and 'seem' depend mostly on what we know about the looks and seemings expressed by 'seem'- and 'look'-reports.

Once we reflect on what it is like for us when something appears a certain way, it becomes clear that looks and seemings fall into two main groups: epistemic and phenomenal. Unlike the language of 'look' and 'seem', the issue of whether a look or a seeming is comparative does not arise. As noted earlier, one mark of epistemic seemings is that they go away in the presence of a defeater, if the agent is rational. Suppose that you hear on the radio that a public health-care reform has been accepted. You say 'It would seem that I won't need my private health insurance anymore.' A minute later the radio host comes back on and announces that the previous statement was a hoax. This is a defeater of the seeming that you will no longer need your private health insurance. So, if you are rational, it will no longer seem to you that you will not need your private health insurance.

Epistemic seemings can be captured fairly well in terms of probabilistic belief. 'It seems to me that premise (2) is incorrect' indicates that it is subjectively probable, on my evidence, that premise (2) is incorrect. So, it seems plausible that epistemic seemings are reducible to subjective probability.

Phenomenal seemings, by contrast, do not reduce to belief or subjective probability. To see this, consider the Müller-Lyer illusion (shown in figure 1.3, in chapter 1). The direction of the fishhooks at the ends of the line segments that are equal in length

end are turned inward but longer when they are turned outward. The illusion persists even after being told or shown that the line segments have different lengths, if the perceiver is rational. Subjective probabilities, however, are subject to revision. Under conditions of total rationality, subjective probabilities will be revised in accordance with the evidence.[3] For example, if it is subjectively probable on my evidence that premise (2) is wrong, but you provide further evidence for premise (2), it may well be less subjectively probable that the premise is wrong.

Another case illustrating that phenomenal seemings cannot be understood as probabilistic belief is the McGurk effect. The McGurk effect is an illusion that occurs when one sound is played while a person is shown uttering a different sound. For example, the speaker is mouthing the words 'ba-ba' while the audio is dubbed as 'ga-ga'. What you end up hearing is 'da-da'. The illusion occurs because the brain is attempting to bind visual information with conflicting auditory information and it has to make a guess as to what the true sound is. In this case, it perceptually seems to you that the speaker is mouthing the words 'da-da', even though you know that is not the case. The main explanation for the persistence of these illusions, even after we have been presented with defeaters, is that certain kinds of information are encapsulated from influences from higher brain regions (Fodor, 1983). So, our phenomenal seemings in the Müller-Lyer illusion and the McGurk case are informationally encapsulated from defeating information from higher brain regions. What we learn or come to believe does not change how things phenomenally seem to us.

One virtue of understanding epistemic seemings as probabilistic beliefs is that it explains many of the logical properties of 'it seems'. For example, 'It seems' does not distribute over disjunction. So, we cannot infer '(it seems that *p*) or (it seems that *q*)' from 'it seems that (*p* or *q*)'. 'It is raining or it is not' has subjective probability 1, whereas 'it is raining' and 'it is not raining' may both have probabilities that fall below the threshold required for seemings. Here is a second case: 'It seems' does not agglomerate with conjunction. 'Ticket 1 will win' and 'Ticket 2 will win' may each have subjective probability 0.8. But 'ticket 1 and ticket 2 will both win' has subjective probability 0.64, which may not be beyond the threshold required for seemings. Here is a third case: 'It seems' does not distribute over conditionals. From 'it seems to me that necessarily (if water exists, then there are H_2O molecules)', we cannot infer that 'necessarily (if it seems to me that water exists, then it seems to me that there are H_2O molecules)'. Suppose I assign a high subjective probability to the operant clause of the premise on the grounds that 'necessarily, water is H_2O' has a high subjective probability. In a world in which the clear, potable liquid that fills oceans,

[3] This is related to the idea that one can have reasons for or against believing or intending, but not for or against seeing or feeling pain. Thanks to an anonymous reviewer here.

rivers, and lakes consists of XYZ and not H_2O, 'necessarily, water is H_2O' has a low subjective probability but 'water exists' has a high subjective probability. So, the operant clause of the conclusion has a low subjective probability.

A useful way to capture the difference between phenomenal and epistemic appearances is in terms of cognitive penetrability. As we will see, appearances that are subject to cognitive penetration are epistemic, whereas appearances that are cognitively impenetrable are phenomenal.

Cognitive penetration has traditionally been understood as a semantic phenomenon. If visual experience is cognitively penetrated, the phenomenology or content of the experience is sensitive in a semantically coherent way to the agent's cognitive states and can be altered in a way that bears a logical relation to the agent's knowledge or reasons (Pylyshyn, 1984; Raftopoulos, 2001; Macpherson, 2012; Siegel, 2012; Brogaard & Chomanski, 2015; Brogaard & Gatzia, 2017).

It is important to draw a distinction here between top-down influences on experience and cognitive penetration. When experience is affected by top-down influences, a cognitive or higher-level brain state is causally exerting influence on the experience in a way that may alter the content or phenomenology of the experience. Attention is one such top-down influence that can alter experience, yet this influence is not considered a form of cognitive penetration (Pylyshyn 1999).

For a top-down influence to be a case of cognitive penetration, there must be a semantically coherent chain of steps that begins with the cognitive state and eventually results in an alteration of the experience. Consider the following example of a top-down influence on experience: Izzy is attending a difficult biochemistry lecture on migraines. Her thoughts about the difficult theories about the nature of migraines activate her amygdala, yielding a stress reaction. The activation in the amygdala causes her to develop migraine auras. Her thoughts about migraines thus resulted in an alteration of her visual experience, yet it cannot rightly be considered a case of cognitive penetration. This is because the steps in the chain from the cognitive state to the alterations in her visual experience are not semantically coherent. There is no inferential relation between her thoughts about migraines and her stress reaction or between her stress reaction and her visual experience. So, even though her thoughts of migraines exert some top-down influence on her visual experience, this influence is not an instance of cognitive penetration.

Now consider the appearance that the lines in the Müller-Lyer illusion have different lengths. The appearance is not subject to cognitive penetration. Regardless of how carefully we measure the lines, it will continue to seem to us that they have different lengths. Epistemic seemings, however, are subject to cognitive penetration. If I look out the window and see dark clouds in the sky, it may come to epistemically seem to me that it is going to rain. If I am told by weather reporters that

the dark clouds are not due to rain but, rather, are ash clouds that have formed after a recent eruption of a volcano in Iceland, my new knowledge state that it is unlikely that it is going to rain will cognitively penetrate and modify my epistemic seeming. Or at the very least, it will reduce the subjective probability I will be willing to assign to the proposition that it is going to rain. Here is another example: Suppose it comes to epistemically seem to me that John is angry at you on the grounds of testimony that he found out that you voted against his tenure. If I subsequently learn that he merely found out that you raised a few concerns at his tenure meeting but voted in favor of his tenure, my knowledge may modify my epistemic seeming. I am likely going to lower the subjective probability I am willing to assign to the proposition that John is angry at you.

There is a potential counterexample to the claim that only appearances that are cognitively penetrable are epistemic. Color appearance has traditionally been considered cognitively impenetrable. However, Fiona Macpherson (2012) has recently challenged this hypothesis citing an old study by Delk and Fillenbaum (1965) (for general discussion, see also Siegel, 2015b). Delk and Fillenbaum constructed figures using the same orange-red paper. Some of these figures represented objects that are characteristically red, such as a love-heart shape, a pair of lips, an apple, and so on. Others represented objects that are not characteristically red, such as a circle, a horse, a mushroom, and the like. Each of the figures was placed in front of each subject, one at a time. The subjects were asked to tell the experimenter to adjust the color of the background to match the color of each figure. Subjects systematically matched the figures that had characteristically red colors (e.g., a pair of lips) with a background color that was redder than the background they chose when the figures did not have characteristically red colors (e.g., a circle). Delk and Fillenbaum concluded that color appearance is influenced by previously formed color associations (293). Macpherson argues that these results support the hypothesis that color appearance is cognitively penetrated by cognitive states—for example, beliefs about the colors of familiar objects (also known as 'memory color').

Although the study Macpherson cites is methodologically problematic (Brogaard & Gatzia, 2017), it is by no means the only study that purports to show that high-level cognitive states such as beliefs, desires, intentions, or mood literally and directly affect color appearance (Gegenfurtner et al., 2001; Hansen et al., 2006; Witzel et al., 2011). Hansen et al. (2006) presented subjects with digital photographs of natural fruit, such as bananas, placed against a gray background. Subjects were asked to adjust the color of the fruit until it appeared gray. The study showed that subjects adjusted the color of, say the banana to a slightly bluish hue—the opposite of yellow—in order to make it appear gray. This indicates that the banana continued to appear yellow to subjects even

when it was actually achromatic. As a control, subjects were also asked to adjust uniform spots of light and random noise patches. The difference between the controls and the fruit settings was found to be significant. Hansen et al. (2006) concluded that long-term memory (or memory color) has a top-down effect on color appearance: it continuously modulates incoming input and changes color appearances. If this is right, it follows that color experience is significantly affected by long-term memory of characteristic colors (Hansen et al., 2006). This study seems to add further support to the hypothesis that color appearance is cognitively penetrable.

The reason this constitutes a counterexample to the claim that appearances that are cognitively penetrable are epistemic is that color appearances are the prototypical case of a (perceptual) phenomenal appearance. There is, however, a more plausible interpretation of the empirical results (Brogaard & Gatzia, 2017). The effects on color appearance may not, in fact, be the result of cognitive penetration but may instead be the result of perceptual principles inherent to the visual system. In calculating color constancy, the visual system makes numerous adjustments to the proportion of wavelengths transmitted via the optical nerve. In the Hansen et al. (2006) study, it was shown that individuals adjust the color of images of natural fruits to gray in such a way as to counteract the characteristic color of the objects. But it wasn't shown whether this adjustment was a result of perceptual principles or of cognitive penetration. The results showing that we adjust the color of a banana to have a blue tint are consistent with this adjustment being the result of perceptual principles that would normally lead us to adjust for the green or blue appearance of a banana turning away from the sun.

In order to establish that memory color cognitively penetrates our color appearances, it would need to be shown that knowledge about the contingent color of an object that is acquired later in life can affect our color appearances. Witzel et al. (2011) conducted a study that may seem to establish this. This study tested the differences between how participants adjusted the color of arbitrarily colored natural and artificial objects, some of which were easily recognizable. They reported that the memory color of Nivea moisturizer, traffic signs, Smurfs, and Milka chocolate significantly affected how participants adjusted the color of the objects, suggesting that familiarity with these objects cognitively penetrates color experience.

However, the Witzel et al. study is methodologically problematic. The researchers didn't adjust for cultural background or prior knowledge of objects. So, we cannot determine whether the memory color effects were the results of what people learned in early childhood or later in life. But that is one of the main questions at issue here (in the case of the artifacts). The perceptual principles inherent to the visual system, which are involved in computing constancy, are for the most part shaped in early childhood. For example, I would have been a subject for whom the blueness of the Nivea moisturizer was learned when I was a baby, so that would have affected my color constancy computation for that type of artifact.

The German participants (mean age: 26) probably had early exposure to the artifacts for which the researchers achieved the greatest effects. So, this seems to support the color constancy explanation as opposed to the cognitive penetration explanation.

The researchers also carried out a reaction-time task to determine how quickly participants reacted to shown items. The highest color diagnostics were achieved for exactly this array of artifacts, indicating that the artifacts in question have had time to influence the color constancy computational principles in the visual system.

Based on these observations, the following conclusion the team draws is questionable: 'Since these objects are tied to a particular cultural context, their association with a typical colour must have been learned in everyday life. Therefore, we conclude that acquired knowledge about objects modulates their colour appearance. These findings provide further evidence that object recognition and colour appearance interact in high-level vision.' The following part of their conclusion is correct, but perfectly consistent with the color constancy explanation: 'Moreover, they show that these interactions are mediated through past experience. In this way, they also support the idea that learning influences perception.' Further down they add: 'This supports once again the idea that colour appearance in particular and vision in general is strongly adapted to ecological constraints. . . . Taken together, our findings suggest that the memory colour effect appears most strongly for stimuli that correspond to the visual experiences with which people were originally familiarised in their everyday life.' It is worth emphasizing that the latter claim does not suggest high-level color processing but, rather, low-level color processing. This again supports the color constancy explanation.

PHENOMENAL LOOKS AND SEEMINGS ARE REPRESENTATIONAL

I turn now to my arguments for the view that visual appearances are representational. The argument rests on the hypothesis presented in chapter 1 that 'seem' and 'look' are subject-raising verbs and that phenomenal uses of these verbs express seemings and looks. I present the argument here with 'seem', as follows:

Phenomenal Seemings Are Representational

1. 'Seem' is a hyperintensional mental-state operator.
2. Hyperintensional mental-state operators operate on representational content.
3. So, 'seem' operates on representational content.
4. If 'seem' operates on representational content, then seemings are representational states.

Conclusion: Seemings are representational states.

Because 'seem' functions as a subject-raising verb, it functions semantically as an operator at the level of logical form; this was one of the main conclusions of chapter 1. I also argued in chapter 1 that the 'seem'-operator is hyperintensional. A hyperintensional context is one that does not preserve truth-value when necessarily co-extensional terms are substituted within its scope. Necessarily co-extensional expressions resist substitution within the scope of 'seem'. For example, 'It seems to Lois Lane that Superman can fly' and 'It seems to Lois Lane that Clark Kent can fly' have different truth-values. As 'Superman' and 'Clark Kent' are necessarily co-extensional, and substitution under 'seem' does not preserve truth-value, 'seem' is a hyperintensional operator.

Turning to the second premise, intensional operators in general operate on content. Intensional operators are also known as circumstance-shifting operators (Kaplan, 1989). It is because intensional operators operate on content that it makes sense to talk about intensional operators as circumstance-shifting. They allow us to evaluate the embedded content in terms of truth or falsehood in different circumstances of evaluation. As an example, consider:

(4) It was the case in June 2000 that Brit graduated from college.

Within standard semantics, the default circumstance of evaluation is determined by the speaker's context. It consists of an n-tuple of parameters, including the speaker, the world, the time, and the location. The past-tense operator 'it was the case' functions as a circumstance-shifting operator that shifts the default circumstance of evaluation to June 2000 and evaluates the content *Brit graduates from college* with respect to June 2000. If I indeed graduated from college in June 2000, the complement sentence 'Brit graduated from college' is true relative to that time period. So, the whole sentence is true. If I didn't graduate from college in June 2000, then the complement sentence is false. So, the whole sentence is false. The content that intensional operators operate on is representational content. It represents a particular state of affair as obtaining. For example, *Brit graduates from college* represents Brit as graduating from college. In intensional semantics, it is more common to speak of intensional operators as operating on intensions (Dowty et al., 1981). An intension of an expression is a function from possible worlds to the extension of the expression at the world in question. Intensions can also be thought of as propositional contents, which by definition are representational. As hyperintensional operators are a special kind of intensional operator, they too operate on representational content. So, premise (2) is true.

Turning to premise (3), we need to show that if phenomenal 'seem'-reports have representational content, then seemings have representational content. One might reject the premise on the grounds that the content is merely content in a minimal sense.

It could be argued that even if phenomenal 'seem'-reports have representational content, phenomenal seemings should nonetheless be treated the way naïve realists treat visual experience. If this is so, then seemings are acquaintance relations between a subject and a mind-independent physical object and its perceptible property instances. So, seemings would at best have content in a minimal sense (see Siegel, 2010). For example, it may be that we can describe what it is like for a subject to have a seeming. This description could count as a weak content of seemings, even if seemings were special kinds of relations between the subject and the external object (Schellenberg, 2014). But if seemings have content in this sense, then it does not follow that seemings are representational states.

It can be shown, however, that seemings are not acquaintance relations to mind-independent physical objects. Hyperintensional operators are abnormal in the sense that the normal existential commitments of names in the complement are suspended (Forbes, 2013). This means that fictional names that don't refer to anything, such as 'Santa Claus' and 'Sherlock Holmes', can occur under the scope of a hyperintensional operator, and the whole statement can still be true. Consider:

(5)

(a) It seems to little Lisa that Santa Claus just entered their house.

(b) James wants a yo-yo from his aunt and a playhouse from Santa Claus.[4]

(c) Andrew thinks that the police officer examining the crime scene is Sherlock Holmes.

(d) John reported that Elvis Presley purchased a ticket to Buenos Aires in the evening of August 16, 1977.

Given a standard semantics of proper names, the content of a name is its referent in extensional and merely intensional contexts. As names of non-existing entities like 'Santa Claus' do not have a referent, they do not have a semantic value in merely intensional contexts. So, when a name of a non-existing entity, such as Santa Claus, is embedded in an intensional context, as in 'It is possible that Santa Claus just entered their house', the content that the operator operates on is gappy: '. . . just entered their house'. However, hyperintensional operators shift the semantic values of names. So, when it's embedded in a hyperintensional context, 'Santa Claus' has a non--empty semantic value, which we can take to be its Fregean content, or mode of presentation. To a first approximation, a mode of presentation is a description. It is also known as 'the narrow content of a name'. Consider again 5(a):

(5)

(a) It seems to little Lisa that Santa Claus just entered their house.

[4] Martin (2010).

'It seems' is a hyperintensional operator. Names of non-existing entities, such as 'Santa Claus', do not have their standard referent as their semantic value when embedded under 'it seems'. So, phenomenal 'seem'-reports like 5(a) can have non-gappy true contents. However, because 'Santa Claus' does not refer to a relevant mind-independent physical object when embedded under a hyperintensional operator, the seeming 5(a) accurately describes cannot be an acquaintance relation between the subject and an external object and its perceptible property instances. Rather, the name has a non-standard referent as its content when embedded under 'it seems'. As mental states with a narrow content are representational, it follows that seemings are representational. Since looks have the same semantics as seemings, they too are representational.

It is worth noting that the content of attitude reports, including seemings, need not completely mirror the content of the attitude they describe for them to be true (Richard, 1990; Chalmers, 2011). Consider:

(6) John believes the mayor of Boston is tall.

(6) has a de re and a de dicto reading. On the de re reading, it states that there is an *x* such that *x* is the mayor of Boston, and John believes that *x* is tall. On the de dicto reading, it states that John believes the mayor of Boston is tall (under that description). Even on the de dicto reading, (6) can be a true description of John's belief that Marty Walsh is tall, even if John doesn't know that Marty Walsh is the mayor of Boston, provided the speakers don't care about how Marty Walsh is presented to John. Or to take another example:

(7) Lois Lane believes that the boring office worker named 'Clark Kent' can fly.

There plausibly are contexts in which an utterance of (7) would be true, in spite of the fact that Lois Lane would not assent to (7)—for example, contexts in which it doesn't matter too much how the content of Lane's belief is described as long as it is clear that it concerns a certain man. Let the wide (or external) content of a sentence be the Russellian content—that is, a complex of external objects and their property instances—and let the narrow (or internal) content be the Fregean content—that is, a complex of modes of presentation of those apparent external objects and their property instances. For example, where Clark Kent is a constituent of the Russellian content, *the boring office worker with glasses who works with Lois Lane at the Daily Planet* is a constituent of the Fregean content. We can then say that, in general, for a belief report to be true it is required that the wide content of the 'that'-clause strictly

matches the wide content of the belief (e.g., by being identical to it or by picking out the same state of affairs in the world). The narrow content of the belief report, however, just has to loosely match the narrow content of the belief (see, e.g., Richard, 1990; Chalmers, 2011).

In the same vein, the contents of reports of 'look' and 'seem' reports need not mirror the content of the mental states they describe as long as they stand in a relation that is suitable in the context. If it phenomenally seems to John that Marty Walsh is tall, and John doesn't know that the mayor of Boston is Marty Walsh, there may be conversational contexts in which it would be acceptable to describe John's appearance as 'It phenomenally seems to John that the mayor of Boston is tall'. This inexact description may be acceptable in a context in which the focus of the conversation isn't on how the mayor of Boston is presented to John but, rather, on the fact that the designated individual appears tall to John. Phenomenal 'seem'-reports plausibly are true under, roughly, the same conditions as belief ascriptions. So, for a 'seem'-report to be true, the wide content of the 'that'-clause must strictly match the wide content of the seeming it expresses. For 'it seems to John that the Mayor of Boston is tall' to be true, then, it is required that it seems to John that Marty Walsh is tall.

PHENOMENAL SEEMING VERSUS VISUAL EXPERIENCE?

I have argued in the previous section that phenomenal seemings and looks are representational. If it could be shown that perceptual phenomenal seemings and looks just are visual experiences, then we would have succeeded in showing that visual experience is representational (for the view that visual seemings just are visual experiences, see Chudnoff & DiDomenico, 2015). As I will show next, however, the question of whether visual phenomenal seemings and visual experiences come apart is not easily answerable.

There is some evidence that suggests that phenomenal visual seemings may be *attended* visual experience. That is, there is evidence suggesting that it can fail to visually seem to us that an object has a certain property, even though we consciously see that the object has the property in question. Cases of change blindness and inattentional blindness provide some evidence for this hypothesis. In cases of change blindness, very large changes can be made in a visual scene without people noticing them. The best known case of this is from a study conducted by Simons and Levin (1998). The researchers had a confederate pretending to be a tourist with a map ask passersby for directions (figure 2.1). Once a passerby was in the midst of giving directions, another pair of confederates carrying a door would rudely walk in between the tourist and the helpful citizen. The confederate tourist would then switch places with one of the confederates carrying the door and the new confederate tourist would continue to

FIGURE 2.1 An experimenter approaches a passerby with a map in hand and asks for directions. After the passerby has been giving directions for about fifteen seconds, a second and third experimenter, together carrying a door, pass between the first experimenter and the passerby. As the rude people pass through, the experimenter who is asking for directions switches places with one of the two carrying the door. Less than 50 percent of passersby notice the switch. (Simons & Levin, 1998)

listen to the helpful citizen providing directions. It was found that less than half of the helpful citizens noticed the switch. One possible interpretation of these cases is that people consciously see a change even if it does not phenomenally seem to them that a change has taken place because they fail to attend to the change. If this is so, then this indicates that people can have unattended visual experiences without having a phenomenal seeming corresponding to it.

Inattentional blindness cases are similar to change blindness in this respect (Mack & Rock, 1998). When you are busy paying attention to a certain task, you do not pay much attention to what goes on elsewhere in your visual field. So things can occur in the off-zones without it seeming that way to you. A famous case is the gorilla inattentional blindness study (Most et al., 2001). In this study, researchers asked participants to count the number of passes of a basketball between two teams, one dressed in white and the other dressed in black (figure 2.2). While this task was going on, a gorilla casually entered the scene, beat its chest, and walked off. Afterwards, researchers asked the participants counting the passes of the basketball if they saw anything unusual during the primary task. In most groups tested, 50 percent of the participants failed to report seeing the gorilla. The failure to report on the presence of the gorilla is normally attributed to a failure to attend to the unusual character while engaged in the difficult task of counting the number of passes of the basketball. Another way of putting this is in terms of phenomenal seemings. It is plausible that it did not phenomenally seem to the participants that a gorilla entered the scene but that they nonetheless visually experienced the gorilla. This would then be a case in which subjects consciously see an object, even though it does not phenomenally seem that way to them, owing to a failure of attention.

In a more recent study, researchers recruited students, faculty, and staff who worked in the UCLA Department of Psychology, located in a building with six fire extinguishers per floor, and with no office farther than twenty-five feet from

FIGURE 2.2 The gorilla inattentional blindness study. Two groups of people are passing a basketball back and forth in a video. In the midst of their play, a person wearing a gorilla suit casually walks into view, beats her chest, and then walks off. About half of the test subjects told to count the number of basketball passes on the part of one team failed to see the gorilla. (Most et al., 2001)

the nearest fire extinguisher (Castel et al., 2012). Subjects were asked to identify the location of the fire extinguisher closest to their department office. They were also asked to rate their level of confidence in providing an accurate answer. While 39 percent could point out the location of at least one fire extinguisher within the building, only 24 percent of research participants knew the location of the nearest one. Confidence levels were extremely low across the board. However, 92 percent of participants could find the closest fire extinguisher within five seconds of leaving their office. Interestingly, the authors found no correlation between years employed in the department and ability to recall the location of a fire extinguisher. It appears that people who potentially had passed the noticeable extinguishers hundreds of times formed no better memories of the extinguishers than those who had less opportunity to do so. In the study, 22 percent of participants reported seeing the location previously but couldn't remember the item being there. However, once subjects attended to the fire extinguishers, they were able to remember the location later. Two months after the initial study, the participants were asked to describe the location of the previously located fire extinguishers. This time, all participants were able to remember the location of the nearest one. Although a lack of memory may explain most of these results, it is possible that it never seemed to the participants that fire extinguishers were located in the particular locations where they were repeatedly perceived to be located because they failed to attend to them.

Although the studies provide some evidence for the hypothesis that phenomenal seemings are attended visual experience, they do not conclusively show this. One could deny that we can have visual experiences of things we do not pay attention to.

If consciousness requires attention, as Jesse Prinz (2015) has recently argued, then we do not perceptually experience changes or items we do not attend to.[5] The cases of change blindness and inattentional blindness, then, do not lend support to the view that visual seemings are attended visual experiences.

Other reasons have been given for thinking that perceptual seemings and perceptual experience may be different kinds of psychological states. Ernest Sosa (2009) has offered the following argument for thinking that we may visually experience something that does not seem to us to be the case:

> Take for instance the look of an empty chessboard as it is viewed up close in bright light. The array that then gives content to the subject's experience involves 64 alternating black or white squares. Yet if this is A's first encounter with a chessboard, the proposition that she faces such an array may hold no attraction for her. Someone B familiar with chess boards will of course be attracted to assent to that proposition, and the attraction will presumably be prompted by the experience shared with A. So, the experience should be distinguished from the seeming. (137)

The argument is this: we cannot perceptually distinguish between 64 entities and a number of entities in the close vicinity of 64. So, if I have a visual experience of a chessboard but I am completely unfamiliar with chessboards, then it will not visually seem to me that the thing in front of me has 64 alternating black or white squares (figure 2.3). If, by contrast, I have a visual experience of a chessboard and I am very familiar with chessboards, then it will visually seem to me that the thing in front of me has 64 alternating black or white squares. Experts and novices can thus have the same visual experiences but different phenomenal seemings.

There is a simple reply to this argument, however. One might deny that the expert and the novice have the same visual experiences. For example, one might hold that the experienced subject has a visual experience that represents the chessboard as having 64 alternating black or white squares, whereas the inexperienced subject does not have a visual experience that represents the chessboard as having exactly 64 alternating black or white squares. The success of Sosa's argument thus depends on what kinds of properties are presented in visual experience.

Studies of perceptual learning may also seem to lend support to the hypothesis that seemings and experiences come apart. Consider the case of expert chess players. Whereas novices are able to encode only the position of the individual chess pieces in long-term memory, expert chess players encode chess configurations. The basic

[5] For the view that conscious experience does not require attention, see, e.g., Block (2007).

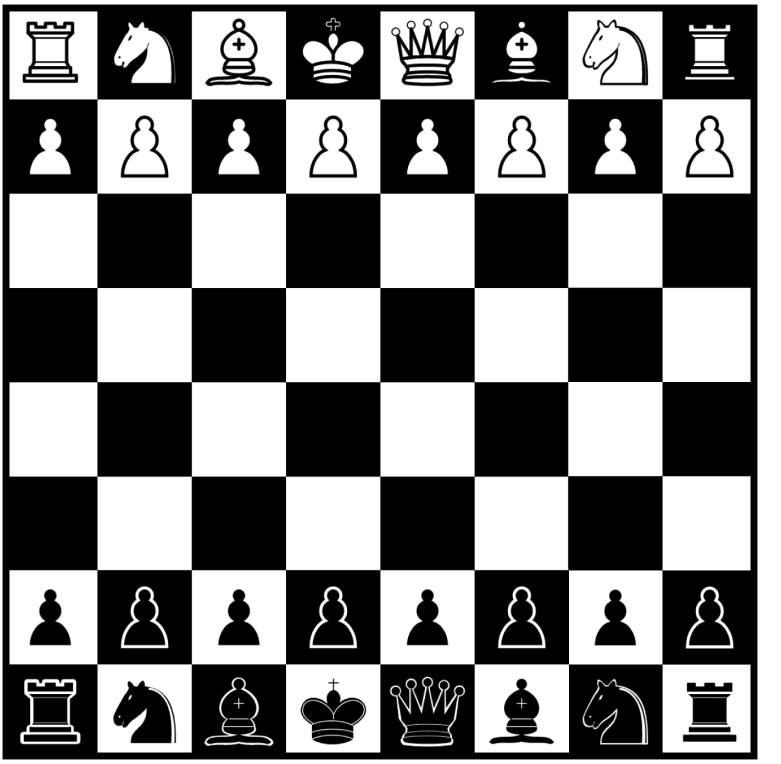

FIGURE 2.3 It will phenomenally seem like a chessboard consists of 64 alternating black or white squares to an expert but not to a novice.

unit encoded in long-term memory is the 'chunk', which consists of a configuration of pieces frequently encountered and related by type, color, role, and position (Chase & Simon, 1973a, 1973b). The number of figurations that the expert player has stored in long-term memory can be as high as 300,000 (Gobet & Simon, 2000). The chunks can also be encoded in a combined form known as 'templates' (Gobet & Simon, 1996).

Studies using eye-movement measurements have demonstrated that retrieval of chess configurations in experts correlates with holistic fixation on the pieces on the chess board (de Groot & Gobet, 1996) and increase in visual span (Reingold et al., 2001). These studies suggest that there is a difference not simply in the cognitive abilities of chess experts and chess novices but also in their perceptual appearances.

Reingold et al. (2001) carried out a study that further suggests that part of the enhanced skill set of expert chess players is perceptual. A minimized 5 by 5-inch chessboard was displayed to novice, intermediate, and expert chess players. In the first part of the study, configurations fell into two types: (i) figurations with two or three pieces in a checking setup (e.g., the bishop in one corner and the king in the diagonal corner)—this is the 'yes' condition; and (ii) configurations with two

or three pieces in a non-checking setup (e.g., the rook in one corner and the king in the diagonal corner)—this is the 'no' condition. In the second part of the study, only the two attacker positions (e.g., the bishop/rook and the king) from the first part were used, and double-check positions were added to create four possible combinations of checking for both attackers (i.e., yes/yes, yes/no, no/yes, and no/no). The non-checking configuration was a congruent condition, whereas the checking configuration was the incongruent condition. On half the trials, one of the attackers was colored red as a cue (e.g., the rook) (figure 2.4).

In the first part of the study, the players were told to determine as quickly and accurately as they could whether or not the black king was in check. Here the results showed that novices and intermediate players responded more slowly when there were two attackers (three pieces) compared to one attacker, whereas the extra piece didn't affect expert players. This indicates holistic processing for experts but nonholistic processing for novices and intermediate players, who would need to evaluate each chess piece in a serial fashion. The results support the claim that the enhanced skill set of expert chess players is a result of acquiring new perceptual abilities—viz., abilities to process chess configurations as units.

In the second part of the study, the participants were instructed to proceed as before if there was no cue but if a cue was present they should ignore the

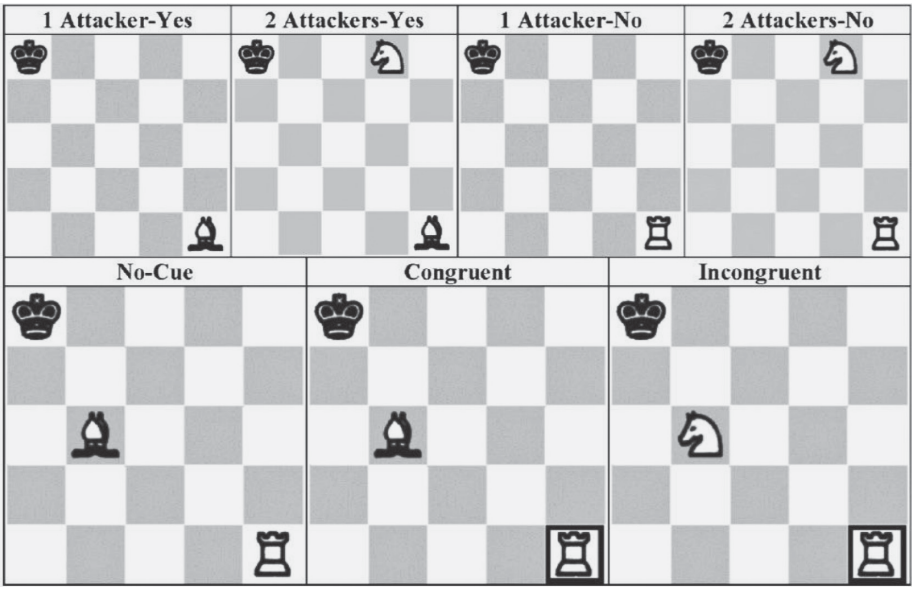

FIGURE 2.4 Examples of the check configurations. The top row demonstrates "yes" (check) versus "no" (non-check) conditions with two or three pieces. The bottom row illustrates the no-cue condition ("no" trials) and conditions in which a cued non-checking attacker appears together with an attacker that is either congruent (i.e., non-checking) or incongruent (i.e., checking). (From Reingold et al., 2001)

non-colored attacker. If processing of chess relations is serial (piece by piece), cuing should improve performance, as compared to the no-cue condition, because the player wouldn't need to examine the non-cued checking relation. If, by contrast, the processing of the chess relations is parallel (holistic), cuing should not improve performance. The results showed that cuing helped novices and intermediate players but didn't help experts, suggesting that unlike non-experts, experts process the chess configurations holistically rather than piece by piece.

The results furthermore revealed that experts were faster in the congruent (non-checking) versus the incongruent (checking) condition when a cue was present. A plausible explanation for this surprising result is that a Stroop-like interference is generated because the incongruent (checking) relation that is supposed to be ignored grabs the expert's attention. In the standard Stroop test, subjects are asked to name the ink color of a series of color words as fast as they can in two conditions (Stroop, 1935; MacLeod, 2005). In the experimental condition, color words are printed in an incongruent ink color. For example, the color word 'red' is printed in green and the color word 'blue' is printed in yellow. In the control condition, the color words are printed in black or a congruent color—for example, 'red' is printed in black or red. Studies consistently show that subjects name the ink color of color words printed in congruent colors significant faster than the ink color of color words printed in incongruent colors. The main explanation for this is that the meaning of the color words diverts the subjects' attention away from the task they are supposed to engage in. Stroop-like tasks have been created to test for a diversion of attention in subjects with depression (MacLeod, 2005), addiction to drugs or alcohol (Cox et al., 2006), eating disorders (Pringle et al., 2010), and suicidal tendencies (Cha et al., 2010).

Stroop-like interferences are the result of recurring thoughts affecting what we pay attention to when we perceive the world. As Stroop-like interferences affect perceptual processing, the presence of Stroop-like interferences in expert chess players indicates that the enhanced skill set of expert chess players is a result of acquiring new perceptual abilities—viz., abilities to perceive chess configurations holistically. Recognizing chess configurations is thus unlike standard cases of object recognition and much more similar to cases of face perception, which also proceed holistically (Richler et al., 2011).

Studies like this provide strong support for the claim that experts and novices acquire different perceptual abilities through learning. However, it doesn't show that experts and novices who experience the world in the same way can end up with different phenomenal seemings. Although the results of the study are perfectly compatible with the suggestion that the different visual abilities simply make a difference to the subjects' visual experiences, it remains an open question

whether they have the same visual appearances. Whether they do will depend at least in part on what kinds of properties are presented in the visual experience.

Which properties are presented in a visual experience is a question of ongoing controversy. There are myriad properties that human beings cannot visually detect. As a matter of necessity, (normal) human beings cannot visually detect a range of sensory low-level properties detectable by other sense modalities. For instance, I cannot visually detect the coldness of ice cream, the sweetness of strawberries, the softness of your skin, or the pitch of your voice. And as a matter of contingent fact, (normal) human beings cannot visually detect low-level properties instantiated exclusively by very large objects, very small objects, and objects very far away. Assuming that no other object on earth is shaped exactly like Utah, we could not visually detect the shape of Utah prior to the invention of modern technology.

It is fairly widely agreed that we can visually detect low-level properties instantiated in our environment, such as colors and shapes, and intermediate-level properties, such as being on top of that and being to my right. But the question of what else besides low-level and intermediate-level properties can and cannot be consciously visually detected has been the subject of fierce debate. Though the debate has focused mostly on kind properties, the range of high-level properties that are candidates to be consciously visually detectable is extensive. Among many others, it includes natural-kind properties (e.g., *being an elm*), artificial-kind properties (e.g., *being a corks-crew*), mental-state properties (e.g., *being sad*), aesthetic properties (e.g., *being gloomy*), moral properties (e.g., *being a virtuous agent*), personal-taste properties (e.g., *being attractive*), and some events (e.g., *being the car accident that occurred this afternoon*). The arguments for the conclusion that we can visually experience properties that do not phenomenally seem to be instantiated is sound only if high-level properties, such as *having 64 alternating black and white squares* or *being this particular chess configuration*, are presented in visual experience.

One argument for the view that high-level properties are presented in visual experience is that of mandatory seeing. Tim Bayne (2009) articulates a version of it as follows:

> Object recognition is mandatory: one cannot help but see an object as a stethoscope, a pipe, or a cigarette lighter. The experience of an object in such terms resists doxastic penetration, and such resistance is a mark of perception.

The argument seems simple enough at first: we seem to see things as kinds. Our seemings are evidence insensitive. As the latter is a mark of perception, our seemings are perceptual. Let's spell out this argument in some further detail. Let

K be a particular natural kind (e.g., an elm tree) or artificial kind (e.g., a cigarette lighter). The argument then may be intended to run as follows:

The Argument from Mandatory Seeing 1

1. If kind properties occur only in belief content but not in the content of normal human visual experience, then it is not the case that sometimes we cannot help but see a *K* as a *K*.
2. When we see a *K*, we sometimes cannot help but see it as a *K*.

Conclusion: Kind properties do not occur only in belief content but also in the content of normal human visual experience.

However, thus formulated the argument begs the question. It assumes that we cannot help but see *K*s as *K*s on some occasions. Also, it is not an argument for the hypothesis that high-level properties are presented in experience, as the conclusion is consistent with kind properties occurring in the non-experiential (unconscious) content of visual processing but not in the experiential content, in which case there is no doxastic penetration. Let's attempt a second reconstruction: Let '*S* takes *o* to be a *K*' mean '*S* has a visual experience with an experiential content that attributes being a *K* to *o*, or *s* judges that *o* is a *K*'. We can then formulate a new version of the argument as follows:

The Argument from Mandatory Seeing 2

1. If kind properties occur only in belief content but not in the experiential content of normal human visual processing, then it is not the case that we sometimes cannot help but take *K*s to be *K*s.
2. We sometimes cannot help but take *K*s to be *K*s.

Conclusion: Kind properties do not occur only in belief content but also in experiential content.

But this argument, too, is problematic. Admittedly, it is better than the first version. But there is a similar reply. Premise (1) is questionable. The mandatoriness may be a result of a kind of unconscious representation. That is, high-level properties could occur in the non-experiential content, in which case there is no doxastic penetration.

A third case for the hypothesis that high-level properties are presented in experience is the argument from associative agnosia. Associative agnosia is a disorder in which early-stage perceptual processing is intact but high-level perceptual processing is impaired. Associative agnosia patients have lesions to the parts of the posterior cerebral artery supplying blood to the temporal lobe and to parts of the visual cortex but have no lesions to areas of the parts of the brain involved in cognitive processing (the prefrontal cortex, parts of the limbic system, or hippocampus, and the basal

ganglia). So, they have sensations and cognitive processing but no ability to recognize kinds. This suggests that kind recognition is perceptual rather than cognitive.

Furthermore, patients with associative agnosia who fail to recognize an object visually can form beliefs about the category of the object when given the information. For example, when looking at a pipe, an agnosia patient can tell you about the pipe's parts when told that he is looking at a pipe. But if the questioner asks 'Suppose I told you, this is not really a pipe, what would you say?', the agnosia patient usually replies with 'I would take your word for it. Perhaps it is not really a pipe'. In cases of tactile and auditory object recognition, however, visual agnosia patients are less reluctant to give up on their judgment that the object is an object of a certain kind. These considerations can be put in the form of an argument as follows (Bayne 2009):

The Argument from Associative Agnosia

1. If kind properties occurred only in belief content in normal individuals, there would be no difference in belief retention between agnosia patients and normal individuals.
2. There is a difference in belief retention between agnosia patients and normal individuals.

Conclusion: Kind properties do not occur only in belief content.

My reply to this argument is simple: The conclusion is consistent with the hypothesis that high-level properties are not presented in experience. If kind properties occur in the non-experiential content of visual processing in normal individuals but not in agnosia patients, then that could account for differences in belief retention. There is a further worry if the argument is construed as an argument for natural-kind properties being presented in experience. Because natural kinds are harder to detect than artificial kinds, normal individuals are relatively quick to give up their beliefs about natural kinds. So, it is unlikely that there will be a similar difference in belief retention between agnosia patients and normal individuals with respect to natural kinds.

Susanna Siegel (2005, 2011) offers the following argument for thinking that visual experience represents high-level properties such as *having 64 alternating black or white squares*, *being water*, or *being an elm tree*. Let E_1 be a visual experience of someone who has the ability to recognize elm trees (expert) and who is looking at an elm tree; and let E_2 be the visual experience of someone who does not have the ability to recognize elm trees (novice) and who is looking at the same tree in the same viewing conditions. The expert finds the tree familiar, the novice does not. So there is a difference in the overall phenomenal character of their experiences. Siegel's argument can be articulated as follows:

The Argument from Phenomenal Contrast

1. The overall phenomenology of which the phenomenology of E_1 is a part differs from the overall phenomenology of which the phenomenology of E_2 is a part (familiarity effects).
2. If the overall phenomenology of which the phenomenology of E_1 is a part differs from the overall phenomenology of which the phenomenology of E_2 is a part, then there is a difference in visual phenomenology between E_1 and E_2 (cognitive penetration).
3. If there is a phenomenological difference between E_1 and E_2, then E_1 and E_2 differ in content (representationalism).
4. If there is a difference in content between E_1 and E_2, it is a difference with respect to the kind properties presented in E_1 and E_2.

The conclusion is that the difference in overall phenomenology between the novice and the expert is grounded in a difference between what the novice's and the expert's visual experiences represent.

According to Bill Lycan (2014), one problem with Siegel's argumentative strategy is that it seems to overgenerate. As formulated, it is restricted to natural-kind properties, but the very same argument used to argue that the constituents of perception include high-level natural-kind properties can also be used to argue that the constituents of perception include artificial-kind properties (e.g., *being a clock radio*), mental-state properties (e.g., *being depressed*), aesthetic properties (e.g., *being gloomy*), moral properties (e.g., *being a virtuous agent*), personal taste properties (e.g., *being attractive*), mathematical entities (e.g., *being 64 alternating black or white squares*), and events (e.g., *being a car crash*). To illustrate, consider a six-year-old who has not had any art classes and a skilled art critic. Let E_1 be a visual experience of the skilled art critic who is looking at Edvard Munch's painting *The Scream*, and let E_2 be the visual experience of the six-year-old who is looking at the same painting. The art critic has the recognitional abilities to pick out the painting as being Edvard Munch's *The Scream*, being an oil on cardboard painting and being completed in Oslo in 1893. The child does not. So there is a difference in the overall phenomenal character of their (perceptual or non-perceptual) experiences. By running through the argument, we can presumably get to the conclusion that the overall difference in phenomenology between E_1 and E_2 is a difference with respect to their kind properties—in this case, being Edvard Munch's *The Scream*, being an oil on cardboard painting, and being completed in Oslo in 1893. Siegel's argument for a moderately liberal view thus seems equally supportive of an extremely liberal view that grants that we perceive extremely high-level properties, such as being Edvard Munch's *The Scream* or being created in 1893. The main problem with the extremely liberal view is that it doesn't seem to allow for a non-trivial distinction between perceptual and cognitive states. But if aesthetic

properties and other extremely high-level properties are not among the constituents of perception, despite contributing to the differences in phenomenal character between our overall experiences, then Siegel's argumentative strategy cannot be used to settle the debate about whether perception represents high-level properties.

In my opinion, one major problem with the argument is that it rests on the assumption that the elm tree phenomenally seems different to the expert and the novice. What is problematic about this assumption is that even epistemic seemings in some cases can contribute to the overall phenomenology associated with observation. So, the seemings that the argument invokes could be epistemic—a possibility that is perfectly compatible with the view that high-level properties are not presented in experience. It may well be that high-level properties are presented only in visual, epistemic seemings. As Siegel's argument does not rule out this possibility, it cannot be used to settle the question of whether high-level properties are presented in experience.

Another problem is that the argument fails to distinguish between genuine high-level properties, gestalt properties, and configurations of low-level properties. Consider the three squares shown in figure 2.5.

The three figures all possess the property of being a square, but that property can be triggered by many different configurations of low-level properties. In the first figure, the property of being a square is a result of amodal completion. In the second figure, the property of being a square emerges from a particular configuration of dots. In the third figure, the property of being a square is caused by a particular configuration of line segments. This illustrates that gestalt properties are properties in their own right—distinct from high-level properties (e.g., the property of being Brit's face or the property of being a pine tree). They are also distinct from a mere distribution of low-level properties. In the expert–novice case, it could very well be that the expert and the novice have different experiences because the expert is better attuned to gestalt properties than the novice. But that would not show that high-level properties are presented in phenomenal seemings or visual experiences.

There is some reason to think that truly high-level properties are presented neither in visual phenomenal seemings nor in visual experiences. By 'truly high-level property' I mean properties that one can discover that a thing has only by subjecting it to further scientific analysis, even in the absence of environmental or cognitive abnormality.[6] Good examples of truly high-level properties are natural-kind properties, such as *having tiger-DNA*, *being* H_2O, and *having the atomic number 79*. A tiger may phenomenally seem like a tiger, but it is unlikely that it will phenomenally seem to have tiger-DNA. If a tiger *seems* to have tiger-DNA, then the seeming is likely epistemic.

[6] For example, there was a time when we didn't know that water is H_2O. Back then, we could not simply look at water and tell that it was H_2O, whereas we could simply look at it and tell that it was, say, transparent.

FIGURE 2.5 The three figures all possess the property of being a square, but that property does not require a particular configuration of low-level properties.

My test of whether a seeming is epistemic or not supports this hypothesis. A seeming is epistemic just in case it goes away in the presence of a defeater, if the agent is rational. The seeming that an animal has tiger-DNA does indeed disappear in the presence of a defeater, if the agent is rational. For example, if I am looking at an animal that phenomenally seems like a tiger, it may come to seem—on those grounds—that the animal has tiger-DNA. If the zookeeper informs me that the animal is, in fact, a liger, the animal will no doubt still phenomenally look like a tiger to me but it will no longer look like it has tiger-DNA. So, the appearance that the animal has tiger-DNA is epistemic. But if it cannot phenomenally seem to me that a tiger look-alike has tiger-DNA, surely the property of having tiger-DNA is not presented in my visual experience. After all, my visual experience is not a psychological state based on an interpretation of my visual phenomenal seemings.

There is independent reason for thinking that the property of having tiger-DNA could not possibly be presented in human visual experience. Experiences of natural kinds are not experiences with a distinctive external natural-kind phenomenology. They are experiences with a very coarse-grained phenomenology. A visual experience might be one with a tiger-like phenomenology but not a phenomenology that specifically represents the instantiation of the property of having tiger-DNA. It is not the case that, in all cases in which one has a tiger experience, one is phenomenally conscious of, say, *having tiger-DNA* but not phenomenally conscious of *having liger-DNA*. But it is not the case that tiger experiences make one phenomenally conscious of both properties: *having tiger-DNA* and *having liger-DNA*. So, tiger experiences do not make one phenomenally conscious of *having tiger-DNA*.

These considerations support the hypothesis that truly high-level properties are not presented in visual experience or visual phenomenal seemings. This raises the question of whether (non-truly) high-level properties are presented in visual experience and visual seemings? When 'high level' is understood in a more modest way, I think the answer to this question is a definite yes. The natural-kind properties that *are* presented in visual experience are best understood as internal phenomenally accessible counterparts of external natural-kind properties. Some tiger species have a distinct look (cat-like appearance, yellowish fur, stripes). This look (i.e., gestalt properties that emerge from such conglomerations of low-level and intermediate-level properties) is a high-level property of being a tiger of the kind that can be presented in visual experience (Brogaard, 2017c).

The assumption that the high-level properties that sometimes are presented in experience are gestalt properties that emerge from conglomerations of low-level and intermediate-level properties can do all the work that the more contentious assumption that truly high-level properties are sometimes presented in experience can do. As noted earlier in this chapter, there is evidence that experts learn to see the items within their

area of expertise differently. In some cases, this can happen because experts acquire discriminatory capacities that novices have not acquired. The discriminatory capacities consist, among other things, in being able to sort items into categories on the basis of how they phenomenally seem to them. A tiger expert can say with reasonable certainty whether a given animal has tiger-DNA, not because it suddenly phenomenally seems to them that the animal has tiger-DNA but, rather, because the expert has learned to recognize configurations of properties as units and can make probable conclusions on the basis of this about whether a given animal is a tiger or not.

The changes in phenomenology that take place when an expert learns to employ a new set of discriminatory capacities derive from the ability to *recognize* an item as a particular kind of item on the basis of configurations of properties. Recognitional abilities contribute to the overall phenomenology involved in observing items in one's environment. Recognizing an old friend feels very different from seeing a person for the first time, because memory taints how it feels to mentally engage with one's environment.

Experts may also acquire the ability to discern new features of items through a process of attentional weighting. Chicken sexers, for example, learn to distinguish the genitals between male and female chicks by acquiring the ability to visually distinguish previously indiscernible genital shapes when the right sort of pressure is applied to the chick (Biederman & Shiffrar, 1987).

To summarize, on the view I have outlined here, the properties of being a tiger, being water, being a male chick, being an elm, and so on are presented in experience, but these properties are not truly high-level. They are not the individual essences of the entities in their extension. For example, H_2O is not presented in the experience of water, and tiger-DNA is not presented in the experience of tigers. The properties that are presented in experience are gestalt properties that emerge from configurations of low-level and intermediate-level features, such as *being striped, having fur*, and *being muscular*.

It is also worth noting that the hypothesis that genuinely high-level properties are presented in experience is at odds with naïve realism (Brogaard & Chomanski, 2015). For this reason, making the assumption that they are presented in experience would beg the question against the naïve realist. The reason the hypothesis that high-level properties are presented in experience is at odds with naïve realism is that many genuinely high-level properties depend for their instantiation on mental activity. For example, my dictionary is a door stopper in part because I intentionally put it there. So, it is not immediately obvious how one could become directly perceptually aware that my dictionary is a door stopper simply by being perceptually related to the dictionary and its mind-independent property instances. Naïve realism thus seems to entail a rejection of the view that we can perceive higher-level properties—for example, perceiving my door stopper as a door stopper rather than as a bulky object lying on the floor in front of the door.

One way for naïve realists to address this sort of concern is to argue that perceiving high-level properties requires possessing the requisite concepts. Mark Johnston (2006), for example, holds something like this view. As he puts it:

> Conceptual sophistication helps us to use our senses to mine the scene, or more generally the scenario before the senses, for relevant exemplifications—his bluffing, her raising, your having a busted straight. (283)

William Fish (2009b: 70) likewise argues that we have the capacity to 'pick up' high-level properties such as *being a horse*, *being a door stopper*, or *being a computer* only if we possess the corresponding concepts. Acquiring the relevant concepts alters the way we are perceptually related to the external environment, allowing us to perceive objects as being of a particular kind.

It is not entirely clear how possessing concepts puts us in a position to 'mine' or 'pick up' high-level property instances. The idea that cognitive processes directly determine which property instances get picked up does not seem to be in the spirit of naïve realism. An initially more plausible suggestion is that possessing these concepts somehow causally influences the perceptual relation, which then picks up high-level properties. But not any old causal influence will do. On the mental file view of concepts (see, e.g., Recanati, 2012; Brogaard, 2018), acquiring a concept involves storing information about individuals in its extension in object memory or semantic memory. Suppose you learn the concept *personal computer*. The mental file for personal computer may include information such as *is an artifact that can be programmed to carry out a set of arithmetic or logical operations automatically*, *consists of a central processing unit and a memory unit*, *is based on integrated circuits*, along with imagistic or propositional information about how computers normally appear and how they are normally used—for instance, *has a display and a keyboard, is used to write emails and letters and to record and watch videos*. In order for this sort of information to alter experience in such a way as to pick up the high-level property of being a personal computer, it does not suffice that there is merely some top-down influence on experience, such as an attentional shift. The conceptual information must exert a semantic influence on our ability to 'mine' or 'pick up' properties, putting us in a position to pick up the property of being a personal computer rather than, say, the property of being a television or the property of being a self-check-in device at the airport. Hence, the conceptual information must cognitively penetrate the perceptual relation, which then puts us in a position to pick up high-level properties.

The problem with this proposal, however, is that at least some high-level properties can be sensorily presented in the absence of any cognitive penetration. Properties related to face perception and mind reading are a case in point. Properties such as *being a face, gazing in a particular direction, showing interest*, and *being an agent with intentions* are relatively high level, yet they are ordinarily hardwired or mentally

integrated during the early maturation of the brain's perceptual systems; they are not ordinarily acquired through learning later in life. Moreover, they are not in any obvious sense mind-independent property instances of physical objects in the external world. So, it seems that naïve realism fails to account for how we can perceive them.

One way to avoid this challenge is to reject naïve realism in favor of a disunified view of experience that takes perceptual experience to be a matter of both being perceptually related to mind-independent objects and property instances and of representing these entities (a view of this sort is endorsed by, e.g., Bengson et al., 2011; for a representational view that takes perception to pick out particulars in the environment, see also Schellenberg, 2014, forthcoming).

This sort of view would allow its defenders to account for high-level properties as constituents of the representational content of experience, while maintaining that low-level properties are presented in experience via a direct perceptual relation between the subject and the mind-independent property instances of physical objects. On such a view, awareness of the high-level properties that we can discriminate and that are not simply a result of top-down influences may well be computed by the brain's perceptual systems and the intraperceptual principles that govern these systems. The downside of this view, of course, is that it does not allow the naïve realist to bypass the need for perceptual representation and perceptual content, and hence it may potentially undermine the motivation for embracing naïve realism. This, however, is a question that is best left for future exploration.

This brings us back to the question with which we started. Do visual phenomenal seemings and visual experience come apart? The answer to that question is that they probably do not come apart, except perhaps in terms of whether what is presented in the experience or seeming is attended to or not. It is unclear at the present moment how to answer the question of whether visual experience can occur in the absence of attention. The main arguments in support of this claim are inconclusive. If experience can occur in the complete absence of both focal and diffuse attention, then visual phenomenal seemings can be understood as attended visual experience.

This leads us back to the question of whether there is an easy route from the conclusion of my argument for the view that phenomenal seemings and looks are representational to the claim that visual experience is representational. It may seem that attention should not be able to transform a non-representational state into a representational one. If visual experience is a perceptual relation between the perceiver and an object, how could attending to the object generate a representational state? Well, if we think of attention as a way of accessing information and making it more readily available for reporting, then it could be argued that this is exactly the role of attention. Attention, it could be argued, generates a phenomenal seeming from the prior relational state. Ultimately, I do not think this sort of view will work. However, there is a view in the vicinity that might

work, although it will not do the job the naïve realist wants it to do. On this view, the direct relation between the perceiver and the external world is not an awareness relation but a subdoxastic causal relation. We become aware of the effect of the causal chain only once attention and other top-down influences have been directed at the stimulus or the apparent objects of the preconscious intermediary mental states. In forthcoming work I defend a view along these lines (see e.g. Brogaard, 2018). The particular view I defend is a variant of the higher-order theory of consciousness defended by, for example, David Rosenthal, 2002, 2010). This sort of view, however, does not obviously rule out the possibility that phenomenal seemings are attended visual experiences; so, we cannot yet conclude that visual experience is representational.

SIGNPOST

'Look'- and 'seem'-reports express looks and seemings, where a report attributing a look or seeming to *S* expresses mental state *m* iff if the report were true, then *S* would be in *m*. I have argued that reports of this type express either epistemic or phenomenal appearances. On the one hand, phenomenal appearances are relatively informationally encapsulated from higher-order states—that is, they linger even in the presence of defeaters. Epistemic appearances, on the other hand, go away in the presence of a defeater, if the agent is rational. Epistemic appearances, unlike phenomenal appearances, are thus susceptible to cognitive penetration by higher-order states.

I have also presented an argument for the conclusion that looks and seemings are representational mental states. In a nutshell, the argument runs as follows: because looks and seemings are expressed by uses of sentences containing hyperintensional operators that operate on representational content, looks and seemings have representational content.

If visual experiences just are visual phenomenal seemings, we would have an argument for the view that visual experience is representational. Unfortunately, the available evidence does not fully establish whether phenomenal seemings just are visual experiences. Phenomenal seemings may turn out to be attended visual experiences. Furthermore, establishing that visual experiences are representational does not by itself establish the view that the representational feature of visual experience is fundamental to experience and more fundamental than its potential relational nature. In the next chapter I offer my two arguments for the representational view of experience.

3

THE REPRESENTATIONAL VIEW OF EXPERIENCE

I TURN NOW to my positive defense of the view that visual experience is representational. In this chapter, I present two arguments for the view. The first shows that phenomenal uses of 'look' and 'seem' reflect phenomenal representational properties of visual perception. It follows from this claim that visual experience is representational. This conclusion is consistent with some versions of naïve realism, but it is considerably stronger than the minimal content view that simply takes content to be a description of what it is like for the subject to have the experience (Schellenberg, 2014). The second argument establishes that the perceptual relation that obtains between experience and the object of experience in core cases of perception cannot fully explain the phenomenology of experience. In order to explain the phenomenology of experience we need to appeal to its representational nature. The second argument thus shows that visual experience is fundamentally representational and not fundamentally relational, which is the core claim of the representational view.

VISUAL EXPERIENCE IS REPRESENTATIONAL

My first argument for a representational view of visual experience, unlike my second argument, does not establish that the representational feature of visual experience is fundamental but only that visual experience is representational. The conclusion

that visual experience is representational, however, is considerably stronger than the minimal content view. As argued in the introduction, if, for example, the naïve realist were to treat illusions as genuine experiences, then he or she could treat visual experience as having a content of the form *it is not the case that o seems to have a property it does not have*. Since ascribing accuracy conditions to experience and referring to them as 'content' are perfectly compatible with experience being a perceptual relation between the perceiver and a mind-independent, physical object and its property instances, it would not follow that experience is representational. Likewise, if we took the content of experience to be the content of a sentence used to describe the experience, this would be perfectly compatible with the view that experience is a perceptual relation between a perceiver and her external environment. So, it would not follow that experience is representational. The claim that visual experience is representational is an additional one that most defenders of naïve realism reject (e.g., Martin, 2002a; Fish, 2009b; Brewer, 2011; Travis, 2014). The argument that experience is representational can be articulated as follows:[1]

Reflection Argument

1. True phenomenal 'look'-reports reflect representational phenomenal properties of experience.
2. If (1), then visual experience is representational.

Conclusion: Visual experience is representational.

'*E* reflects property *F*' and '*E* reflects content *p*' can be defined as follows:[2]

Phenomenal Property Reflection (PPR)
A report that describes (an attended) experience e reflects a representational phenomenal property *F* iff [necessarily, (the report is true iff *F* is a representational phenomenal property of *e*)].

Content Reflection (CR)
A report that describes (an attended) experience *e* reflects a content *p* iff [necessarily, (the report is true iff *p* is a content of *e*)].

Phenomenal Property Reflection and Content Reflection are meant to be restricted to reports that can be true when made by us. Without this restriction, my report 'John, a human, looks exactly like an egg inside and out to me in good viewing conditions', if used to describe my current visual experience, reflects phenomenal

[1] An analogous argument can be formulated for non-epistemic comparative 'look'-reports.

[2] As we saw in chapter 2, it might be that phenomenal looks are experiences that require attention on the part of the subject. In what follows, I shall only make mention of attention insofar as the argument hinges on it.

redness. The reason is this:, my report is necessarily false, and it is necessarily false that my current visual experience instantiates phenomenal redness (I am looking at a black-and-white computer screen). So, the right-hand side of PPR is true. So, it follows that my report 'John, a human, looks exactly like an egg inside and out to me in good viewing conditions', if used to describe my current visual experience, reflects phenomenal redness. We can avoid this counterexample by restricting the definitions to reports that can be true when made by us. Reports that cannot be true when made by us do not reflect any phenomenal properties.

The first question to be answered here is whether at least some 'look'-reports reflect distinctly representational phenomenal properties. There are two components to this question: one is whether 'look'-reports reflect properties presented in perception; the other is whether these properties at least sometimes are distinctly representational and phenomenal.

As for the first question, it has been shown in chapter 1 that 'look', used as an intransitive verb, it functions as a subject-raising verb. According to Jackson (1977), '*o* looks red to *S* at the present time' is true when *S* has an experience that is red at the present time. However, this is not the best way to interpret '*o* looks red to *S* at the present time'. Qua subject-raising verb, 'look' expresses a person's epistemic or experiential attitude relative to represented objects and properties. When used epistemically, 'look' is a marker of epistemic modality. Epistemic 'look'-reports imply that it is subjectively probable that the world is the way indicated by the subordinate clause. When used non-epistemically, 'look' is a marker of experiential modality as opposed to epistemic modality. Non-epistemic 'look'-reports imply that it is consistent with how things phenomenally look that the world is the way indicated by the subordinate clause. By making a 'look'-report, one thus seeks to eliminate the set of epistemically or experientially possible situations in which the subordinate clause is false.

Both experiential and epistemic modality relativize truth to individuals (perceivers or believers) by relating their current experiential or epistemic attitude to the content of the subordinate clause of the sentence uttered. One difference between subject-raising verbs (both epistemic and non-epistemic) and garden-variety epistemic modals, such as 'may', 'might', 'should', and 'must', is that subject-raising verbs often indicate the source of the subject's experiential or epistemic attitude. 'The tomato looked red' indicates that the perceiver was looking at a tomato. 'The table felt hard' indicates that the perceiver was feeling or touching a table. 'Tom was seen eating a sandwich' indicates that the perceiver saw Tom eat a sandwich. 'John is expected to arrive on time' indicates that a thinker was expecting John to arrive on time.

Subject-raising verbs function as sentential operators at the level of logical form: '*o* looks red' has the underlying structure 'looks(*o* is red)'. In the transformation of the underlying structure, '*o*' raises to become a constituent of the higher clause '*o* looks

to be red'. This then undergoes infinitive deletion to yield '*o* looks red'. Thus, '*o* looks red' has the same underlying structure as 'a laptop was reported stolen' and 'Patrick was assumed dead'. In all of these cases, the underlying structure contains a subject-predicate subordinate clause with a predicate that expresses a property attributed to the referent of the semantic subject term. For example, 'a laptop was reported stolen' says that it was reported that a laptop was stolen. The subordinate clause thus attributes *being stolen* to some laptop. Likewise, the subordinate clause in '*o* looks red' attributes *being red* to *o*. The subordinate clauses of 'look'-reports thus attribute properties expressed by the predicate term to the referent of the subject term of the subordinate clause.

The sentential operator indicates how the properties got attributed. *Being stolen* was attributed to a laptop in an act of reporting. *Being red* is attributed to *o* in a perceptual act. It follows that the subordinate clauses of phenomenal (i.e., non-comparative non-epistemic) 'look'-reports reflect properties presented in perception.

The second question to be answered is that of whether at least some 'look'-reports reflect distinctly representational phenomenal properties. Here is an argument that they reflect distinctive phenomenal properties. Let '*o* looks *F* to *S* at *t*' be a phenomenal 'look'-report. Let the domain consist of distinctly phenomenal properties referred to by '*F*'. An example of this would be: 'That looks square to Bill at the present time'. Now, PPR entails: for some perceptual report of the form '*o* looks *F* to *S* at *t*', if the report does not reflect *F*, then either the report is necessarily false, or it is not necessary that the report is true iff *F* is a phenomenal property of *S*'s experience. So, if we can show that both disjuncts in the disjunction in the consequent are false, then we have shown that phenomenal 'look'-reports reflect phenomenal properties.

As for the first horn of the dilemma: since PPR was restricted to reports that are true when made by us, '*o* looks *F* to *S* at *t*' cannot be necessarily false. So, the first horn of the dilemma is false.

As for the second horn of the dilemma: in order to show that it is not necessary that '*o* looks *F* to *S* at *t*' is true iff *F* is a phenomenal property of *S*'s experience.

Now, we need to show that the following could not have false instances:

Look Principle
For some phenomenal 'look'-reports of the form '*o* looks *F* to *S* at *t*', the report is true if and only if a property *F* corresponding to '*F*' is a representational phenomenal property of *S*'s *o*-experience at *t*.

The right-to-left direction is obviously true. If, for example, Susanna has an experience of a ripe tomato at *t* that has the property of being phenomenally red, then '*o* looks red to Susanna at *t*' is true.

The left-to-right direction is less obvious. To see why it is less obvious, consider a special case of blindsight (Weiskrantz, 1980, 1986; Stoerig & Cowey, 1992; Brogaard, 2011a). Blindsight is a kind of residual vision found in some people with lesions to the primary visual cortex. Blindsighters can make accurate guesses about the attributes of visual stimuli presented to them in their blind field, without any reported visual awareness. In ordinary cases of blindsight, the stimulus does not seem or look any particular way to the blindsighter. Blindsighters feel that they are simply guessing. However, consider the case of Ned Block's super-blindsighter (Block, 1995). A super-blindsighter has acquired the ability to guess correctly when to make a guess about a stimulus in her blind field. While she has no phenomenal awareness of the objects in her blind field, she is able to give accurate verbal reports about them. If someone were to ask a super-blindsighter 'What color does the stimulus in your blind field seem to be?' or 'How does the stimulus look to you?', she may just reply with 'It seems red to me' or 'It looks red to me'. As super-blindsighters do not have visual experiences, the left-to-right direction of the *Look Principle* would seem to have potentially false instances.

Consider another case, that of achromatopsia (Heywood & Kentridge, 2003; Cowey et al., 2008). When a person with achromatopsia looks at a red object, he has a phenomenally black experience of the object. Hence, he cannot tell on the basis of his visual experience whether the object is red or black. But suppose he is given a device that presents a black dot on a screen when it detects that an object is red. By means of this device an achromatopsic can discriminate between red and black objects. If shown a red object and asked 'What color does the stimulus seem to be?' Or 'How does the stimulus look to you?', he may just reply with 'It seems red to me' or 'It looks red to me'. Again, the left-to-right direction of the *Look Principle* would seem to have false instances, as an achromatopsic does not have phenomenal hue experiences.

However, as it turns out, the uses of 'look' in these cases appear to be epistemic rather phenomenal. When a super-blindsighter detects the color of a visual stimulus presented to her in her blind field, she has no distinct visual awareness of the color of the stimulus. So, when she reports on the color of a stimulus in her blind field, she cannot make use of any visual phenomenology associated with the color information. Rather, she must infer from her inclination to guess that the stimulus is red, that it is red. Were she to be presented with a defeater, she would no longer have the inclination to state that the stimulus looks red. So, when she says that the stimulus looks red, her report is not evidence-insensitive, and it is therefore epistemic.

Likewise, when a person with achromatopsia detects the color of a visual stimulus by looking at a computer screen, he has no distinctly visual awareness of the color of the stimulus. So, when he reports on the color of the stimulus, he cannot make use of any visual phenomenology directly associated with the color information. Rather, he must infer from the black dot on the screen that the stimulus must be red. Were he to be presented with a defeater, he would no longer have the inclination to state

that the object looks red. So, when he says that the stimulus looks red, his report is not evidence-insensitive, and it is therefore epistemic. So, these cases do not turn out to make any trouble for the *Look Principle* after all. Generalizing:

1. All and only epistemic 'look'-reports reflecting the speaker's internal evidence state are evidence-sensitive.
2. When we use a 'look'-sentence to report on a visual stimulus without basing the report in any way on the phenomenal properties of an experience of the stimulus, the report is always evidence-sensitive.

Conclusion: So, when we use a 'look'-sentence to report on a visual stimulus without basing it on the phenomenal properties of an experience of the stimulus, the report is epistemic.

A phenomenal 'look'-report that reports on a visual stimulus can be true only if it is based on the visual phenomenology of an experience. It follows that when we use a phenomenal 'look'-report to report on a visual experience, the report is true just in case it is based on the phenomenal properties of the experience. So, for phenomenal 'look'-reports of the form '*o* looks *F* to *S* at *t*', it is necessary that if the report is true, then there is an experience that has the representational phenomenal property *F* corresponding to '*F*'. This establishes the left-to-right direction of the *Look Principle*. Hence, at least some phenomenal 'look'-reports reflect distinctly phenomenal properties.

So far I have argued that phenomenal 'look'-reports reflect phenomenal properties; some, though not all, opponents of representational theories of experience will accept this. So, I now turn to the hypothesis that phenomenal 'look'-reports reflect representational phenomenal properties, where a representational property is the property of representing a certain state of affair as obtaining, for example, the property of representing a tomato as red (Chalmers, 2004a). Phenomenal properties that are also representational contrast with non-representational phenomenal properties. Candidates to be non-representational phenomenal properties include *being visual*, *being conscious*, *being blurry*, and *being salient*.

Suppose I have cloudy or blurred visual experience of John because I am not wearing my glasses. There are several ways one can account for this aspect of my experience (see Chalmers, 2004a). Just as one might naturally take my experience to have the property of representing a certain content in a visual manner, so one might take my experience to have the representational property of representing John as being blurred. Alternatively, one might take my experience to have the non-representational property of being blurred without representing anything as being blurred. Finally, just as one might naturally take my experience to represent John in a visual manner as opposed to, say, a tactile manner, one might take my experience to have the property of representing John in a blurred manner. On this

view, my experience does represent anything as being blurred; rather, being blurred is a way for my experience represent just as elegantly, slowly and quickly are ways in which I can walk. As John is not actually blurred, the first possibility gives us a straightforward explanation of why my utterance of the sentence in (1) is felicitous, even though it cannot be used to say something true.

(1) Everything around me looks blurred. I had better put my glasses back on.

At first glance, the idea that blurred experiences represent the external world as being blurred may seem far-fetched. But I think the reason for this is that we often know that our surroundings are not blurred. Having this knowledge, however, is perfectly consistent with one's surroundings looking phenomenally blurred.

Moreover, the two alternatives are hardly more plausible. The property of being blurred does not seem like the property of being conscious, for example. Experience is by definition conscious. So, my experience has the property of being conscious. Yet my external environment does not look conscious. Similar remarks apply to the property of representing visually. My envisaged experience represents visually, yet my surroundings do not look visual. I am not even sure what it would mean for them to look visual. This strongly suggests that the property of being blurred is very different of the properties of being conscious and representing visually, which my experience also has.

These considerations suggest a way to test for whether a property of experience is representational or non-representational. If the corresponding phenomenal 'look'-report is felicitous, then this is a strong indicator that the property is representational. We will use this as a diagnostic feature in the argument below.

The above considerations give us some reason to think that some 'look'-reports reflect representational phenomenal properties. I now turn to my argument for the view that 'look'-reports have content in the strong sense that is ruled out by at least some forms of naïve realism (see e.g., Travis, 2014).

My argument for the view that phenomenal 'look'-reports reflect representational phenomenal properties rests on the following principle:

Looks-Representation Bridge Principle (LRB)
If *o* phenomenally looks to be *F* to *S* at *t*, then *S*'s experience at *t* has the representational phenomenal property of representing something as being *F*.

LRB links phenomenal looks for a person at a time to a phenomenal property of that person's experience at that time. Here is an argument for *LRB*: Suppose *LRB* is false. Then *o* phenomenally looks *F* to *S* at *t*, but *S*'s experience at *t* does not have the property

of representing something as *F*. Then, either *F* corresponds to a non-representational phenomenal property of *S*'s experience at *t*, or it does not correspond to any phenomenal property of *S*'s experience at *t*. *F* cannot correspond to a non-representational phenomenal property of *S*'s experience at *t*, for, as I argued earlier, one's surroundings cannot phenomenally look to have a purely non-representational phenomenal property. *F*, then, does not correspond to any phenomenal property of *S*'s experience at *t*. But then, *F* does not contribute to what it is like for *S* to have the experience she has at *t*. It is, however, conceptually impossible for *o* to look to be *F* to *S* at *t*, if *F* does not contribute in any way to what it is like for *S* to have the experience she has at *t*. So, *LRB* is true.

By the *LRB* principle and the hypothesis that things cannot non-phenomenally look to have non-representational phenomenal properties, it follows that the properties that things can non-phenomenally look to have to *S* correspond to representational phenomenal properties of *S*'s experience. So, if an utterance of a sentence of the form '*o* looks *F* to *S*' is true, then there is an *F* such that the property of representing something as being *F* is a representational phenomenal property of *S*'s experience, and *F* is how *o* looks to *S*.

Now, there is a simple argument from the premise that phenomenal 'look'-reports reflect representational phenomenal properties of the experiences they describe to the conclusion that phenomenal 'look'-reports reflect strong contents of the experiences they describe. The argument runs as follows:

Look-Content Argument

1. Phenomenal 'look'-reports reflect representational phenomenal properties of the perceptual experience they describe.
2. Any representational property of perceptual experience is the property of having a certain strong perceptual content.

Conclusion: Hence, phenomenal 'look'-reports reflect a certain strong content of the perceptual experience they describe.

We have already established that (1) is true. Here is an argument for premise (2): It is a priori that if an experience has the representational property of representing *p*, then the experience represents *p*. But if an experience represents *p*, then *p* is a strong content of the experience. So, if an experience has the representational property of representing *p*, then *p* is a content of the experience.

ILLUSIONS

The argument just given does not show that the representational feature of visual experience is fundamental; I present an argument for this view in the next section.

In this section, I show that the earlier argument's conclusion causes trouble for certain naïve realist accounts of illusions, such as the one offered by Brewer (2011). In a visual illusion, Brewer argues, although *o* is not *F, o looks F* from a particular spatiotemporal point of view and a particular viewing condition relative to which *o* has visually relevant similarities with paradigm exemplars of *F*. Brewer notes that the naïve realist cannot take visually relevant similarities to be identical to the ways that the relevantly similar relata are visually represented as being, 'or else [naïve realism] clearly collapses into a version of [the representational view]' (Brewer, 2011: 103). I suppose the argument here is that if the naïve realist's account of illusions depends on the notion of representation, then the representational feature of experience is fundamental.

However, it is not clear that Brewer actually is able to avoid this consequence. He says that the visually relevant similarities are similarities in visual processing. As he puts it, 'visually relevant similarities are identities in such things as the way in which light is reflected and transmitted from the objects in question, and the way in which stimuli are handled by the visual system, given its evolutionary history and our shared training during development' (103). Paradigm exemplars are the kinds that are crucially relevant to our possession of concepts of those kinds. As indicated, the notion of visually relevant similarities must be implicitly restricted to a particular type of visual system. This is required, otherwise there may not be any or sufficiently many identities in the visual processes. Likewise, the notion of a paradigm exemplar must be restricted to a specific type of cognitive system possessing particular concepts. If we don't hold the cognitive system fixed, then illusory experiences may turn out to count as veridical. For example, if a cat is a paradigm exemplar of the concept of cat for you, but a dog is a paradigm exemplar of the concept of cat for me, then your illusory experience in which a dog looks like a cat would have visually relevant similarities with paradigm exemplars of dogs relative to my cognitive system. Finally, the laws of nature must be restricted to those that actually obtain. Otherwise, there could be illusions in which there are relevant similarities in how light is reflected and how visual stimuli are handled by the visual system for *F* cases, but in which light is transformed into a different kind of light inside the visual system. So, an illusory experience in which a white table looks green might be one that bears visually relevant similarities to paradigm cases of red objects.

Brewer's definition of visually relevant similarities, as formulated, makes no mention of the notion of representation. The problem, though, is that Brewer's notion of visually relevant similarity collapses into the notion of representation. The notion of visually relevant similarities to paradigm exemplars of *F* is restricted to a particular type of visual and cognitive system, as well as to our actual physical laws. So, *a visual*

experience bearing visually relevant similarities to paradigm exemplars of F (an illusory experience as Brewer conceives of it) and *a visual llusion representing F* are necessarily co-extensional. But if they are necessarily co-extensional, then Brewer has failed to give an account of illusions that is logically independent of the notion of representation. So, his account makes the notion of representation essential to our understanding of illusions and hence essential to a full understanding of visual experience (at least given that Brewer denies that hallucinations are visual experiences). Now, this may not be a problem for all types of naïve realism. The naïve realist might simply bite the bullet and say that veridical experience and illusions are fundamentally distinct types of mental states. However, as I will now argue, there is independent reason for thinking that the representational feature of visual experiences is a fundamental feature of experience.

VISUAL EXPERIENCE IS FUNDAMENTALLY REPRESENTATIONAL

The naïve realist treats perception as *fundamentally* a matter of being perceptually related to external objects and their property instances. The perceptual relation is typically rendered a form of conscious acquaintance. Brewer (2011), for example, takes the perceptual relation to be a person's conscious acquaintance with various mind-independent physical objects from a given spatiotemporal point of view—in a particular sense modality, and in certain specific circumstances of perception (such as lighting conditions in the case of vision) (96). This view avoids certain obvious counterexamples to naïve realism. For example, a perceiver who is looking at a coin that is tilted and then at the same coin that is not tilted is perceptually related to the same mind-independent physical object but has very different experiences. By treating the perceptual relation as a relation from a particular spatiotemporal point of view, the native realist can explain the differences between the two experiences.

The advocate of the representational view denies that it is a fundamental feature of experience that the perceiver stands in a perceptual relation to her environment and holds instead that it is a fundamental feature of visual experience that it is representational. There is the one caveat mentioned in chapter 2: visual experience is not essentially representational. Rather, *being representational* is a fundamental feature of visual experience in a creature with a particular kind of visual system that has developed as a result of evolution and brain maturation (e.g., that of most human beings). My main argument for this latter view runs as follows:

Argument from Phenomenology

1. Phenomenal seemings are needed to explain differences in the phenomenology of veridical visual experience.

2. If phenomenal seemings are needed to explain differences in the phenomenology of veridical visual experience, then *being representational* is a fundamental feature of visual experience.

Conclusion: *Being representational* is a fundamental feature of visual experience.

The argument for the first premise rests on cases in which an adequate causal relation obtains between the perceiver and the environment, but in which the causal relation does not fully determine how things perceptually appear to the perceiver. One way to establish the first premise is to show that a problem that threatens a view of color known as 'color physicalism' also presents a threat to naïve realism. Color physicalism takes the colors of surfaces to be sets (or disjunctions or equivalence classes) of surface spectral reflectance properties (Byrne & Hilbert, 2003; Tye, 2000). A surface spectral reflectance property is the percentage of the light at each wavelength across the visible spectrum that is reflected by a surface. The reason we should not treat the colors of surfaces as surface spectral reflectance properties but instead as sets of such properties turns on the problem of metamers. Metamers are objects with different surface spectral reflectance properties that appear to have the same color under certain sorts of illumination. For example, a surface that has a peak in reflectance at 500 nm and a second peak at 650 nm gives rise to the same green color appearance in daylight as a surface with a peak in reflectance around 550 nm. A version of physicalism that takes the colors to be surface spectral reflectance properties cannot explain this, as it would predict that metamers should have different colors, despite their identical phenomenal presentations. Byrne and Hilbert (2003) avoid the problem of metamers by denying that color types (e.g., red, yellow, green, and blue) are surface spectral reflectance properties. The color types, they say, are sets of these surface spectral reflectance properties. So, metamers whose spectral properties correspond to those of monochromatic light of 580 nm and a mixture of light of 540 nm and 670 nm have the same color—viz., unique yellow—because their reflectance properties belong to the same reflectance type, viz. that for unique yellow.

One of the greatest challenges for color physicalism is that of explaining differences in color perception among individuals who pass normality tests. Empirical studies have revealed that there is considerable variation in color perception across individuals who pass tests for normal color vision. Webster et al. (2000, 2002, 2010) and other research teams (e.g., Kuehni, 2001; Malkoc et al., 2005) have conducted several studies of variation in individual color perception. In one study, Indian and American participants were first asked to select the one chip from an array of 320 Munsell chips that best represented a particular hue—for example, the chip that was the best example of blue. They were then asked to identify the stimuli

they considered the best example of a unique hue (red, green, blue, or yellow) by choosing a point on a grading series of hues at high saturation. The participants found significant within-group and across-group variation. For example, in the first study they found variations across the groups that corresponded to a full Munsell chip (2.5 hue steps) for yellow and within-group standard deviations ranging from 1.5 to 2.1 hue steps.

Another example of variability can be found in neurotypical Caucasian males, who fall into two types of perceivers that differ in terms of their average peak responses to red light. In one study, the difference in average peak response to red light between the two groups was found to be 5 nm (Winderickx et al., 1992).

There may even be individual and gender-based variation in focal and peripheral color experience (Murray et al., 2012). Recent studies indicate significant variance in a gene located on the X-chromosome that codes for a protein that detects light in the long-wavelength (red/orange) regions of the color spectrum (Verrelli & Tishkoff, 2004; Mollon, 1992). As women have two copies of the X-chromosome, it is possible for them to have two different versions of this gene, and hence it is possible for them to have a more fine-grained ability to discriminate light in the long-wavelength regions of the color spectrum. Women are thus potentially in a position to perceive a broader spectrum of colors in the long-wavelength regions than men.

Kimberly Jameson and her colleagues have taken the idea that there are sex differences in color vision one step further (Jameson, et al. 2001; Jameson, 2006; Jameson, 2007). They speculate that up to 40 percent of women have tetrachromatic color vision. The line of argument runs as follows: most humans have three cone types which absorb maximally in different regions of the spectrum. So, most humans are trichromats. However, eight percent of males (and an insignificant number of females) have only two cone types. They are dichromats (color blind). Dichromacy results when a genetically mutant red or green photopigment gene on the X-chromosome fails to express retinal photopigment. Women who carry a deviant photopigment gene needn't be colorblind, but if they have a male offspring, he is highly likely to have some degree of colorblindness. Now, the mothers and daughters of dichromats and the mothers and daughters of males with deviant red/green photopigment genes may have a typical X-chromosome and an X-chromosome that carries one of the deviant red or green photopigment genes. If the normal red and green photopigments and a highly altered variant are all expressed, together with the blue photopigment (from chromosome 7), then the woman could have tetrachromatic color vision. Of course, for tetrachromacy to be present, the variant photopigment must constitute a distinct cone type, and the brain must be able to process and distinguish the color signals coming from the normal and the variant photopigment.

Jameson argues that evidence for the possibility of female human tetrachromacy can be found in the animal kingdom. Female spider monkeys are normally dichromats, but females possessing extra photopigment gene variants are trichromats. The gene variants allow some female monkeys to experience shades of color that others can't experience (Jordan & Mollon, 1993). Experiments that test for tetrachromacy in women with dichromatic offspring have also been conducted (Jameson, et al., 2001; Jameson, 2006) Though still preliminary, the results indicate that women who are genetically capable of expressing more than three kinds of photopigments sometimes perform differently on tests involving color categorization, color naming, and color similarity judgments, thus suggesting that some women do have tetrachromatic color vision.

This variability in the perception of color threatens not only color physicalism but also naïve realism. The upshot of what has just been discussed is that one and the same set of surface spectral reflectance properties can give rise to different qualitatively perceived color properties in different perceivers. In many of these cases, the causal relation that obtains between the perceiver and her external environment is nondeviant. So, these cases are not instances of illusion or hallucination. But naïve realism holds that in core cases, visual experience is a perceptual relation between the perceiver and a mind-independent, external object and its perceptible property instances.

However, positing a perceptual relation between the perceiver and a mind-independent, external object and its property instances does not suffice for explaining the different phenomenal seemings that one and the same colored object can give rise to in different individuals. We must appeal to the the very notion of a phenomenal seeming in order to explain the different phenomenology of the experiences of different individuals. So, the first premise of the Argument from Phenomenology is true: the notion of a phenomenal seeming is needed to explain the differences in phenomenology of veridical visual experience.

Here is some further evidence in favor of premise (1) (viz., 'phenomenal seemings are needed to explain the phenomenology of visual experience') that does not rely on individual or group variation in color perception. Consider the Checker-Shadow Illusion (see figure 3.1). If we were to see the object pictured in the Checker-Shadow Illusion out in the real world, we would accurately perceive A and B as having different gray tones.

The reason we wouldn't be fooled in the real world is due to our evolutionary adaptation to variances in the level of energy of the light at each wavelength in the visible spectrum, also known as the 'spectral power distribution' (SPD). In our

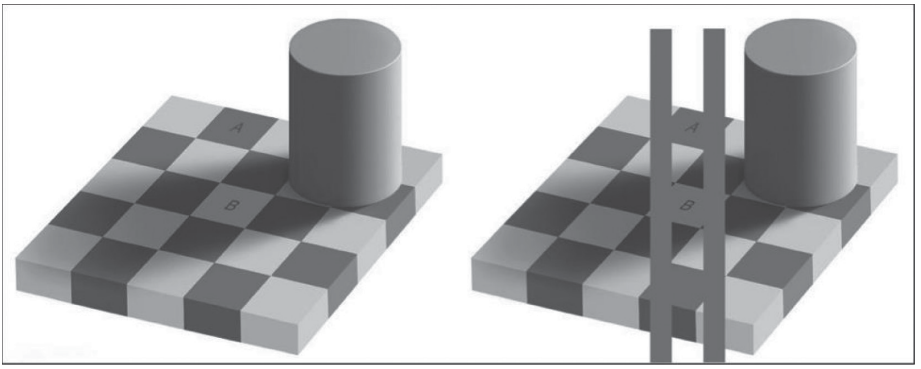

FIGURE 3.1 Adelson's checkerboard illusion. The visual system adjusts for the apparent differences in the spectral power distribution of the illuminant, which leads us to perceive A and B as differently colored.

environment the SPD varies greatly across different light sources (illuminants) and different times of the day. Cool white fluorescent light and sunlight have radically different SPDs. Sunlight has vastly greater amounts of energy in the blue and green portions of the spectrum, which explains why an item of clothing may look very different in the clothing store and when worn outside on a sunny day. The SPD of sunlight also varies throughout the day. Sunlight at midday contains a greater proportion of blue light than sunlight in the morning or afternoon, which contains higher quantities of light in the yellow and red regions of the color spectrum. Sunlight in the shade, when it is not overcast, contains even greater amounts of blue light. Our perceptual system adjusts for many of these changes in the SPD of natural illuminants, but the adjustment is less likely to occur when the illuminant is artificial as opposed to natural. For example, when you look at a dandelion facing away from the sunlight, your visual system adjusts for the change in the SPD (Akins, 2001). As a result, a dandelion doesn't look bluish-green but, rather, continues to look yellow. The intra-perceptual principles governing these changes are similar to those that govern other visual adjustments in that they do not conform to any standard tenets of rationality. The reason the Checker-Shadow Illusion occurs is that our perceptual system adjusts for changes in the SPD of the illuminant, thus treating an image the same way it would treat an object in natural illumination conditions. But in the case of the Checker-Shadow Illusion, the environment doesn't cooperate. What would be two different shades of gray in a natural three-dimensional external environment happens to be the same shade of gray in the two-dimensional picture. The brain isn't capable of making different kinds of adjustments for changes in the SPD of the illuminant in a two-dimensional

image and a three-dimensional natural scene. So, we mistakenly perceive A and B as having different colors when in fact they have the same color. Perceptual principles inherent to our visual system thus play a crucial role in how things perceptually seem to us.

But now consider two individuals with different perceptual principles, perhaps because of radically different evolutionary histories, developmental paths in early childhood, or perceptual learning paths later in life. It is certainly possible to imagine perceivers evolve in a world where they are exposed mostly to two-dimensional images like the Checker-Shadow Illusion. Perceivers in environments like that would adjust differently to changes in the SPD of the illuminant. That would likely lead to different phenomenal seemings associated with the same external object instantiating the same perceptible property instances. In a case like this, appeal to a deviance in the causal relation between the perceiver and the object of perception will not help us explain the difference in phenomenology. Nor will an appeal to differences in spatiotemporal point of view or viewing conditions (cf. Brewer, 2011: 96). To account for the differences in the phenomenology of experience we must appeal to differences in how the same external environment visually seems to the individuals in question.[3] The fact that appeal to perceptual seemings is needed in order to explain the phenomenology of experience provides further evidence in favor of the first premise in the Argument from Phenomenology.

The second premise ('If phenomenal seemings are needed to explain the phenomenology of visual experience in creatures like us, then *being representational* is a fundamental feature of visual experience in creatures like us') connects the need for the notion of seemings in an explanation of phenomenology with the fundamental status of the representational feature of experience.

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[3] An opponent may say, e.g., that the relevant developmental differences would involve certain changes in the subject's (physical) visual system, and that these differences explain the relevant phenomenal differences, This would seem to be a natural thing for the opponent of the representational theory to go for. While this is no doubt true, I think it is important to distinguish between seemings/experiences (and mental states in general) and their neural correlates (e.g., the physical visual system). No direct inferences can be drawn about phenomenal states based on neural states. For instance, even though perceptual processing is distributed across the brain, neuro-typical subjects have a single, unified perceptual state at any given time. Furthermore, two subjects with very different neural processing may have the same experiences. An example of this is the case of individuals with a right-hemisphere language center. Arguably, their experiences of language could be indistinguishable from those of neuro-typical individuals with a left-hemisphere language center. The upshot is that differences in the visual system will not suffice to explain differences in the phenomenology of experience. Thanks to an anonymous reviewer here.

As we saw in chapter 2, phenomenal looks and seemings are representational. So, if they are needed to explain the phenomenology of visual experience, as we just saw in this chapter, then representational properties are needed to explain the phenomenology of experience. It follows that insofar as representational properties are needed to explain the phenomenology of experience, *being representational* turns out to be a fundamental feature of experience insofar as this feature is needed to explain the phenomenology of experience. So, the second premise of the Argument from Phenomenology is true.

As the property of being representational is fundamental to experience in this sense, it follows that the representational feature of experience is needed for the experience to be an experience and hence that it cannot be replaced by the relational causal or awareness properties.

To summarize: I have shown that positing phenomenal seemings are required to explain differences in the phenomenology of veridical visual experience. As the notions of experiential representation and phenomenal seemings are interdefinable, an adequate explanation of the phenomenology of visual experience requires making appeal to its representational nature. But that is just the second premise of the argument—viz., if phenomenal seemings are needed to explain differences in the phenomenology of veridical visual experience, then the representational view of experience is correct.

To say that a visual experience is representational is not to say that all its phenomenology is representational. Nor does the view that visual experience is representational rule out that the perceiver is perceptually related to an external mind-independent object and its perceptible property instances. In fact, the argument for the representational view rests on the assumption that the perceiver is sometimes related to her external environment in this way. However, the perceiver being perceptually related to her external environment, I have argued, is not the most fundamental feature of visual experience.

SIGNPOST

In this chapter, I have argued that 'look'-reports reflect phenomenal properties of perception. I used this premise to show that experience is representational. Although this does not establish that experience is fundamentally representational, it causes problems for some versions of naïve realism—for example, the view defended by Bill Brewer (2011). In the second part of the chapter, I argued that experience is fundamentally representational. The argument proceeded by showing

that unlike naïve realism, the representational view can explain the differences in the phenomenology of veridical visual experience that are due to differences in the perceptual principles inherent to the visual system. Such differences, I argued, can come about as a result of differences in evolutionary history, early brain maturation and even perceptual learning and other late-onset alterations later in life.

4

ARGUMENTS AGAINST THE REPRESENTATIONAL VIEW

IN THIS CHAPTER I defend the representational view of visual experience against objections provided by Bill Brewer, Susanna Siegel, Mark Johnston, and Charles Travis. One is the generality problem, the problem of accounting for the specificity of visual experience. If you perceive a red tomato, and your experience of the tomato is to be characterized by its representational content, then your experience represents the tomato in a general way *F*. This sort of abstraction is to be expected in thought content, but not in visual content. A second issue is that of explaining illusions. Representational contents can misrepresent only by being false. But simply saying that the content is false does not explain what goes wrong. To explain illusionary cases, it appears that we will need to invoke relations between the perceiver and her environment. So, naïve realism appears to have an advantage compared to the representational view, because it takes perception to be a relation between the perceiver and her environment. A third issue is that of explaining how the representational view can be true of all the visual experiences that we have, including brain gray, pink glow, after-images, and phosphenes. These appear to be genuine visual experiences, but they do not seem to represent properties instantiated by mind-independent external objects. A fourth issue is the challenge of explaining how the phenomenology of visual experience can determine a unique representational content, given that there are indefinitely many different environments that could give rise to any particular look.

THE GENERALITY PROBLEM

In *Perception and its Objects*, Bill Brewer outlines what he calls the problem of the generality of predication for the representational view (2011: sec. 4.3). According to him, the representational view explains the perceptual relation between the perceiver and the external world in terms of the representational content of experience. The problem with this way of accounting for the perceptual relation is that it characterizes external objects in a too general way. If you perceive a red ball, and your experience of the ball is to be characterized by its representational content, then your experience represents the ball in a general way *F*. Since *F* is not a property instance of the ball, the representation involves a certain level of abstraction. This sort of abstraction is to be expected in thought content. When you have a thought that *o* is *F*, then a particular object *o* is thought to be a general way *F* which objects of this kind may be and which numerous other objects may be. But visual experience consists in a simple presentation of various constituents of the external world, and not the general ways in that such constituents are specified in a representational content. The representational view, he says, construes the perceptual presentation as an abstract act of predicational classification and categorization, and therefore it fails to capture the direct perceptual presentation of particular mind-independent physical objects and their perceptible property instances. The physical aspects of the external world that are presented directly in experience are construed in terms of the 'equally truth-conducive alternative possible surrogates'.

Brewer employs the same sorts of considerations in formulating a difficulty for the representational view in accounting for illusions. Consider the Müller-Lyer illusion (figure 4.1). The representational view, Brewer (2011) argues, cannot provide a satisfactory account of this type of illusion. He starts by posing the following question:

> Is the line with inward hashes supposed to be represented as shorter than it actually is; or is the line with outward hashes supposed to be represented as longer than it actually is; or both; and by how much in each case? (65)

The minimal answer that the content is simply and no more than that one line segment is longer than the other is not a satisfactory answer, Brewer says. It is absurd

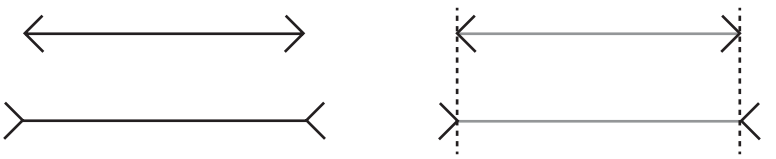

FIGURE 4.1 The Müller-Lyer illusion. In this illusion, you believe the lines are of the same length, but no matter how long you look, you continue to experience them as being of different lengths.

to think that a visual experience of the Müller-Lyer illusion does not represent any other features about the line segments, such as their distributions in space, their lengths, or whether they differ in length a little or a lot. He notes that this marks a fundamental difference between seeing and saying. We can say or think that one line segment is longer than the other without specifying any other information. But entities presented in experience are normally presented in a much more determinate and fine-grained way than those displayed in thought. So we do not merely experience the difference in length.

A further problem, according to Brewer, is that of accounting for the fact that the line segments are presented in experience as having the length they actually have. So, it would seem that the representational view is required to say that experience represents the lines as having the length they actually have and as having different lengths. This makes the content of the experience impossible. But one would have thought that what we visually experience should be a guide to what is possible.

A related challenge that Brewer presents for the representational view is that of simultaneously accounting for what is *presented* in illusory experience and what the experience is claimed to represent. Brewer notes that he can think of a figure hidden behind a screen that it is square, even if it is actually circular. But it doesn't work the same way in the case of experience. An illusory experience in which a circle phenomenally seems like a square nonetheless still involves a perceptual relation to a circle. A circle is thus perceptually presented in the experience. But the representational view will say that the experience represents a square and hence that a square is perceptually presented in the experience. Since the representational view accounts for the phenomenon of perceptual presentation in terms of representational content, Brewer argues, the very notion of content comes 'under serious tension from demands that pull in opposite directions' (71) The representational view has no way of ruling out these kinds of cases, as perceptual presentation is captured in terms of a representational content. This puts no limits on what kinds of error are possible with respect to an external object. So, the view cannot account for the fundamental feature of experience that a mind-independent object is presented in experience and that the way things can look is constrained by how things are perceptually presented.

While Brewer's concerns may have some force against representational views that take visual experience to simply be belief (e.g., Byrne, 2009; Glüer, 2009), I do not think they present a difficulty, in general, for the view that experience is fundamentally representational. The primary representational entity is the experience itself. If there is any level of abstraction inherent in the representational constituents, it's a level of abstraction introduced by the brain when computing conscious features from the retinal input. There are indeed cases of visual experience where the representational constituents represent at a certain level of generality. In

fact, James Stazicker (2011) argues that experience always represents determinable properties. This view is disputable (Brogaard, 2015b). But it certainly seems right that we often are aware of determinables rather than fully determinate properties. For example, you might be aware of a tree in the background without being aware of an elm. Entities we don't pay full attention to will also present themselves in a more general way than entities we are visually attending to. This is particularly evident in the case of type 2 blindsight (Brogaard, 2015b). Blindsight was originally defined as residual visual abilities in patients with lesions on V1 in the absence of any reported awareness. It was subsequently established that some blindsight patients have abnormal conscious awareness in response to fast-moving, high-contrast stimuli. The residual visual abilities in these conditions are now commonly referred to as 'type 2 blindsight'. Subjects with type 2 blindsight appear to experience only highly determinable properties in their blind field, and they are unable to identify the bearer of these properties. Furthermore, they often report being aware of features hidden behind an occluder that obscures the identity of the stimulus. We do not see these extremes in core cases of visual experience. However, even in core cases, the conscious features the brain computes from the retinal input represent at the level of particularity that is possible for human brains. So, it is to be expected that entities presented in visual experience are presented in in a less that fully determinate way.

Features being experienced as much less determinate than in core cases can also be found in cases of covert attentional shifts. Carrasco et al. (2004) show that covert attention increases contrast at the attended location and decreases it at the ignored location. In the study, subjects were asked to fixate on the fixation point between two gradients—called Gabor patches—that have different contrasts and then on one of the two gradients (figure 4.2). When the subjects attended to the fixation point, the two gradients appeared to have different contrasts. However, when the subjects attended to the left patch, the two gradients appeared to have the same contrast.

Gobell and Carresco (2005) subsequently performed analogous experiments, showing that attention can also affect features, such as the size of a gap in a square and the spatial frequency of horizontal lines. The apparent spatial frequency was 3.5 cycles/degree with a neutral cue and 3.68 cycles/degree with an attention-directing peripheral cue on average, and the apparent gap size was 0.20 degrees with a neutral cue and 0.23 degrees with an attention-directing peripheral cue on average (figure 4.3). It is worth noting that these differences are only barely noticeable even when fully attended to in good lighting conditions. Small differences in size and number are what we should expect, given the view that attention can introduce a shift in how determinately and fine-grained properties are presented in experience. If a shift in attention can make a difference to how determinate and fine-grained properties are presented, less than full attention will prevent awareness of very fine-grained

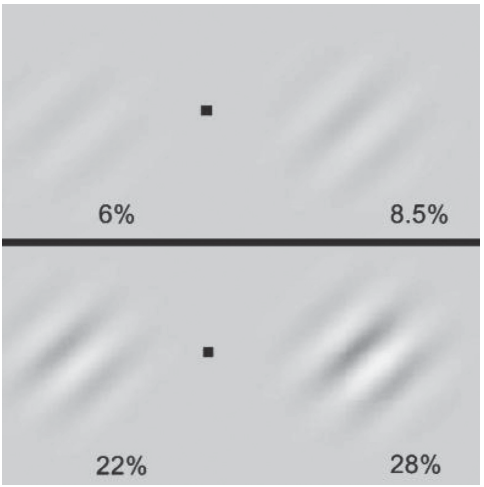

FIGURE 4.2 The contrast difference between the pairs of gratings illustrates the effect of attention on apparent contrast. If subjects attend to the fixation point, the two patches appear to have different contrasts; if subjects' attention is drawn to the left stimulus, it appears to be of similar contrast as the (unattended) right stimulus. (Carrasco et al., 2004; Montagna et al., 2009)

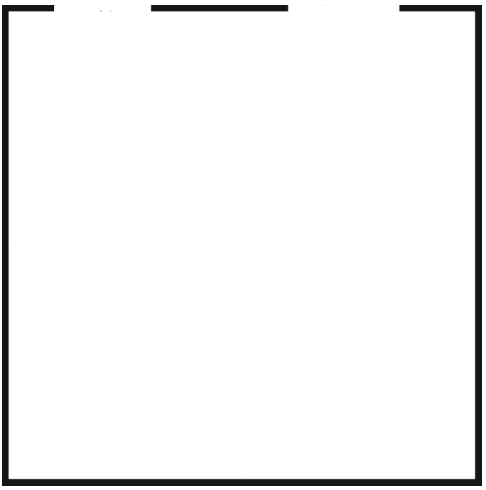

FIGURE 4.3 Illustration of difference in gap size. The difference in gap size between the gap on the left (0.20 degrees) and the gap on the right (0.23 degrees) is barely noticeable with joint attention.

properties. For example, in the absence of full attention, we are not aware of differences in gap sizes in the magnitude of 0.03 degrees of the total length. The experience that represents a determinable property that subsumes both the determinate properties 0.20 degrees and 0.23 degree is thus accurate, although it represents with less precision than the experiences of the gaps in the presence of full attention.

It is true, of course, that visual experience represents external entities in exactly the same way that other numerically and qualitatively distinct entities could be correctly

represented. But this is to be expected. If I visually perceive Lisa at a distance while only diffusely attending to her, the conscious features of my experience represent Lisa in the same way that her numerically and qualitatively distinct identical twin could correctly be represented. When I see her at close proximity and attend to her, my brain computes additional, or more fine-grained, conscious features from the retinal input—for example, the particular distribution of the freckles on her nose, which is different from the distribution of freckles on her twin's nose. The representational view is thus not committed to any level of generality or abstraction in the representation of the external world that is not introduced by the neural computational processes that generate conscious features from a retinal input.

A similar response is available to the advocate of the representational view in the case of the Müller-Lyer illusion. Visual experience does not represent the two line segments as simply differing in length. It represents them as being located in different locations on the page, as having particular lengths, and so on. Experience, of course, does not represent the line segments as being a certain number of millimeters, as this is not a feature that is presented in experience. But it doesn't simply represent the line segments in a very general and abstract way. Nor does it represent them as having both their actual lengths and as having different lengths. It is a fact about the illusion that the line segments are presented in experience as having different lengths. Regardless of how long we stare at the illusion, we cannot come to perceive the two line segments as having the same length. So, while the retinal input of the lines will display their actual length, the brain's perceptual processes generate the conscious feature of having different lengths. In this case, the brain behaves the way it should in producing a feature that misrepresents. One popular explanation of the Müller-Lyer illusion is based on depth perception (Gregory, 1968; Howe & Purves, 2005). Depth perception involves generating an internal three-dimensional model of the environment. Part of the mechanism that produces the three-dimensional model adjusts for the sameness in the sizes of objects located at different distances from us. This is also known as 'size constancy'. This mechanism ensures that objects are not perceived as shrinking when we move away from them. As a result of this process, the brain changes the size of the retinal image of the line segment with the outward hashes to the size it would normally have, thus making it seem longer (figure 4.4).

So, when the brain is faced with the Müller-Lyer illusion, it behaves according to standard perceptual principles for generating depth perception. This results in one line segment being represented as longer than the other line segment, even though the line segments have the same length in the retinal display. So, the two line segments are never visually presented as being the same length in experience.

The same sorts of considerations apply to Brewer's third concern. If it really did phenomenally seem to a subject that a circular object is in fact square, then

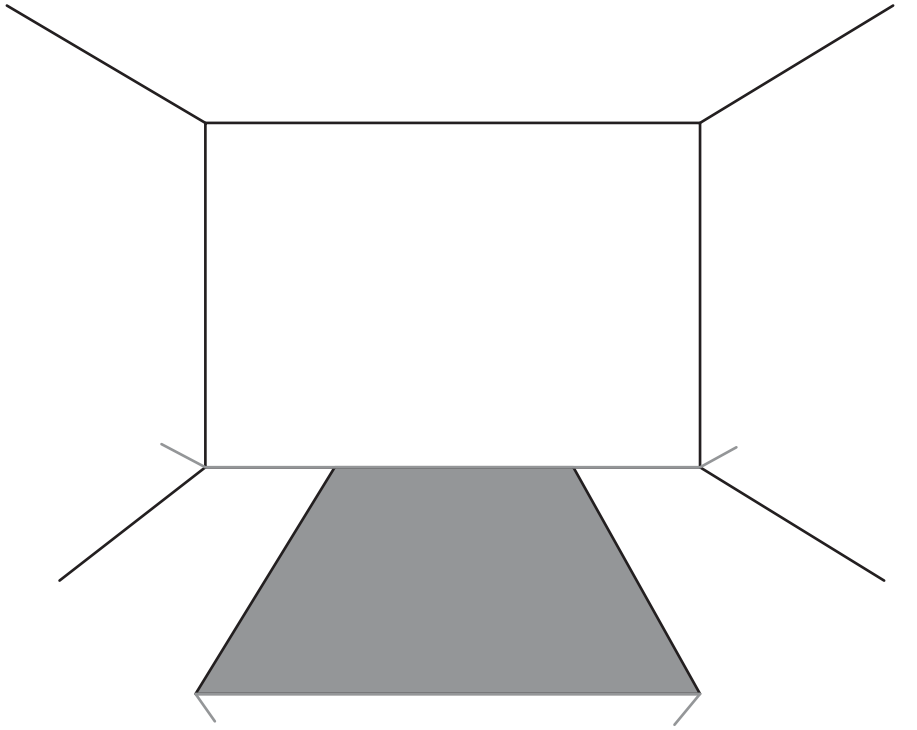

FIGURE 4.4 A Three-Dimensional Müller-Lyer illusion. This illustration shows how the outward hashes generate the appearance of the line segment being farther away from us than the line segment with the inward hashes.

one possibility is that something went wrong in the perceptual processing of the retinal input. The circular retinal input was somehow processed incorrectly, thereby generating a conscious feature representing a square. In this case, however, a circle is not perceptually presented in experience. It is displayed only in the retinal input, not in the conscious experience. This, however, is not a common illusion. In most cases of optical illusions, the brain functions as it should but the environment is abnormal (e.g., being a two-dimensional computer-displayed figure as opposed to being a three-dimensional natural object). On the representational view, there are indeed constraints on what experience can represent. Representation is constrained by the perceptual principles in accordance with which the visual processes operate (Pylyshyn, 1999).

I think what leads Brewer to think that the representational view is faced with a generality problem and a problem of accounting for perceptual presentation—problems supposedly not inflicting his own view—is the intense focus in the perception literature on a representational content as the primary representational entity constituting visual experience. Contents have traditionally been construed as propositions composed of objects and properties. This way of thinking of propositions is a helpful heuristic. However, as Russell (1903) realized early on in his

career, sets of objects and properties are not inherently intentional entities. The only things that can have underived intentional features are the psychological states of living creatures. To the extent that we need to employ the notion of a proposition or a content, it must be understood as a *type* of cognitive act (Brogaard, 2014). When so understood, we can say that propositions or contents have intentional properties in a derivative sense. But their intentional properties derive from token perceptual and cognitive acts of living creatures. The level of abstraction and generality that sneaks into the conscious features that represent entities in the perceiver's environment derives from the brain processes involved in generating those features.

The perceptual relation that obtains between the perceiver and mind-independent physical objects in cases of veridical perception and illusion is a result of a sensory input undergoing neural processing and generating conscious features. So, Brewer himself is required to accept the level of abstraction and generality in perception that the brain itself introduces during neural processing. There is no doubt that most cases of visual experience involve a relation of conscious acquaintance between the perceiver and her external environment. However, as I have argued in chapter 3, the perceiver being consciously acquainted with her external environment is not the most fundamental feature of visual experience. It cannot explain the differences in conscious appearance among perceivers with perceptual systems governed by different perceptual principles, exactly because perceptual presentation is not a relation between a retinal image and a mind-independent physical object but, rather, a relation between a conscious appearance and a mind-independent physical object. As a result, naïve realism does not have the resources to account for the phenomenology of experience.

JOHNSTON'S ILLUSIONS

Mark Johnston (2014) argues that a representational view of visual experience fails because it cannot explain what is wrong with illusory experiences by appealing to the content that (at least partially) constitutes it. For example, if we want to explain what goes wrong in the two balls illusion (figure 4.5), we would need to mention the deviant causal relation between the perceiver and her environment. The explanation in this case is that the size of the balls relative to the presented background is such that if the experience had been the result of the same retinal imprint in a natural three-dimensional environment, the experience would have been veridical. What makes the experience an optical illusion in this case is that the visual scene is a two-dimensional representation. The balls leave the same imprints on the retina as same-sized balls located at different distances from the perceiver in the real world. Because the visual system operates according to intra-perceptual principles that help determine, among other things, depth, distance and size constancy as well as the

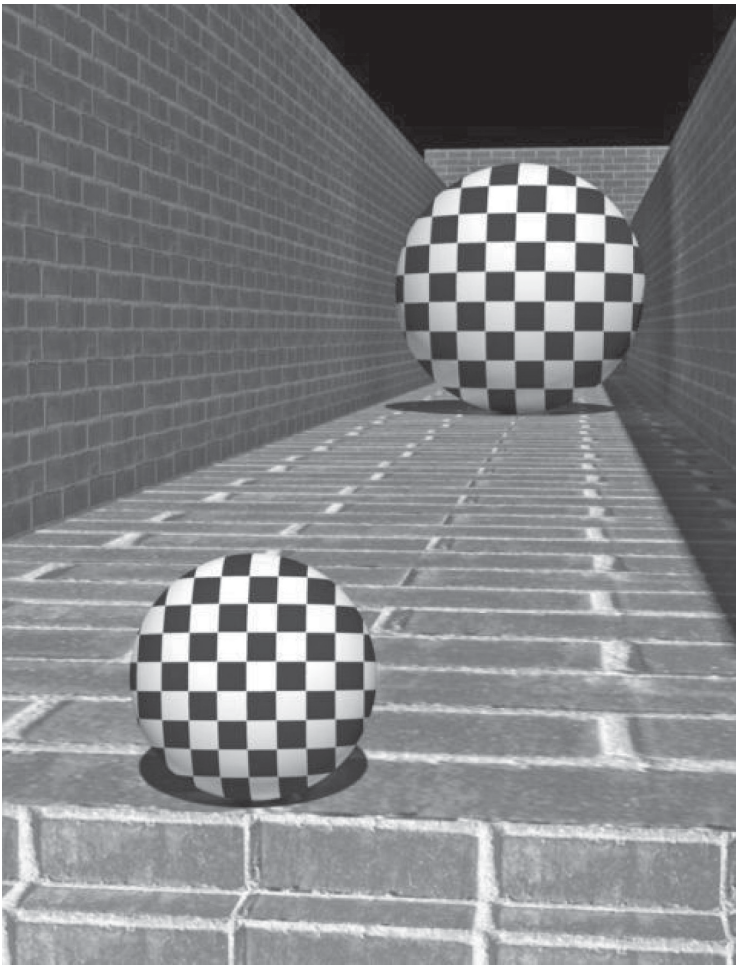

FIGURE 4.5 Although the image sizes are the same, the ball in front looks smaller than the ball farther back. (Reprinted by permission from Macmillan Publishers Ltd. Scott P. Murray, Huseyin Boyaci, and Daniel Kersten, "The Representation of Perceived Angular Size in Human Primary Visual Cortex," *Nature Neuroscience* 9 [2006]: 429–434)

effect of illumination (Pylyshyn, 1999), it interprets the input from the retina the same way as it would interpret it in a case in which the two balls were differently sized and located at different distances from the perceiver.

But, Johnston argues, it is unclear how the advocate of the representational view can explain these kinds of illusions. The problem is that the representational view offers an account of perceptual presentation in terms of a representational content. Representational contents can only misrepresent by being false. But simply saying that the experience of the two balls mistakenly represents the two balls as being differently sized, even though they are in fact same-sized doesn't explain what generates the illusion. This can be seen from cases of veridical illusion.

Veridical illusions are illusions where the external world is just the way the experience represents it to be, but where there is nonetheless a deviant causal relation between the perceiver and her external environment. Suppose two parallel line segments of the kind portrayed in the Müller-Lyer illusion with inward and outward hashes did indeed have different lengths, but that the retinal imprint for some reason displayed the lines as having the same length (figure 4.1). Owing to the inward and outward hashes the brain's perceptual processes would generate a three-dimensional model of the lines locating the upper line segment behind the lower. The result would be an accurate visual appearance of the line-segments having different lengths. In the envisaged case, the representational content would be true. So, unlike the experience of the Müller-Lyer illusion, the experience in the envisaged 'double-illusion' would be veridical. Hence, the representational view would be unable to account for why the illusion is erroneous.

As the representational view is normally laid out, there is nothing in the representational content that can explain optical illusions, veridical or not. Johnston recognizes that one possible way for the advocate of the representational view to explain illusions would be to build a causal relation into the content of the experience. On this view, the content of my experience of a ripe tomato is something like 'there is a red tomato which stands in causal relation *R* to this very experience, and *R* is the causal relation needed for seeing the red tomato'. It is not sufficient that there is a causal relation built into the content of experience, however. An illusion can occur because the causal relation is deviant, and it is far from clear how an experience could come to represent something as complex as a non-deviant causal relation that is also reflected in the phenomenology of the experience. So, Johnston argues, the advocate of the representational view cannot explain illusions by appealing to the representational content of experience. To explain what is wrong with illusions it appears that we will need to appeal to the relations that obtain between the perceiver and the source of her experience. So, naïve realism, which does just that, appears to have an advantage compared to the representational view because it alone has the resources to explain why illusions are erroneous. Or so Johnston's argument goes.

This is a clever objection. However, I do not think it ultimately presents a problem for the representational view. The representational view is a theory of visual experience. It holds that representation is a fundamental feature of visual experience, because representation is required to explain the phenomenology of visual experience. It is not clear that a philosophical theory of experience should be able to explain what goes wrong in the case of illusion, exactly because illusions normally inherit the rich phenomenology of veridical experience. This is not to say that a general theory of visual experience that accounts for the underlying brain mechanisms producing visual experiences should not be able to explain what goes wrong in the case of

illusions. Of course, it should. But a philosophical theory of experience should account for what experience is, not how it comes about.[1]

The problem that Johnston outlines for the representational view, in fact, turns out to be equally problematic for at least some versions of naïve realism. On a common version of naïve realism, visual experience is constituted by a conscious acquaintance relation between the perceiver and a mind-independent physical object (see e.g. Brewer, 2011). This perceptual relation obtains both in the case of veridical perception and in the case of illusions. So, the perceptual relation itself cannot explain what goes wrong in the case of illusions. As mentioned above, Brewer argues that visual illusions are cases of visual experience in which a physical object, *o*, looks *F*, although *o* is not actually *F* (Brewer, 2011: 108). However, this can only account for how veridical experiences differ from non-veridical illusions. In the case of veridical illusion, the physical object is the way it looks. So, it is not the case that we have a visual experience in which a physical object, *o*, looks *F*, although *o* is not actually *F*. In order to explain what goes wrong in the veridical illusion considered above, the naïve realist who defends a view along these lines will need to appeal to the perceptual principles that generate depth perception. But the perceptual principles that govern the operations of the visual system are not constituents of visual experience, according to the naïve realist. So, the naïve realist, too, needs to appeal to mechanisms in the brain that are not constituents of visual experiences to account for the aberrance of illusions.

As argued in chapter 3, advocates of the representational view ,in fact, have an advantage when it comes to explaining visual experience. Unlike the naïve realist, they can account for the difference in the phenomenology of experiences of the same object in the same viewing conditions and from the same point of view in perceivers whose perceptual systems operate according to different perceptual principles. The following example can be used to illustrate this. Consider two people, John and Mary. Mary grew up with a lot of indoor lighting, which contains considerably less blue light than direct sunlight. John grew up in a place with a lot of sunlight. As John's visual system matured, it developed to adjust for the large amounts of blue light contained in direct sunlight, whereas Mary's visual system didn't develop that particular mechanism for adjusting. One day when Mary comes to visit John, they are both looking at the same banana outdoors in direct sunlight. The banana looks yellow to John, because his brain learned to adjust for the blue light owing to his frequent exposure to sunlight as a child. But to Mary, whose brain matured in a place with mostly artificial lighting, the banana

[1] There are other ways for the representationalist to respond to the problem of veridical illusions that may turn out to be more satisfactory. However, I do not think the objection, as stated, calls for a different kind of response. The objection has more bite if the advocate of the representational view also adopts a version of phenomenal dogmatism. See Brogaard (2017c).

looks like it has a bluish tint. So, there is a difference in the phenomenology of their experiences of the same object in the same viewing conditions and from the same point of view, because their visual systems operate according to different perceptual principles.

As we have already seen, the advocate of the representational view can explain this difference by appealing to the differences in how things look to different perceivers. The question is how the naïve realist is going to explain this difference in phenomenology. The causal relation between the perceiver and the external environment is not deviant. John and Mary each had a normal childhood development. So, simply appealing to the causal relation between the perceiver and her environment does not explain why different perceivers suitably related to their environment can have experiences with a different phenomenology.

Of course, the naïve realist might argue that because John is in his natural habitat, whereas Mary is not, only John is suitably related to the banana when the latter is viewed in direct sunlight. So, it may be argued, John's experience of the banana as yellow is veridical, whereas Mary's experience of the banana as having a bluish tint is illusory.

One problem with this response is that there likely are very many Johns and Marys among us, and it would be difficult to make any sharp distinction between veridical and illusory perceivers, especially when the notion of veridicality already allows for some degree of imprecision.

A second, related, problem is that we cannot expect there to be exactly one normal way that the visual system develops. We will likely have to allow for a range of normal visual systems that operate slightly differently and therefore yield experiences with a different phenomenology.

Given these considerations, Mary and John ought to count as two normal perceivers who are both suitably related to the banana and its perceptible property instance, in spite of the fact that they have experiences with a different phenomenology.

Exponents of the representational view are better off. On the version of the view I have defended, the notions of visual phenomenal seemings and visual experiences are interdefinable. So, since Mary and John have different phenomenal seemings, they also have different phenomenal experiences. So, unlike the naïve realist, the advocate of the representational view can account for the differences in the phenomenology of visual experience in these kinds of cases.

PINK GLOWS

The representational view faces another potential problem. If the view grants that any old visual experience is representational, it may seem rather contentious. Consider the pink glow you have when you have your eyes closed. As Siegel (2010: 209) points out, it is not at all clear that anything is represented by this kind of experience. This

kind of experience, Siegel argues, comes as close as anything to the raw feel (or bare sensation) that Thomas Reid (1785/2002) argued was one part of visual experience see e.g. "Essays on the Intellectual Powers of Man".

I am tempted to think that pink-glow experiences are not like raw sensations in Reid's sense. I think that brain gray, pink glow, afterimages, phosphenes, floaters, migraine auras, the slight ringing or wheezing in your ears when you suddenly experience silence, and so on, are genuine visual experiences that represent something. A pink-glow experience represents a pink glow shimmering in a black space, which we refer to as 'brain gray'. The experience does not represent the glow as instantiated by any mind-independent external object or by any mental object but it nonetheless represents a pink glow, a pinkish light that glares diffusely inside what may seem like a dark cave. The difference between these kinds of visual experiences and core cases is that the former do not represent a property as instantiated by an external object, nor do they represent the light or color as mind-independent. Siegel (2010: 185) appeals to a fictitious doll experience to establish the claim that core visual cases represent external objects and their properties *as mind-independent*. In her thought experiment, you are looking at a doll in your possession. Everything appears quite normal. Yet as you move your eyes away from the doll without moving your head, the doll is moving with your eyes. When you move your eyes to the right, the doll moves to the right. When you move them to the left, the doll moves to the left. When you close your eyes, you keep seeing the doll. Siegel argues on the basis of this example that unlike experiences of pink glow, brain gray, afterimages, etc, core cases of visual experience represent external objects as being independent of the perceiver's perspective. She introduces the following two conditions as a way of capturing this feature of ordinary visual experience :

> SI: If *S* changes her perspective on *o*, then *o* will not thereby move.
> PC: If *S* substantially changes her perspective on *o*, her visual phenomenology will change as a result of this change.

Siegel's argument for the view that ordinary visual experience represents entities as mind-independent rests on her method of phenomenal contrast (Siegel, 2005). In an ordinary experience in which you look at a doll sitting on a shelf, the doll does not move when you move your eyes, and the experience disappears when you close your eyes. This is not so in the odd doll experience. So, there is a difference in phenomenology between an ordinary visual experience of a doll and the odd doll experience. Arguably, this difference is a difference in visual phenomenology as opposed to the phenomenology of, say, your current mood or your co-occurring desire to have a drink of water. This suggests that the two kinds of experience represent different properties. Ordinary visual experience, Siegel argues, represents

I agree with Siegel that in the cases she calls 'core cases' (e.g. the ordinary doll experience), the experiences represent things as mind-independent. However, I disagree that a clear-cut distinction can be drawn between experiences that represent things as mind-independent and those that do not, or between ordinary experiences and odd "doll-like" experiences.

We see volumes such as the ocean, morning fog and the sky as colored. When the sky is blue, it is because only the shorter wavelengths of light are absorbed by the gas molecules and scattered in all directions. This is also known as the 'Rayleigh scattering'. This also explains why we see the ocean and morning fog as blue (or green or turquoise).

While an experience of a clear sky does represent the sky and its blue color as mind-independent in Siegel's sense, not all experiences of external volumes satisfy Siegel's two criteria for mind-independence. Walking through Olafur Eliasson's installation "Your atmospheric colour atlas" featured, for instance, in ARoS Art Museum in Aarhus, Denmark in 2014, yields visual experiences that appear to violate Siegel's two conditions on mind-indepence. Eliasson's installation consists of artificially produced dense fog infused with red, green and blue fluorescent light, emitted from the ceiling. At the boundary of each color bank, the hues blend to form cyan, magenta, yellow, and white. The phenomenology of the experience accompanied by being emerged in a magenta-colored bank of fog in Eliasson's installation is not unlike the phenomenology of a pink glow experience, just much more intense.

It may even be argued that magenta-colored fog experiences and pink glow experiences do represent something as mind-independent, despite failing Siegel's two conditions, viz. a colored volume. The difference between the overall mental experience in the two cases is in part due to the fact we happen to know that the fog is really out there in the world, whereas the pink glow is not.

There are many other examples of odd non-veridical experiences that seem to represent something as being mind-independent. Some individuals with grapheme-color synesthesia—a condition in which an experience of a letter or number printed in black causes a non-veridical experience (or image or thought) of a very specific color—report seeing the synesthetic colors as transparent and as being located just on top of the grapheme's true color, whereas others describe their experiences as similar to seeing afterimages or phosphenes (see Brogaard, 2018). In some cases, synesthetes report that when they shift overt attention by moving their eyes, the induced color remains in the same location as the grapheme until it is out of sight. The color, they say, is in some sense tied to the grapheme. In other cases, synesthetes report that they experience the synesthetic color as moving with their eyes when they shift their gaze, like Siegel's odd doll.

Other odd non-veridical experiences that may represent something as mind-independent include experiences of gray spots that seem to float across the field

of vision after looking at a bright background, experiences of jagged lines or heat waves in front of the eyes preceding or accompanying migraines, and experiences of wagging tree branches, snow flakes or insects following detachment of the vitreous around the optic nerve in the eye. In all of these cases, the experiences differ from clearly mind-dependent experiences, such as visual imaginations, which appear to occur within the "mind's eye."

It appears that Siegel's conditions do not suffice as marks of all forms of mind-independence. Staying put when we move the eyes is one mark of entities experientially represented as mind-independent (a condition satisfied by the objects of most visual experiences and also projector synesthesia). Changing or disappearing when we change our perspective in some radical way (e.g., by closing our eyes) is another mark of entities experientially represented as mind-independent (a condition satisfied by the objects of most visual experiences and also some floaters and glows). Being experienced as being in front of the eyes is yet another mark of entities experientially represented as mind-independent (a condition satisfied by the objects of most visual experiences as well as after-images, auras, floaters, etc.).

If an experience does not represent an entity as being mind-independent in one of these ways, I would be tempted to deny that it is a visual (or sensory) experience.

In short, pink glows, brain gray, afterimages, phosphenes, floaters, migraine auras, and so on are genuine visual experiences; they simply fail to represent the exact same features as Siegel's core cases of visual experience.

Travis's Argument Against the Representational View

I turn now to Travis's main argument against a representational view of visual experience. Travis's official standpoint is that no mental state represents, except in a derivative sense (see e.g. Travis, 2004, 2014). Representation is something that agents do. He thus denies that representation is a two-place relation. He grants that we may use the term 'representation' to designate the causal covariation that obtains—for instance, between teetering rock and eons of wind erosion or between a child's footsteps in the sand and the child who left them behind. However, causal covariation is not representation in a substantial sense that will suffice for a representational view of perception. If a child's footsteps in the sand represent the child by being left there as a trace, then the representation cannot be false. Representation in the substantial sense needed by the representational view Travis argues, requires that a state may represent that things are thus and so, even if they are not. In a substantial sense, representation is thus a three-place relation among an agent who actively (or with commitment) takes things to be a certain way, a mental state, and the state of affairs represented.

Travis's insistence that mental states do not represent independently of an agent may make it sound as if an agent is a homunculus in the brain whose existence is independent of the brain's mental states. However, a more charitable reading is available. If we focus on Travis's claim that representation requires an agent *who takes things to be a certain way*, then we might say—at least for our present purposes—that his view is that it is not visual experience that represents but, rather, the experience together with certain higher-order epistemic states of the agent, viz., those that involve a commitment on the part of the agent to things being thus and so.

Travis's (2004) main argument against the representational view is formulated in slightly different ways in his different works. Additionally, different thinkers have provided varying presentations of what the argument actually is (see, e.g., Byrne, 2009, for a completely different presentation of the argument). Despite all the possible alternatives, I think the following is a fairly accurate presentation of at least one version of the argument.

Travis's Argument Against the Representational View

1. If visual experiences represent, then they represent the way things perceptually appear [or look] to be.
2. If visual experiences themselves represent, then they represent independently of the agent's particular epistemic states (i.e., her rational decisions, beliefs, etc.).
3. There is no unique way that things perceptually appear [or look] to be, independently of the agent's particular epistemic state (i.e., her decisions, beliefs, etc.).
4. Hence, visual experiences are not representational.

Provided that 'the way things perceptually appear to be' implies uniqueness, the argument is valid. We can articulate Travis's justification for the premises as follows. Premise (1) is widely accepted by proponents of the representational view of perception (e.g., Davies, 1992; Peacocke, 1992; Siegel, 2010). It is in virtue of the way things look that the agent comes to recognize what an experience represents. The look associated with experience pins down uniquely what is represented by the experience. As Travis puts it, 'in some sense of "looks" or "appears," if things look, or appear, as they do on a given occasion, that should leave exactly one representational content for that particular experience to have. On that occasion, at least, a different content would have required things to look, or appear, different' (2004: 63). Further motivation for this premise comes from the inadequacy of a notion of representation that is not intimately tied to phenomenology. For

example, without further qualification, the view that representation is causal covariation would imply that visual experience might represent their proximal causes (see, e.g., Shea, 2013).

Travis's own reason for holding that perception is isolated from high-order epistemic states is that he holds that perception must be the source of immediate or direct awareness rather than mediated (or inferential) awareness. As noted previously, a related sentiment is commonly defended in cognitive science, where it is observed that low-level visual experience is relatively informationally encapsulated from higher-order epistemic states, such as belief (Fodor, 1983; Pylyshyn, 1999). For example, in the Müller-Lyer illusion, learning that the two line segments have the same length does not alter the perceptual appearance that the line segments have different lengths. Beliefs and other epistemic states do not influence how things appear perceptually.

Travis's (2004, 2014) argument for the third premise proceeds by considering two different notions of 'look' that may serve the representationalist. On one notion (Travis's first notion, the "demonstrative" use), looking as though *F* and looking like *F* do not fix a particular representational content. Most examples of this use of 'look' in ordinary language are comparative in Chisholm's (1957) sense, as in 'Anna looks like her sister' or the subjunctive 'It looks as though this is a pig'. Comparative uses explicitly mention a commonality between two things without mentioning how the things are alike. For example, Anna can look like her sister in any number of ways (e.g., by having the same facial features, by having some of the same facial features and some of the same bodily features, by being a complete replica of her, etc.). Subjunctive uses further indicate that the speaker has suspended commitment with respect to the nature of the object triggering the perceptual appearance. Byrne (2009) argues that Travis's first notion of 'look' just is Chisholm's comparative use. Travis's examples appear to confirm this observation. However, I think the main reason for this is that the only uses of 'look' in ordinary English that do not indicate that the thing in question has particular features is the comparative use. Travis's point, however, is not merely linguistic. It is clearly meant to extend to looks-qua-mental events—that is, to the looks or appearances accompanying visual experiences. His general point seems to be that when a look accompanying a visual experience is not of the second kind (to be discussed below), the look does not determine a particular representational content. For example, when I have a visual experience of Pia, she is associated with a certain look, but as Travis points out, there are indefinitely many entities that could give rise to that look: 'herself, a wax replica of herself in Madame Tussaud's, a good hologram, a body double, an actress made up to play the role of her, a Pia-clone, and so on ad infinitum' (2004: 72) (figure 4.6).

FIGURE 4.6 Photo of a wax figure of President Barack Obama at Madame Tussauds, Las Vegas.

Or consider a visual experience of a white wall partly illuminated by sunlight (figure 4.7). This experience is associated with a particular look. But there are indefinitely many different environments that could give rise to this particular look. For example, the same look could be triggered by adding colored paints to certain patches of the wall—this is how painters generate the appearance of partly illuminated objects. Thus, Travis argues, when looking at our surroundings, in the first sense, we are blank slates; the looks are presented to us without indicating a particular way that things are. So, when a visual experience is accompanied by a look, in this sense, this look is compatible with many different representational contents. Since looks, in the first sense, do not fix a particular representational content, it is not in virtue of looks, in this sense, that visual experience is representational (if it is).

Certain brain conditions may also result in what is presented in visual experience failing to represent anything. Visual form agnosia, a brain condition in which perceivers can see that there is something in front of them but cannot identify what it is, may shed some light on what raw (or non-representational) sensations are. Visual agnosia patients sometimes describe the "something" in front of them as a blob without clear boundaries, color, shape, or texture. It is not implausible to think that only raw sensations are available to these patients' conscious visual systems. The information they consciously possess about their environments does not represent any particular thing, but just a 'something'. Arguably, the visual experiences of visual agnosia patients are not really representational.

FIGURE 4.7 Several different scenarios could give rise to the experience of the partially illuminated wall, for example, a white wall painted gray in certain places to appear as if it were partly illuminated.

'Look', in the first sense, may seem like a strange bird insofar as it is hard to find non-comparative, non-epistemic examples of it. For example, 'Pia looks pale' is normally taken to indicate that paleness is present, and not that Pia's face is covered in theater makeup. Looks that indicate that things are a particular way are looks, in Travis's second sense. Byrne (2009) argues that Travis's second notion of 'look' is similar to Chisholm's epistemic use of 'look', as in 'the second premise looks false'. I think that is essentially right. On Travis's second notion of 'look', the look indicates a particular way that things are and hence the look *does* fix a particular representational content. For example, if you see Pia, then it normally looks as if Pia is present rather than a wax figure of Pia. Likewise, the look of a partly illuminated white wall normally indicates that the wall is white. But, Travis argues, this notion of 'look' depends on certain beliefs the perceiver has about her surroundings. It depends on the agent's *taking* the look to indicate that something is the case. So, given the second notion, how an object perceptually appears to us when it has a unique appearance is partly determined by the agent's particular epistemic state (e.g., her beliefs, rational decisions, etc.).

The question remains whether Travis's two notions of 'look' exhaust the possible notions of 'look' that the representationalist could avail herself of. (I will return to that question later.) If, however, this list in exhaustive, then it follows that there is no unique way that things perceptually appear (or look) to be, independent of the agent's particular epistemic state (i.e., her decisions, beliefs, etc.). So, premise (3) is true. Together, the three premises entail that perception is not representational.

DUAL LOOKS

There are several ways that one might respond to this argument, the first three of which are not ultimately successful. It may be denied that the representational view

requires that the looks of things determinately fix a particular content. As has been remarked by many, there are several ways in which an object can look, depending on whether or not we attend to the immediate presentation of the object (see, e.g., Tye, 1996; Schellenberg, 2008; Brogaard, 2012a). Two same-size trees located at different distances from us give rise to the immediate appearance of the objects taking up different portions of the visual field. The closer tree has a larger immediate appearance than the same-sized but more distant tree. A tilted coin gives rise to an immediate appearance of being shaped like an ellipsis. A white wall partially illuminated by sunlight gives rise to the immediate appearance of being gray and white. Most of the time we pay no attention to these immediate appearances. The apparently differently sized trees trigger a perceptual appearance of same-sized trees located at different distances from us, the apparently elliptical coin triggers a perceptual appearance of a circular-shaped coin presented at an angle, and the apparently multicolored wall triggers a perceptual appearance of a white wall partially illuminated by sunlight. The problem of how visual experience could possibly represent things in two opposing ways (e.g., as being circular-shaped and not being circular-shaped) is also sometimes called 'the problem of dual looks' (Brogaard, 2012a). Christopher Peacocke (1983) introduced the problem as follows: Two equal-sized trees at different distances from the perceiver are normally represented as being of the same size, despite the fact that the nearer tree phenomenally looks bigger (see figure 4.8). The trees look to be the same size. I have a visual experience of the trees being the same size. But one tree takes up

FIGURE 4.8 Peacocke's trees. Even though the trees occupy different portions of the visual field, they nonetheless seem to be the same size and located at different places relative to the perceiver.

more of the space in my visual field. So, the two trees also look to me to be different in size. My experience is not illusory. The trees veridically look to be the same size, and they also veridically look to be different sizes.

Peacocke (1983) presented the problem in terms of the relative size of two objects. However, the same sort of phenomenon arises with respect to the perceived shape of an object. My bracelet looks to me to be circular-shaped. I have a visual experience of the bracelet being a circle (see figure 4.9). But as I am situated relative to the bracelet, the bracelet also looks to me to be oval. My experience is not illusory. The bracelet veridically looks to be circular-shaped and it veridically looks to be oval-shaped. These scenarios should be familiar. Yet common sense tells us that things do not veridically look both to be one way and also not that way. For if something veridically looks to be *F*, then it is *F*. So, it would seem that the bracelet is and is not circular-shaped, and that the two trees are and are not the same size.

One standard way to solve this problem is to maintain that since the experience is associated with different looks, it does indeed represent both the immediately presented properties and the indirectly presented properties. However, the properties are not contrary. The experience represents two different *types* of properties. The immediately presented properties are non-intrinsic, perceiver-dependent properties, whereas the indirectly presented properties are intrinsic, perceiver-independent properties (Tye, 1996; Schellenberg, 2008; Brogaard, 2010, 2012a). If trees of the same size appear both to be of the same size and to be of different sizes, this is because our visual experience represents two things of the tree. One is an intrinsic property: its size. The other is a relational property: the

FIGURE 4.9 Bracelet seen at an angle. The bracelet is represented as being at an angle and as being circular. But it is also represented as having elliptical cross-sections from the perceiver's point of view.

amount of visual angle the tree subtends relative to the perceptual perspective. As Tye (1996) puts it:

> The answer, I propose, is that the experience represents the nearer tree as having a facing surface that differs in its viewpoint-relative size from the facing surface of the further tree, even though it also represents the two trees as having the same viewpoint-independent size. The nearer tree (or its facing surface) is represented as being larger from here, while also being represented as being the same objective size as the further tree. There really are two different sorts of feature being represented, then, although they both are concerned with physical objects (or surfaces). Moreover, there is an associated difference in levels, at least insofar as the representation of viewpoint-relative features of surfaces is clearly more basic than the representation of viewpoint-independent features of objects like trees. (124)

My bracelet does not have the intrinsic property of being a non-circular-shaped or oval-shaped. Rather, as Tye puts it, the bracelet is represented as having boundaries 'which would be occluded by an elliptical shape placed in a plane perpendicular to the line of sight of the viewer. . . . In this sense, the [bracelet] is represented as being [elliptical] from here. But it is also simultaneously represented as being at an angle and as being itself circular-shaped. This is why the tilted [bracelet] both does, and does not, look like the same [bracelet] held perpendicular to the line of sight' (Tye, 1997). The bracelet thus has the intrinsic property of being circular-shaped, and it has the relational viewpoint-dependent property of being non-circular-shaped. We can thus say that the content of visual experience is (partially) constituted by relational properties of this sort. So, the content of my visual experience of the bracelet represents the bracelet as being circular-shaped and as being *non*-circular-shaped from my point of view. On this view, the first premise in the earlier argument is false, as visual experiences represent both intrinsic and non-intrinsic viewpoint-dependent properties of objects. So, experiences do represent, even though they do not represent a unique way that things perceptually appear to be.

However, while this sort of response does undermine the argument as formulated, it does not really refute Travis's core case against the representational view. As long as the advocate of the representational view admits that visual experiences represent something beyond what is given by the immediate appearance of things, Travis can point out that the representational content is fixed by something beyond the pure

look of things, and that the thing that fixes the content is a subject taking things to be a certain way on the basis of the "raw" look of the things. For example, if a perceptual experience of a tilted coin represents the coin as circular-shaped, then Travis might argue that this must be the result of a belief-based inference from the immediate appearance of the coin. But then, arguably, the representational content thus fixed is not the content of the visual experience but, rather, the content of a higher-order epistemic state based on the experience.

COGNITIVE PENETRATION

A second way of responding to Travis's argument is to maintain that visual experiences represent only the properties immediately presented to the subject (Hill & Bennett, 2008). For example, one might say that a visual experience of a tilted coin represents only the elliptical shape of the coin and not the circular shape. This move may be motivated by Chisholm's distinction between comparative and non-comparative looks. For example, if I see a man stumble down the street, I may judge that he looks drunk. However, 'he looks drunk' is comparative (or at least it has a salient comparative use): it can be analyzed as 'there is a way that drunk people look (e.g., not walking in a straight line, etc.), and he looks that way' (see Byrne, 2009). One might argue that when we say of a titled coin that it looks circular-shaped, this attribution should be analyzed as: there is a way that tilted coins look, and the coin looks that way. Likewise, when we say of a white wall partially illuminated by sunlight that it looks white, this should be analyzed as: there is a way white walls partially illuminated by sunlight look, and the wall looks that way. These considerations might suggest that the coin really never non-comparatively looks circular-shaped, and that the white wall partially illuminated by sunlight really never looks non-comparatively white. There is only one way things really look non-comparatively, and that way corresponds to the immediate appearances of things.

This move would seem to block Travis's argument in favor premise (3) ('there is a unique way things look, independently of higher-order epistemic states'), as I presented it earlier. There are, however, several problems with this proposal. One is that while it seems quite correct that a tilted coin may appear to have the shape of an ellipsis, a tilted coin arguably also has the non-comparative appearance of having the shape of a circle. Likewise, even though it seems right to say that a white wall partially illuminated by sunlight looks partially gray, the wall also seems to have the

non-comparative appearance of being plain white. In fact, the mediated or indirect look is normally the most salient of the two looks.

A second problem with the proposal is that it is overwhelmingly plausible that if the mediated appearance of an object depends on the epistemic states of the agent, then so does its immediate appearance. Travis could argue that it is in virtue of holding particular beliefs about what elliptical objects look like when looking straight at them that a tilted coin has an immediate appearance of being elliptical. Likewise, he could argue, it is in virtue of holding particular beliefs about what non-uniformly colored objects look like in uniform lighting conditions that a white wall partially illuminated by sunlight would have an immediate appearance of being non-uniformly colored. So, even the immediate appearances of objects seem to depend constitutively on our beliefs about our surrounding. But if this is so, then it is incorrect to say that visual experiences themselves represent. What does the representing is a combination of the phenomenology of the visual experience and the beliefs we hold about our surroundings.

A third way of responding to Travis's argument is to reject premise (2)—viz., the premise that if visual experiences represent, then they represent independently of the agent's particular epistemic stance. One could hold that visual experience is a kind of belief state. Byrne (2009) and Kathrin Glüer (2009, 2013) defend views of this kind. Byrne (2009) holds that experience is a basic belief, whereas, which may be overridden by non-basic beliefs, whereas Glüer (2009, 2013) argues that experience is a type of belief that represents things as looking a certain way. Travis provides a response to this line of argument. He argues that perception involves immediate (or direct) awareness, not mediated (or indirect) awareness. If perception itself is a belief state, then it involves mediated awareness, which would disqualify it as a kind of perception. As he puts it,

> Perception is a source of unmediated awareness. I will call awareness of X mediated if it is hostage to awareness of something else: that further awareness is part of what entitles one to take it that X is so, or present; so part of what qualifies one as aware of that. In unmediated awareness, one's entitlement to take it that X is hostage to no more than some form of awareness of X itself (such as seeing it). (Travis, 2004: 65)

A related view that would satisfy the requirement of immediate awareness is the idea that visual experiences are always cognitively penetrated by beliefs about one's surroundings (see Gregory, 1970, 1974). This is just another way to say that experience is theory-laden. It is uncontroversial that certain higher-order perceptual experiences are cognitively penetrated (see, e.g., figure 4.10a and figure 4.10b).

FIGURE 4.10a It is difficult to interpret what is supposed to be presented in this image prior to experiencing 4.10b.

FIGURE 4.10b After seeing this image, what is presented in 4.10a is immediately discernible.

For example, acquaintance with a person over time normally results in a new type of recognition of the person, or the person's face, as *that particular person*. When I meet Mary for the first time, I don't recognize her as a particular person. After I get to know her, I start to recognize her *as Mary*. This view is uncontroversial with respect to higher-order visual states.

A defender of the representational view, however, might argue that all of our visual experiences are cognitively penetrated by our beliefs about our surroundings. The white wall partially illuminated by sunlight appears uniformly colored because I believe it is uniformly colored. If I believed I was in a world in which shadows were regularly painted on objects, it might not appear that way to me. Since cognitive penetration does not consist in drawing inferences, a defender of this doctrine may say that Travis is wrong to think that visual experiences do not represent. They represent the way things perceptually appear to be. It is just that things only perceptually appear a certain way once the experience in question has been cognitively penetrated. However, there is a simple reply that Travis

could make at this point. He could say that in order for it to be the case that a visual experience is cognitively penetrated, there must be such a thing as a visual experience independent of the cognitive penetration that may occur. But then his point goes through. Things do not seem any particular way without the higher-order epistemic states. So, visual experiences *themselves* do not represent. It is the combination of the visual experience and high-order epistemic states that does the representing.

PERCEPTUAL PRINCIPLES

I think Travis is right that unless we use 'visual experience' in a very narrow sense that suits our purposes, then visual experience is not essentially representational. And unless we restrict visual experience to cases in which there is a particular type of causal relation between the environment and the perceiver that is based on a particular kind of evolutionary history and developmental background, visual experience is not essentially a matter of being related to the environment, either. Visual experience is in all likelihood not a notion that has any interesting essential features (besides being conscious and having a phenomenology). However, I argue that for beings like us, visual experience is fundamentally and necessarily representational. Human beings evolved to have brains that in the right kind of environment learn to calculate things like color-, size- and shape-constancies. As discussed earlier, for low-level visual perception, the principles that modulate these computations are perceptual principles, or 'organizing principles of vision', rather than principles of rationality (Pylyshyn, 1999). For example, in the case of amodal completion, partially occluded figures are not perceived as the fragments of the foregrounded figures but, rather, as hidden behind or covered by the occluder. Perceptual principles appear to modulate the visual processes, completing the hidden parts of the occluded figures (see figure 4.11).

As we have already seen, these perceptual principles are not rational principles, such as maximum likelihood or semantic coherence. In figure 4.11, for example, the presence of the outermost octagons should make it more likely that the occluded

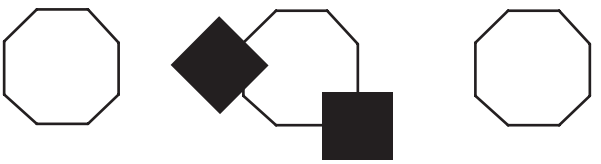

FIGURE 4.11 Kanizsa amodal completion. Despite the flanking cases of octagons, the occluded figure is not seen as a regular octagon. (Pylyshyn, 1999)

figure is also a regular octagon. In fact, we could increase the likelihood simply by increasing the number of flanking octagons. But the principles of completion work according to their own algorithms and the occluded object is not experienced as a regular octagon, regardless of how many regular octagons surround the occluded figure. Because perceptual principles are not rational principles but principles inherent to a particular kind of sensory system, the fact that the brain computes color-, size- and shape-constancies does not imply that experience is cognitive penetrated or that it depends on particular high-level epistemic states. Rather, these perceptual principles are constitutive of visual experience in beings like us. So, when a white wall partially illuminated by sunlight appears uniformly colored and when a tilted coin appears to have the shape of a circle, these appearances do not depend on the agent's being in certain higher-order epistemic states. They do depend on the agent's having evolved to have the capacity to perform these kinds of computations and having been raised in an environment that allows the perceptual capacities to be realized, but this is just another way of saying that they depend on a particular kind of visual system. Given a particular kind of visual system, the way things perceptually appear is independent of the agent's high-level epistemic states. So, the third premise in Travis's argument is false.

SIGNPOST

In this chapter, I have replied to four problems that can be raised for the representational view of visual experience. The first is the generality problem, which is the problem that propositional content seems to have a certain level of abstraction that our visual experiences do not have. In reply I argued that if there is any level of abstraction inherent to the representational constituents of experience, it is a level of abstraction introduced by the brain when computing conscious features from the retinal input. The second problem was that of explaining how the representational view can account for the deviancy of illusions, given that it doesn't treat perception as a relation between the perceiver and her environment. In reply I argued against the claim that a philosophical theory of experience should be able to explain what goes wrong in the case of illusion, given that illusions normally have the same phenomenology as the corresponding veridical experiences. A third problem was that of accounting for the apparent difference between experiences that represent mind-independent objects and experiences such as phosphenes and pink grows. I argued that there is no reason to deny that experiences that do not represent mind-independence of the kind that occurs in archetypes of visual experience. A fourth concern was that it may seem that looks do not determine any particular content.

My reply to this issue turned on how our sensory systems developed. As a matter of fact, most neurotypical individuals are not blank slates but, rather, creatures with a particular evolutionary and developmental past. This past has made its marks on our sensory systems. Our sensory systems operate according to their own principles, which do not follow the basic tenets of rationality. These principles operate prior to the generation of conscious experiences and perceptual seemings. So, in people like us, perceptual seemings come about as a result of particular evolutionarily and developmentally dependent perceptual principles that tie seemings to particular things in the environment.

5

OTHER ARGUMENTS FROM 'LOOK'

THE NOTION OF phenomenal look has been invoked in various contexts to argue for a range of philosophical positions. Chisholm appealed to his non-comparative looks to argue for the theory of appearing. Jackson made appeal to this notion in an argument for the sense-datum theory. More recently, Susanna Siegel and Susanna Schellenberg have provided arguments that rest on the notion of phenomenal looks to argue for the view that visual experience has content.[1] And Kathrin Glüer has invoked this notion to argue for the view that visual experiences are beliefs with phenomenal look contents. In this chapter, I provide an overview of these arguments and offer some reasons for thinking that only the arguments in favor of what Siegel has called 'the weak content view' succeed.

CHISHOLM'S ARGUMENT FOR THE THEORY OF APPEARING

According to adverbialism, expressions that characterize our perceptual experiences, such as 'red', 'square', and 'textured', play a role analogous to adverbs, such 'quickly', 'beautifully', and 'dreadfully' (Tye, 1984, 1992). These expressions specify a way in which the perceiver experiences the world. For example, if John has a visual experience

[1] See also Logue (2014).

of a red cat, then the adverbialist will say that John perceives, or is appeared to, redly and cat-wise. On this view, perception is neither a perceptual relation between a subject and an external object nor a representational mental state. It is a way of perceiving, or being appeared to by the world. Adverbialists thus do away with the notion of an object of perception. Experience simply is an activity that can be modified in different ways. You don't experience that this or that is the case; you simply experience in a certain way. 'Experience', on this view, is thus an intransitive verb rather than a transitive verb. I offered an argument against this view on the basis of semantics in chapter 1. Here I will look closer at Chisholm's (1957) theory of perception, which has sometimes mistakenly been taken to be a version of adverbialism (see, e.g., Feldman & Feldman, 2015).

Chisholm's theory of perception is not a version of adverbialism, as it doesn't do away with the notion of an object of perception. The view is, in fact, a quintessential case of what has come to be known as 'the theory of appearing' (see Alston, 1999; Langsam, 1997). The theory of appearing can be considered an early version of naïve realism, in that it holds that perception consists in a direct non-conceptual relation between the perceiver and a mind-independent physical object. According to both the theory of appearing and naïve realism, the object and its perceptible property instances are "given" to the subject without being mediated by something else (such as sense-data or propositions).

Chisholm's theory of perception is based on his analysis of the three uses of 'look': the non-comparative, the comparative, and the epistemic, which we looked at in details in chapter 1. Like many of his successors, he thought that non-comparative, non-epistemic uses of 'look' (the phenomenal uses, in Jackson's (1977) sense) can shed light on the nature of perception. Chisholm's argument rests on the assumption that we can take phenomenal 'look'-reports of the form 'o looks *F* to *S*' at face value. Consider the following sentence:

(1) The tomato looks red to Alex.

Because Chisholm takes the surface structure of 'look'-reports to reflect the nature of perception, he argues that (1) expresses a relation between an object and a perceiver. So, (1) is to be analyzed as:

(2) Alex and the tomato stand in the relation *looking red to*.

On Chisholm's view, expressions such as 'looks red to', 'looks round to', and so on, are 'unanalyzable' (Jackson, 1977: 90); that is, they are not composites of the verb 'look' and an adjective like 'red' or 'round' but expressions denoting a range of different relations of appearing, such as the relations of looking-red-to, looking-round-to, and so on.

When the view is cashed out in this way, it becomes a bit clearer why one might mistake it for the adverbial theory. If the relation of appearing looking-red-to obtains between Alex and the tomato, then the tomato is the bearer of the property of looking red to Alex. So, we can say that Alex has the property of being appeared to redly by the tomato. When we put it this way, Chisholm's view may indeed seem to be a version of the adverbial theory. But there is a crucial difference between the two views. On the adverbial theory, there is no object of perception. So, no relation can obtain between the perceiver and a perceptual object. Being appeared to redly, or perceiving redly, is a simply a way of perceiving. On Chisholm's view, by contrast, there is an object of perception that serves as one of the relata of the relation of appearing. For example, looking-redly-to has the tomato and Alex as its relata. Unlike the adverbial theory, Chisholm's view thus retains the particularity of experience.

Chisholm's argument for the theory of appearing on the basis of 'look'-reports is not unsurprisingly unsuccessful. One reason is that his assumption that we can take the surface structure of 'look'-sentences at face-value is mistaken. Another reason is that his treatment of 'looks-F-to' as expressing unanalyzable relations encounters grave difficulties. As Jackson (1977, 95) has argued, the view is unable to account for the meaning of the predicates that appear to be constituents of the unanalyzable 'look'-expressions. For example, if 'looks-bent-to' is unanalyzable, then it does not have the adjective 'bent' as a constituent. So, 'bent' as it occurs in 'looks-bent-to' cannot be understood as having its standard meaning. But it then becomes a mystery what exactly the meaning of 'bent' is. To fully appreciate Jackson's concern, consider the following argument:

1. The stick looks-bent-to Mike.
2. The way things look to Mike is the way things are.

Conclusion: The stick is bent.

The argument is clearly valid. An argument is valid iff for each interpretation under which the premises are all true, the conclusion is true. If, however, 'looks-bent-to' is an unanalyzable expression, then 'bent' is not a constituent of that expression. So, there are interpretations under which the premises are all true but the conclusion is false—viz., interpretations where 'looks-bent-to' is assigned a semantic value that is not a composite of the semantic values of 'look' and 'bent'. The chief problem here is that the semantics Chisholm provides for his 'looks-F-to' expressions is non-compositional. That is, the meaning of 'looks-F-to' is not a function of the meaning of 'look' and 'red'.

We can articulate Jackson's concern more generally as follows: The main problem with Chisholm's argument for his theory of appearing is that it rests on a mistaken

semantic analysis of 'look'-reports. 'Looks-red-to' is not an unanalyzable primitive. Wilfrid Sellars (1956) was indeed correct when he observed:

> '*x* looks red to *S*' does not assert either an unanalyzable triadic relation to obtain between *x*, red, and *S*, or an unanalyzable dyadic relation to obtain between *x* and *S*. Not however, because it asserts an analyzable relation to obtain, but because looks is not a relation at all. (142)

As Sellars insightfully remarks, 'looks *F* to' does not express a relation. Rather, as I argued in chapter 1, it functions semantically as a subject-raising verb, and hence it functions logically as an operator on the operant clause '*o* is *F*'. In short: Chisholm's argument for his theory of appearing is unsound because it is based on the wrong semantics of 'look'.

Jackson's Argument for the Sense-Datum Theory

In *Perception: A Representative Theory* (1977), Jackson returns to Chisholm's strategy of appealing to phenomenal looks to argue for a particular theory of perception. Jackson argues that attention to the logical form of 'look'-sentences offers evidence for the view that perceptual experience is fundamentally indirect: there are intermediaries between perceptual experiences and the world. When we see things in the environment, we see them in virtue of perceiving something else. On Jackson's view, the things that we perceive without having to perceive something else are sense-data. On Jackson's conception, sense-data are concrete particulars that we can literally perceive and, in fact, they are the only entities we can become directly perceptually aware of. Jackson's argument is thus an argument for the sense-datum theory, originally defended by Russell (1912), Broad (1925), Price (1950), and Ayer (1956).

On the sense-datum view, perceivers don't perceive the world directly; instead, they perceive sense-data by standing in a perceptual relation to them. Sense-data are mind-dependent entities that we are directly aware of in perception. They are proxies for objects in the external world and they therefore have colors, shapes, textures, and so on, just like things in the external world. Unlike objects in the external world, however, sense-data have exactly the properties they appear to have.

Sense-data may be non-deviantly caused by objects and features in the external world in good cases, and we may be inclined to think of such cases as cases of veridical experience. But how sense-data are related to the world is not really a question that needs to be addressed in order for sense-datum theorists to account for the nature of perception. On the sense-datum theory, perceptual experience is

Jackson's main argument for the sense-datum theory rests on the premise that there is a non-epistemic, non-comparative use of 'look' that is used to report directly on perceptual experience viz., the use he dubs 'the phenomenal use'. Jackson's argument can be articulated as follows: If it is true to say that something looks a particular way, then there is a corresponding phenomenal look that the thing has. The phenomenal look that the thing has really is the way it seems. External objects are not always the way they seem. So, phenomenal looks cannot be features of external objects. Since we can only be directly perceptually aware of things that seem the way they are, and only appearances seem the way they are, we are directly perceptually aware of how the external object *looks* but not of the external object itself. Jackson goes on to argue that since phenomenal looks cannot be analyzed in terms of belief, they are best analyzed in terms of special kinds of mental objects called 'sense data'. Phenomenal looks are thus mental objects that have the properties they appear to have. It is those mental objects that we are directly aware of in perception. We can summarize Jackson's argument as follows:

Jackson's Argument

1. We are only directly perceptually aware of things that seem the way they are.
2. External objects need not seem the way they are.
3. Phenomenal looks seem the way they are.
4. So, what we are directly perceptually aware of is not the external object but how the external object looks phenomenally.
5. Phenomenal looks cannot be analyzed in terms of beliefs but must be analyzed in terms of sense-data.

Conclusion: So, we are directly perceptually aware of sense-data.

Jackson grants that it is not true in general that when we truly say that a thing looks a certain way, then there is a corresponding phenomenal look that the thing has. For example, the truth of the comparative claim that Lisa looks like her sister does not imply that there is any particular phenomenal look that Lisa has. There may be a phenomenal look in virtue of which Lisa looks like her sister, but the comparative construction does not specify what that is. Although it is not true in general that 'look'-statements specify a phenomenal look, it is true for a highly restricted range of predicates and for a special use of 'look'—viz., the phenomenal use. Jackson's argument thus presupposes that there is a narrow phenomenal use of 'look' that is not in fact covertly comparative and merely cleverly disguised by the surface grammar of the 'look'-sentence—in a way that tricks us into thinking the use is non-comparative.

Jackson's argument has too many weaknesses for it to have any real currency among contemporary thinkers. Even Jackson himself finds the argument problematic and has

object. Advocates of the representational view, including Jackson himself, reject premise (5). While phenomenal looks cannot be analyzed in terms of beliefs, it does not follow that they must be analyzed in terms of sense-data. It is far more plausible that they must be analyzed in terms of representational phenomenal properties.

Siegel's Argument for the Weak Content View

In *The Contents of Visual Experience* (2010), Susanna Siegel provides an argument for the view that visual experience has content. The question of whether visual experience has content may, at first glance, seem rather trivial. A simple argument for the view would run as follows: Visual experience is accurate or inaccurate. If it is accurate, it is accurate in virtue of some proposition *p* being true. If it is inaccurate, it is inaccurate in virtue of some proposition *p* being false. But that proposition *p* just is the content of visual experience. So, visual experience has content.

While this argument has something to be said for it, it doesn't quite get to the core of the debate. As Siegel (2010) points out, one flaw in the argument from accuracy conditions is that it does not require that the accuracy conditions had by experiences are conveyed to the subject by her experience (43). But contents that are not conveyed to the subject by the experience are not suitable to serve as *experiential* contents. For example, suppose all experiences are accurate iff they are non-deviantly caused by external reality. No typical experience conveys *my experience is non-deviantly caused by external reality* to the subject, and the proposition *my experience is non-deviantly caused by external reality* ought not normally count as the experiential content. So, the general move from accuracy conditions to contents is invalid. Siegel provides the following more successful argument for the view that perceptual experience has content:

The Argument from Appearing

1. All visual experiences present clusters of properties as being instantiated.
2. If an experience *E* presents a cluster of properties *F* as being instantiated, then: Necessarily, things are the way *E* presents them only if property-cluster *F* is instantiated.
3. If necessarily: things are the way *E* presents them only if property-cluster *F* is instantiated, then:
   E has a set of accuracy conditions *C*, conveyed to the subject of *E*, such that: *C* is satisfied in a world only if there is something that has *F* in that world.
4. If *E* has a set of accuracy conditions C, conveyed to the subject of *E*, such that *E* is accurate only if *C*, then:
   E has a set of accuracy conditions *C**, conveyed to the subject of *E*, such that *E* is accurate iff *C**.

Conclusion: All visual experiences have contents.

Premise (2) is potentially controversial depending how we understand 'to present'. As I understand Siegel, a visual experience presents a property as instantiated only if it phenomenally seems that way to the subject. But if an experience presents the property of a tilted coin as elliptical, then it does not follow that the experience is accurate only if the coin is elliptical. However, I shall set that concern aside here. Premise (3) is also problematic. If I have a visual experience of a glass of water, water may be presented in experience insofar as it epistemically seems to me that the liquid in the glass is water, but it doesn't follow that *the liquid in the glass is water* is part of the accuracy conditions for my experience. For this to be the case, we would need to show that this is not a case in which an epistemic seeming represents a high-level property not represented by the experience. However, I shall also set that objection aside here.

The main problem with the argument, when understood as an argument for the representational view, is that the conclusion doesn't establish the representational view. As Siegel herself points out, the argument only establishes that experience has content in a minimal sense that should be compatible with a wide range of views about perception. Take the naïve realist view that visual experience is fundamentally a matter of being perceptually related to a mind-independent physical object and its perceptible property instances. Now, consider a non-deviant experience of a ripe tomato. The experience is of the kind that naïve realists sometimes refer to as a 'good case' (Fish, 2019a, b). It is a good case insofar as perceptually related to a ripe tomato and its visually perceptible properties. So, one might assign "goodness conditions" to the experience as follows: *The subject is perceptually related to a ripe tomato and its visually perceptible properties*. We could then say that the experience has content in a minimal (or trivial sense), viz. the content (viz., *The subject is perceptually related to a ripe tomato and its visually perceptible properties*). But this alleged content is just an obvious fact about perception, given naïve realism.

As Siegel points out, for something to be a content in her sense of 'weak content', the experience would need to convey the information to the subject. But it is plausible that my experience of a ripe tomato conveys the content that I am perceptually related to a ripe tomato to me. After all, I seem to see the tomato and its visually perceptible property instances out in the world at a distance from me, and I am acquainted with the fact that I am visually experiencing the tomato as opposed to, say, tasting it. So, my experience does seem to convey the content that I am perceptually related to the tomato and its visually perceptible properties. However, the fact that the experience has this content does not entail that visual experience is *representational*, let alone that it is *fundamentally representational*. So, we can take experiences to have contents without thereby being required to treat them as representational or fundamentally representational. This objection, of course, does not undermine Siegel's argument as an argument for the weak content view; it simply accentuates that the argument is not an argument for the view that

visual experience is representational or fundamentally representational. So, it is not an argument for the representational view of experience.

Schellenberg's argument for the representational view

Schellenberg (2014, forthcoming) offers a reconciliatory position that takes perceptual experience to be fundamentally a matter of representing the environment in a certain way *and* being perceptually related to objects in the environment. She articulates the two views she is committed to as follows:

> *Representational View*
> Perceptual experience is fundamentally a matter of representing the environment as being a certain way.

> *Relational View*
> Perceptual experience is fundamentally a matter of being perceptually related to objects in the environment.

The two views are commonly thought to be in opposition, because it is assumed that if perception is fundamentally characterized by its relational properties, then it cannot be fundamentally characterized by its representational properties. Schellenberg, however, takes issue with this common belief.

According to Schellenberg, perceptual experience is directed at particulars. The particularly of experience is accounted for in terms of contents that have particular objects and property instances as constituents. These objects and property instances are accompanied by "Fregean" modes of presentation. In the case of illusions and hallucinations, the contents of experience are gappy. For example, a hallucination of a tomato has a content with a gap accompanied by a mode of presentation representing a tomato. Because the contents of experience are composed of particular objects and property instances, experience is relational: the perceiver is directly related to mind-independent objects and their perceptible property instances. This view does not show that perception is fundamentally characterized by its representational properties. Her main argument seeks to establish this latter point.

Schellenberg distinguishes the representational view from what she calls the 'association theory'.

> *Association Theory*
> Every experience can be associated with (propositional) content in the sense that sentences can be articulated that describe how the environment seems to the subject, without the content expressed being a proper part of the experience.

According to Schellenberg, virtually any theory of perceptual experience could accept the association theory, as it merely requires that we can use language to partially describe our perceptual appearances. The association theory is akin to the weak content view. The main difference is that the association theory specifically mentions how content comes to have accuracy conditions—viz., through description sentences.

Schellenberg's core argument for the thesis that experience is fundamentally a matter of representing runs as follows (2014: 207): In order for things to phenomenally seem a certain way to us, we need to employ discriminatory selective capacities that constitute the seeming. For example, if it seems to me that the fire truck is red, I must be able to discriminate red from green. As Schellenberg puts it:

> A discriminatory, selective capacity functions to differentiate and single out, where singling out a particular is a proto-conceptual analog of referring to a particular. So if we possess the discriminatory, selective capacity that functions to differentiate and single out red, we are in a position to differentiate instances of red from other colors in our environment and to single out instances of red. More generally, to possess a discriminatory, selective capacity is to be in a position to differentiate and single out the type of particulars that the capacity concerns, were one related to such a particular. (210)

But employing our discriminatory, selective capacities to single out red, say, just is to represent the environment as being a certain way in virtue of using these capacities. This establishes that the perceiver bears the relation of representation to the content rather than the relation of being associated with the content and hence that representation is a fundamental feature of experience, according to Schellenberg. So, she argues, perceptual experience is fundamentally a matter of representing the environment as being a certain way. Here is the formal structure of Schellenberg's argument:

P1: If a subject is perceptually related to her environment (while not suffering from blindsight or any other form of unconscious perception), then she is sensorily aware of her environment.

P2: If a subject is sensorily aware of her environment, then her environment sensorily seems a certain way to her.

FROM P1 AND P2: If a subject *S* is perceptually related to her environment (while not suffering from blindsight or any other form of unconscious perception), then *S*'s environment sensorily seems a certain way to her.

P7: If *S* is employing perceptual capacities that constitute the way her environment sensorily seems to her, then *S* is representing her environment in virtue of employing those capacities.

P8: *S* is representing her environment in virtue of employing perceptual capacities.

P9: If *S* is representing her environment in virtue of employing perceptual capacities, then *S* has a perceptual experience that is fundamentally a matter of representing her environment as being a certain way.

Schellenberg then argues that having those perceptual capacities implies being perceptually related to one's environment:

FROM P8 AND P9: *S* has a perceptual experience that is fundamentally a matter of representing her environment as being a certain way.

P10: Perceptual capacities are by their nature linked to what they single out in the good case.

P11: If *S* is representing her environment in virtue of employing perceptual capacities, then *S* has a perceptual experience that is fundamentally a matter of being related to her environment in a certain way.

One problem with Schellenberg's argument is that it is questionable that discriminatory selective capacities constitute phenomenal seemings as opposed to epistemic seemings. It can phenomenally seem to me that the liquid in my glass is water, even if I am unable to discriminate by sight among water, vodka, and grappa. Perhaps this objection can be circumvented by making the possession of discriminatory capacities less demanding. Perhaps discriminating between, say, water and coke will suffice for me to have the discriminatory ability constituting the appearance of water. Whether this is so will depend on how we spell out the notion of discriminatory capacities.

Be that as it may. There are other, more serious problems with the argument. The main one concerns the move from the premise that employing discriminatory selective capacities is to represent the environment as being a certain way to the conclusion that perceptual experience is *fundamentally* a matter of representing the environment as being a certain way. According to Schellenberg, the same perceptual capacity can be used to successfully single out a particular or without successfully singling out anything. Employing perceptual capacities therefore yields something that is entertainable and that can be accurate or inaccurate. This suggests, she argues, that insofar as experience involves employing perceptual capacities, experience is fundamentally representational. It is not clear how this follows. The naïve realist could argue that when the perceptual capacities are employed without successfully singling out a particular, the perceiver does not stand in a *perceptual* relation to the environment but, instead, is in some fundamentally different kind of state.

Further, as Bill Brewer (2011) argues, in having an experience a perceiver may be employing certain perceptual capacities constituting how her environment looks to

> I simply deny that it follows from the fact that there are truths of the form '*o* looks *F*' that apply to a person *S* in virtue of her perceptual relation with *o*, that the most fundamental nature of the perceptual relation itself is to be characterized as having a perceptual experience with the representational content (of some kind) that *o* is *F*. (62)

Schellenberg's argument, it seems, establishes that experience is representational but not that it is fundamentally representational. For it to be the case that experience is fundamentally representational, it would need to be shown that the representational feature of experience plays some phenomenological epistemological or functional role that cannot be played by its relational feature.

GLÜER'S NEW THEORY OF APPEARING

Kathrin Glüer (2009, 2013) defends an entirely different theory of perception on the basis of the semantic properties of looks. On her view, visual experiences are special kinds of *beliefs*, the contents of which are phenomenal looks. Glüer's view is akin to Chisholm's theory of appearing, or the view that visual experience is a look-*F*-to relation between an object and a perceiver. (Chisholm 1957; see also Langsam, 1997; and Alston, 1999). However, Glüer's theory of appearing differs in a number of ways from the traditional version of the view. Traditional advocates of the theory of appearing have taken visual experience to be directed at objects while also rejecting the view that experience can have a proposition as its content. Because Glüer treats visual experiences as beliefs with a look content, it follows straightforwardly from her view that visual experience is representational.

One difficulty for the view that visual experience is belief is to explain cases in which we don't believe the things we experience. When we immerse a straight stick in water and it looks bent, we don't necessarily come to believe that it is bent. In most cases, we know that it is not. Byrne (2009) has argued that believing is 'constitutively involved' in visual experience. According to him, we do indeed believe that the straight stick is bent on a very primitive level, insofar as believing this is constitutively involved in having the experience. But on a more rational level, we do not believe the stick is bent. So, there is no internal contradiction in believing that the stick is bent and also in believing that the stick is not bent, as the beliefs are generated at different levels of cognitive processing.

Glüer's view implies that perceptual experiences and non-perceptual beliefs have different contents. When we have a visual experience, things look a certain way to us. Glüer takes these looks to constitute the content of visual experience. If I am looking at a blue car, and the car looks blue to me, then we might the content of my visual experience may be presented as follows: '*Look*(the car is blue)', where 'Look' is an

operator operating on the embedded material. When I look at the stick in the water, I come to believe that it *looks* bent, but I don't necessarily come to believe that it *is* bent.

Despite her great insights, her view faces a challenge. The main issue turns on the fact that looks, as we have seen, are psychological states. Psychological states can be the content of other psychological states. For example, I might have a second-order desire for my first-order desire to go away. In that case, a first-order psychological state is part of the content of a second-order psychological state. However, visual experiences are unlikely to be second-order psychological states with phenomenal looks contents. The reason is not that visual experience could not be a second-order psychological state but, rather, that second-order psychological states don't have the form $\Psi(\Phi)$. My second-order desire for my first-order desire to go away is of the form $\Psi(\Phi \text{ is } F)$. We could, of course, in principle have psychological states of the form $\Psi(\Phi)$. For example, being a health nut, I might love my current desire to eat a carrot. Because love is an objectual attitude, my love of that desire would be of the form $\Psi(\Phi)$. The same goes for my worships, admirations, and hatreds of particular mental states of mine. So, if visual perception were an objectual attitude, then it could have the logical form $\Psi(\Phi)$, where Φ is a phenomenal look. The real problem is that it is unclear what it means for a phenomenal look to be the representational content of a visual experience. What exactly is involved in visual experience over and above the phenomenal look itself? Unless the perceptual state has some interesting properties that the look doesn't have, it seems far more plausible to take the looks to be the perceptual states or perhaps perceptual states that involve some form of attention) rather than the contents of such states.

Glüer's view, of course, would make considerably more sense if she were to take phenomenal looks to be observational properties, as Martin (2010) does, and this is indeed what she proposes (Glüer, pers. comm.). However, as I have already argued, phenomenal looks are psychological states, not observational properties. They play the role of operators, much like 'belief' and 'know'. So, Glüer's position, as formulated, is untenable.

SIGNPOST

'Look' has figured in multiple arguments for a wide range of theories of perception, including adverbialism, the sense-datum theory, the content view, the representational view, and the new theory of appearing. I have submitted that only the arguments for the weak content view are successful. However, arguments for the weak content view do not, and do not aim to, establish that visual experience is fundamentally representational. The remaining arguments fail for different reasons. Some do not decisively show that it is visual experience as opposed to some higher-order mental state that is representational, while others rest on a mistaken semantics of 'look'.

6

SEEING THINGS

IN THIS CHAPTER, I argue that the English verb 'see' is an intensional transitive like the search word 'look for'. To a first approximation, a word is intensional in this sense just in case substituting one expression for another that is co-referential with it in the complement of the verb can change the truth-value of the sentence in which the verb occurs (Forbes, 2013). As Graeme Forbes puts it, search verbs like 'look for' are intensional transitives that are anomalous, in that 'substituting one expression for another that is coreferential with it in the complement of the verb can change the truth-value of the sentence in which the VP occurs'. Lois Lane may be looking for Superman, but Forbes argues, it does not follow that she is looking for Clark Kent, even though Superman is Clark Kent. By definition, necessarily co-extensional terms are co-substitutional in merely intensional contexts, but not in hyperintensional contexts. The suggestion that 'see' is like 'look for' in sometimes resisting substitution of necessarily co-extensional terms goes against common wisdom, to the effect that 'see' is a factive, non-intensional verb. The main argument for this position is that the objectual use of 'see' can be analyzed in terms of the propositional use. But used this way, 'see' functions as an intensional transitive. I argue that this feature of the verb provides further evidence against naïve realism.

THE SEMANTICS OF 'SEE'

The transitive verb 'see' is highly polysemous (Alm-Arvius, 1993; Gisborne, 2010: 118). Most of its meanings are either not perceptual or have only a vague connection to visual perception. As illustrated by the following examples, 'see' can mean, among many other things, *date, escort, provide for, be the time of, make sure, attend as a spectator, imagine as a possibility, understand*, and *perceive*.

(1)
(a) Freyja has been seeing Loki for three months.
(b) Let me see you out.
(c) We thought we had enough money to see us through.
(d) The last eighty years have seen a sweeping revolution in science.
(e) I shall take every care to see that the extra costs and expenses are borne by the trustees themselves.
(f) Maybe we can see a play on Saturday.
(g) I see what you are saying.
(h) She's got a new book coming out, but I can't see it doing very well.
(i) I saw Michael Jackson today.

Only the occurrence of 'see' in 1(i), among those mentioned, seems to have a clearly perceptual use. The occurrence of 'see' in 1(h) warrants some special consideration. This use of 'see' is the so-called epistemic use. It should be distinguished from the perceptual use in 1(i).

Nikolas Gisborne (2010) has suggested the following test for distinguishing between epistemic and perceptual uses. Only the perceptual use of 'see' admits of a prepositional phrase (e.g., 'with her new glasses') or subordinating conjunctive phrase (e.g., 'because of the tall person in front of her') that emphasizes that the main clause refers to a perceptual act. This is illustrated by the infelicity of the epistemic uses in (2) (the hash marks indicate semantic incoherence—as in #Colorless green ideas sleep furiously—or infelicity, i.e. pragmatic failure—as in A: "How are you doing?" B: "#His goat now sleeps through the night."):

(2)
(a) With her new glasses Alice could finally see Liz clearly.
(b) #With her new glasses Alice could finally see that Liz was right.
(c) Alice saw through the window that Liz had parked illegally.
(d) #Alice saw through the window that Liz was right.
(e) She couldn't see the whole screen because of the tall person in front of her.
(f) #She couldn't see that Liz was right because of the tall person in front of her.

If the prepositional phrase 'with her new glasses' shifts the context to one in which a person is engaging in a perceptual act, then 2(a) where 'see' calls for a perceptual reading is clearly felicitous, whereas 2(b) where 'see' calls for an epistemic reading is not. 2(b) has a felicitous reading only if Alice somehow could visually see that Liz was right. If the prepositional phrase 'through the window' shifts the context to a perceptual one, 2(c) where 'see' suggests a perceptual reading is felicitous, whereas 2(d) where 'see' suggests an epistemic reading is not. Finally, if the subordinating conjunctive phrase 'because of the tall person in front of her' shifts the context to a perceptual one, 2(e) where 'see' suggests a perceptual reading is felicitous, whereas 2(f) where 'see' calls for an epistemic reading is not.

When used perceptually, 'see' can occur with a 'that'-clause, a noun-phrase complement or an unsupported clause. 'See' occurs with a 'that'-clause in the following cases:

(3)

(a) When she saw that I wasn't done cleaning, she got really angry.

(b) Snow White longed for the beautiful apple, and when she saw that the peasant woman was eating part of it, she could no longer resist.

(c) When he saw that the saucepan with milk on a stovetop was boiling over, he immediately left his daughter to take care of the overflowing milk.

In its objectual use, 'see' occurs with a noun-phrase complement such as 'him', 'a peacock', 'Billy', or 'the baby', as illustrated by the following examples:

(4)

(a) The last time I saw him was in December 2008.

(b) I saw a peacock with a fiery tail.

(c) The first time I saw Billy she was waiting tables at Steak 'n Shake.

(d) Mary cried when she saw the baby in the backseat sleeping like a rock.

Finally, the perceptual use of 'see' can combine with an unsupported clause, such as 'her walk down the stairs':

(5)

(a) I saw her standing there.

(b) He saw her pass out at the party.
Her friends saw her wandering near the lake two hours before she went missing.

As James Higginbotham (1983) has pointed out, unsupported clauses are clauses that exhibit 'none of the internal inflectional structure of a full sentence or a clausal complement: neither tense, nor infinitival to, nor progressive –ing' (102). Consider:

(6)
(a) Jack saw Jill climb the stairs.
(b) We like mushrooms raw.
(c) I consider Julian clever.

'Jill climb the stairs', 'mushrooms raw', and 'Julian clever' are unsupported clauses. Higginbotham argues that 1(a)–(c) cannot be paraphrased using 'that'-clauses, as in:

(7)
(a) Jack saw that Jill was climbing the stairs.
(b) We like (it) that mushrooms are raw.
(c) I consider that Julian is clever.

6(a)–(c) appear to mean something quite different from 7(a)–(c). For example, unlike 6(b), 7(b) entails that mushrooms (in general) are raw. Unlike 6(c), 7(c) entails that Julian is clever, according to Higginbotham.

Occurrences of 'see' with a noun-phrase complement or an unsupported clause appear to express relations to objects and events, respectively. For example, 'Jack saw Jill' may seem to express a seeing relation between Jack and Jill. Likewise, 'Jack saw Jill climb the stairs' may seem to express a seeing relation between Jack and a climbing event involving Jill. As a result, it may seem that these occurrences provide support for naïve realism (e.g., Brewer, 2011; Travis, 2014). This, however, is not obviously so. Objectual uses of verbs do not always express direct relations between subjects and mind-independent external objects. Consider:

(8)
(a) Tom wants the Audi R8 V10.
(b) Ellen would like the peanut butter pie.
(b) Lucas wants the pillow pet.

The sentences in (8) do not depict direct relations between subjects and mind-independent external objects. 8(a) could be true if Tom wants to buy, lease, rent or borrow the Audi R8 V10. Likewise, 8(b) could be true if Ellen would like to steal, eat, bake or serve the peanut butter pie, and 8(c) could be true if Lucas wants to have, borrow, play with or sleep with the pillow pet. So, 8(a) may be true if 9(a) is true:

(9)

(a) Tom wants to buy the Audi R8 V10.

(b) Tom wants that Tom buys the Audi RV10.

The logical form of 9(a) is the sentence in 9(b), where 'want' combines with a 'that'-clause. So, 9(a) could be true in virtue of John having a mental state with the content *Tom buys the Audi RV 10*. We thus cannot conclude on the basis of the apparent relational structure of 'see'-reports with a noun-phrase complement or unsupported clause that seeing is a direct perceptual relation between a perceiver and a mind-independent external object and its perceptible property instances.

To answer the question of whether objectual uses of 'see' provide support for the view that seeing is a direct perceptual relation between a subject and an external mind-independent object, we need to consider whether objectual uses behave differently from verbs expressing a desire or a preference. It seems that they do not. Consider the sentences in (3), repeated from earlier:

(3)

(a) The last time I saw him was in December 2008.

(b) I saw a peacock with a fiery tail.

(c) The first time I saw Billy she was waiting tables at Steak 'n Shake.

(d) Mary cried when she saw the baby in the backseat sleeping like a rock.

Ordinary uses of the sentences in (3) appear to depict mental states with a content rather than perceptual relations between subjects and external, mind-independent objects. 3(a) can be used to report that one is seeing John sitting at a café while working on a paper; 3(b) can be used to report that one is seeing a peacock walking around in Miami Zoo with a beautiful fiery tail; 3(c) explicitly mentions that the speaker saw Billy waiting tables at Steak 'n Shake; and 3(d) explicitly depicts a past scenario in which Mary sees a baby in the backseat of a car.

In the sentences in (3), 'see' takes an unsupported clause. However, contrary to what Higginbotham argues, occurrences of 'see' that take an unsupported clauses as a complement are indeed logically equivalent to occurrences that take a 'that'-clause as a complement. They differ in this respect from other constructions with unsupported clauses. To see this, consider again the sentences in 5(a)–(b), repeated from earlier:

(5)

(a) I saw her standing there.

(b) He saw her pass out at the party.

(b) Her friends saw her wandering near the lake two hours before she went missing.

(10)

(a) I saw that she was standing there.
(b) He saw that she passed out her at the party.
(b) Her friends saw that she was wandering near the lake two hours before she went missing.

To say that 5(a)–(c) are logically equivalent to 10(a)–(c) is not to say that they have the same grammatical form. They clearly do not. However, on a fixed reading, it is necessarily the case that the sentences in 5(a)–(c) are true just when the sentences in 10(a)–(c) are true.

Further, occurrences of 'see' that combine with unsupported clauses can be expressed in the form of a sentence in which 'see' takes a noun-phrase complement. For example, the event depicted in 10(a) can be captured by the event description (using a lambda expression to depict the event) 'λx (Mary's completion of the marathon x)'. In that case, 10(a) can be articulated in terms of 'see' with a noun-phrase complement, as in 'I saw Mary's completion of the marathon'. So, occurrences of 'see' that take a noun phrase or an unsupported clause as a complement are logically equivalent to occurrences of 'see' that take a 'that'-clause as a complement, which is to say, that objectual and propositional uses of 'see' should admit of the same treatment.

VISUO-EPISTEMIC USES OF 'SEE'

Craig French has argued that the occurrences of 'see' that combine with noun-phrase complements and unsupported clauses are the 'basic perceptual sense of "see"' (French, 2013: 7). However, he does not provide any motivation for this claim. Nor does he tell us how one goes about determining what the most basic sense of a word is.

In his argument for the view that occurrences of 'seeing-that' do not express instances of seeing in the basic sense of 'see', French relies on the premise that 'see' expresses its basic sense only when it takes a noun-phrase or an unsupported clause as its complement. The justification he offers for this proposal is that propositions are not among the things we can see. While it is obviously true that propositions are not visually perceptible entities, there is no good reason to think that this tells us anything about the basicality of the meaning expressed by 'see'. To see this, consider:

(11)

(a) Sarah Jessica Parker loves that Matthew Broderick is the father of her children.
(b) Tim fears that Jay Gatsby might soon tell Nick the truth.
(c) I like that it is portable and has physical buttons.
(d) I respect that you don't eat meat.

We evidently cannot interpret 11(a) as saying that Sarah Jessica Parker loves the proposition that Matthew Broderick is the father of her child. Likewise, we cannot interpret 11(b) as saying that Tim fears the proposition that Jay Gatsby is beginning to tell Nick the truth, 11(c) as saying that I like the proposition that it is portable and has physical buttons, or 11(d) as saying that I respect the proposition that you don't eat meat. What the subjects love, admire, like, and respect in these cases are facts about people, things, or stories. The logical form of these sentences does not provide any insight into the basicality of the uses of the verbs.

French subsequently argues that uses of 'see' that combine with a 'that'-clause are not truly perceptual but are what he calls 'visuo-epistemic'. They state not merely that a subject is seeing that something is the case but also that the subject is knowledgeable about what she is seeing. Consider:

(12)

(a) She could see that the beard was fake and that he was just trying to disguise his appearance.

(b) She could see that the blade was dull. He'd have a hard time cutting her if she kept moving. But he could kill her with a stab.

(c) He could see that her mouth was twitched with anger and that bitter disappointment was written all over her face.

These cases do indeed have interpretations that require that the subjects are knowledgeable about what they are seeing. It is the existence of visuo-epistemic readings of 'seeing-that' sentences that explains the infelicity of the following cases:

(13)

(a) #She could see that the animal in the cage was a dog, but she didn't know whether it was a dog.

(b) #She could see that her husband had just entered the room, but she didn't know whether he had just entered the room.

(c) #She could see that the flower was red, but she didn't know whether the flower was red.

While French is right that 'see-that' constructions can have visuo-epistemic readings, this doesn't show that there are no purely perceptual readings of 'see-that' constructions. In the following examples there is no implication that the subject is knowledgeable of what is seen:

(14)

(a) Infants are able to see that something is changing, but not able to detect what is changing and exactly when that change is occurring.

(b) When one of my cats dies, I lay the cat out on a towel so the other cats can see that their buddy is gone.

(c) Once she recovers, Tina will be able to see that there are discrete entities around her, but she won't be able form any beliefs about her surroundings.

(d) You can clearly see that there is nothing under the bed, so why do you believe that monsters are hiding down there?

(e) Turri saw that the line segments in the apparent Müller-Lyer illusion had different lengths, but he didn't realize that this particular instance of the well-known illustration wasn't an illusion (Turri, 2010).

14(a) is felicitous in spite of the fact that infants aren't knowledgeable of the changes they are seeing. 14(b) is felicitous in spite of the fact that the cats aren't knowledgeable of the fact that their buddy is dead. 14(c) is felicitous in a scenario in which a child believes that there are monsters under the bed, despite seeing that there aren't any; in this scenario, the child doesn't know that there aren't monsters under the bed. 14(d) is felicitous, even though Tina will be unable to form any knowledge about her surroundings. 14(e) is felicitous in a scenario in which Turri is looking at what seems to be the Müller-Lyer illusion. Because Turri is familiar with the illusion, he doesn't form the belief that the two line segments have different lengths, even though it phenomenally seems that way to him. However, unbeknownst to him, one line segment is slightly longer than the other. So, Turri's experience that the line segments have different lengths count as an instance of seeing. Still, Turri doesn't know that the line segments have different lengths. The cases show that the epistemic reading is not essential to the propositional use of 'see'. 'Seeing-that' does indeed sometimes call for a purely visual interpretation.

The propositional use of 'see' in the purely perceptual sense provides a potential problem for at least some versions of naïve realism (e.g., Brewer, 2011; Travis, 2014). If there are occurrences of 'see' with a 'that'-clause that ascribe a representational state to the subject, which I will now argue that there are, and if this representational feature is fundamental to visual experience, then versions of naïve realism that deny that experience is fundamentally representational are false.

'see' as an intensional transitive

At first glance it may seem that 'see' is not an intensional transitive verb in its standard perceptual use. However, upon further scrutiny, it turns out that there are perceptual uses of 'see', where 'see' functions as an intensional transitive. Consider:

(15)

(a) When Lisa woke up after the injury she saw that the flowers on her table had a beautiful color, but she didn't recall ever having seen that color before.

(b) When Lisa woke up after the injury she saw that the flowers on her table were red, but she didn't recall ever having seen that color before.

(c) Martin saw that the nurse had put some long, thin colored items in front of him, but he had forgotten what they were for.

(d) Martin saw that the nurse had put colored pens in front of him, but he had forgotten what they were for.

15(a)–(b) are equally good descriptions of a scenario in which Lisa is seeing that the flowers are red without having the concept of red in a strong sense—without the ability to recognize the color or even without the ability to discriminate between red and green. Likewise, 15(a)–(b) are equally good descriptions of a scenario in which Martin sees long, thin colored items in front of him, but in which he has no idea of what a pen is or how to discriminate between pens and pencils. 'Seem'-reports, however, function somewhat similarly, as illustrated by (16):

(16)

(a) It seemed to Lisa that the flowers on the table were red, although she didn't recall ever having seen that color before.

(b) It seemed to Lisa that the flowers on the table had a warm color, although she didn't recall ever having seen that color before.

Although 16(b) may be a much better report of Lisa's visual experience in the envisaged scenario than 16(a), 16(a) is not exactly false. As noted earlier, even belief allows of a discrepancy between the content of the complement and the content of the belief described (Richard, 1990; Chalmers, 2011):

(17)

(a) John believes the mayor of Boston is tall.

(b) John believes Marty Walsh is tall.

17(a) and 17(b) can be equally good descriptions of John's belief depending on what the focus of the conversational context is. If the speakers want to emphasize that John believes that Marty Walsh is tall, but they do not care about whether John believes that Marty Walsh is the mayor of Boston, then 17(a) is a perfectly acceptable

way of describing what John believes. The same applies to 'seeing-that' constructions. Consider:

(18)

(a) Lois Lane saw that Superman was happy to see her when he landed on the roof.

(b) Lois Lane saw that Clark Kent was happy to see her when he landed on the roof.

There are conversational contexts in which 18(a) and 18(b) are equally acceptable and other contexts in which 18(a) would be considered a more accurate description than 18(b). The lesson is that for a verb to be intensional, it is not required that substitution of co-extensional terms affects the truth-value of sentences used to describe a mental state in all conversational contexts in which the sentences are used.

The hypothesis that 'seeing-that' is intensional (and in fact hyperintensional, as I will argue later) helps explain certain other uses of 'see' that evidently introduce an intensional context. David Bourget (2010) provides examples of the following kind:

(19)

(a) I see a strange shape on my left. I think my retina is damaged.

(b) I see colored shapes spinning in front of me, but I know there are no such things there.

(c) I see flashes all over the place—will you stop poking my brain with this electrode!

(d) I see stars everywhere. This is a really strong drug.

One objection to the claim that the occurrences of 'see' in (19) have an intensional reading is that we cannot rule out that these uses are idioms akin to 'The sun is rising'. We know that the latter locution is literally false. But it is nonetheless prevalent among English speakers. Despite being false, it conveys something true.

The problem with this line of argument, however, is that 'see' constructions of the kind exemplified in (19) are too widespread to be idiomatic. 'The sun is rising' is an idiom, and we might say that 'to rise' is used idiomatically in this sentence construction. But this is the only type of construction in which it is so used. 'See' is systematically used as an intensional verb in many different types of sentences.

Another objection to the claim that the occurrences of 'see' in (19) introduce an intensional context is that these occurrences differ in meaning from the more common uses of 'see'. But if they differ in meaning, then Bourget's cases merely add further evidence to the claim that 'see' is highly polysemous.

Upon further scrutiny, however, the fact that the sentences in (19) are perfectly acceptable is not due to a difference in the meaning of the occurrences of 'see' in (19) and more common occurrences of 'see'. A standard test of polysemy is

the coordination test. Most ambiguous and polysemous verb phrases impose incompatible requirements on the extension of the subject or predicate. For instance, when combined with a subject term that denotes a person, 'to expire' means *to die*, but when combined with a subject term that denotes a legal document, it means *to cease to be valid*. So, if we combine 'expire' with a subject term that conjoins a description or name of a person and a description of a legal document, the result should be infelicitous, as indeed it is. For instance, 'John and his driver's license expired on Tuesday' is infelicitous because there is no reading of 'expire' that applies to both living things and legal documents.

The coordination test predicts that 'see' is not polysemous when used perceptually. 'John and Bill both saw Lisa' is infelicitous if it's supposed to mean that John dated Lisa, whereas Bill visually perceived her. However, 'John and Bill both saw stars all around. In John's case is was due to the drug he had taken, whereas in Bill's case it was due to the way we had painted the walls' is perfectly fine. So, in the perceptual sense 'see' fails the coordination test. This strongly suggests that the uses of 'see' in (19) do not differ in meaning from the more common perceptual uses of 'see' discussed earlier. The following discourse fragment adds further support to a unified perceptual use of 'see':

HARRY: I see stars everywhere. This is a really strong drug.
BOB: It's not the drug, it's the disco lighting that Sally just turned on.
HARRY: I see little animals everywhere, too. That must be the drug.
BOB: No, no. We just had this room painted for the new baby.

Bob does not deny that Harry is seeing stars and little animals everywhere, in spite of the fact that he disagrees with the source of the seeing. This suggests that the meaning of 'see' is the same under both interpretations.

I now turn to my main argument for the claim that seeings are representational. The argument, which is analogous to the argument in chapter 2, can be articulated as follows:

Seeing-that Is Representational

1. 'See-that' is a hyperintensional mental-state operator.
2. Hyperintensional mental-state operators operate on representational content.
3. So, 'see-that' operates on representational content.
4. If 'see-that' operates on representational content, then seeings are representational states.

Conclusion: Seeings are representational states.

'See-that' is a hyperintensional operator. As argued in chapter 2, intensional mental-state operators, including hyperintensional mental-state operators, operate on representational content.[1] So, the intermediate conclusion in line 3 is true. But at least some sentences containing 'see-that' have a purely perceptual reading, so they express visual experiences with a representational content. So, seeings are representational states.

The argument doesn't show that seeings are *fundamentally* representational, but the hypothesis that they are representational turns out to be in conflict with many versions of naïve realism (e.g., Travis, 2014).

THE PUZZLE OF OBJECTUAL SEEING

There is still a puzzle that the just-mentioned considerations do not resolve. The pure perceptual reading of 'see' is clearly more salient in cases of 'see' that take a 'that'-clause as their complement than it is in cases of 'see' that take a noun-phrase or an unsupported clause as their complement. Consider:

(20)

(a) Linda can see a dog, but she doesn't know whether it is a dog.
(b) Linda can see a dog standing there, but she doesn't know whether it is a dog.
(c) ?Linda can see that there is a dog in front of her, but she doesn't know whether it is a dog.

This difference between objectual and propositional uses of 'see' is strongly correlated with the difference in transparency between the two types of use. Objectual uses of 'see' are less substitution-resistant than propositional uses. This is puzzling, as the examples in (20) ought to have both wide- and narrow-scope readings. Consider:

(21)

(a) There is a dog *x* such that Linda can see *x*, but she doesn't know whether *x* is a dog.
(b) Linda can see a dog, but she doesn't know whether it is a dog.
(c) There is a dog *x* such that Linda can see that *x* is in front of her, but she doesn't know whether *x* is a dog.
(d) ?Linda can see that there is a dog in front of her, but she doesn't know whether it is a dog.

[1] This is not to say that the only things that are hyperintensional are mental-state operators. Quotation contexts and fictional contexts are also hyperintensional.

In 21(a) and 21(c), 'see' has narrow scope with respect to the existential quantifier. In 21(b) and 21(d), it has wide scope. The wide-scope reading is questionable on the propositional reading of 'see' but not on the objectual reading. What explains this difference?

As it turns out, this behavior of 'see' is typical but not inevitable, because the objectual sense of 'see' tends to be used in reports of how things are from the speaker's point of view. Let's call intensional transitive mental-state verbs that are more likely to report from a God's-eye point of view in the particular context in which they occur 'world-centered', and let's call those more likely to report what is presented to the subject in the context in which they occur 'subject-centered'. 'To see' tends to be world-centered in its objectual use but subject-centered in its propositional use. Other visual verbs that are world-centered in their objectual instances include 'spot', 'detect', 'eye', 'catch a glimpse of', and 'catch sight of'.

World-centered verbs are not essentially world-centered; the linguistic context can make the subject-centered reading more salient. Consider, for example:

(22)

(a) Linda saw a dog, but she didn't know whether it was a dog.

(b) ?Linda saw a dog through the window, but she didn't know whether it was a dog.

(c) ?She couldn't see the whole screen because of the tall person in front of her, but she didn't know whether there was a whole screen.

(d) *I so wish I could meet him again*, Lois thought to herself, and just in that instant she saw something in the distance. It was the silhouette of her handsome superhero slowly approaching.

(e) #Linda knew she saw a dog through the window, but she didn't know whether it was a dog.

22(a) is felicitous because the world-centered reading is most salient. However, as shown in 22(b)–(c), adding a prepositional or a subordinating conjunctive phrase that has subject-centered implications improves its acceptability. In 22(d), the subject-centered reading of 'see' is far more salient than the world-centered reading. 22(e) is clearly infelicitous, although it entails 22(b), which is slightly more acceptable. We can explain the infelicity of 22(e) by noting that the embedding context provides a subject-centered reading for the objectual use of 'see'.

FUNCTIONAL FEATURES OF SEEING

I have argued earlier than the representational feature of experience plays a crucial role in explaining the phenomenology of visual experience. Seeings, which are visual experiences that are non-deviantly causally related to a mind-independent physical

object, furthermore seem to play a fundamental role in explaining action. If this is so, then we have more reason to believe that the representational feature of experience is a fundamental feature of experience.

In the seminal paper "Actions, Reasons and Causes" (1963), Donald Davidson argued that action can be explained by reference to reasons. On this theory, what explains action is a pair of a belief and a desire. For example, if I desire water and I believe that there is water in the glass, those two states can jointly explain why I take a sip of the water in the glass. However, appeal to pairs of a belief and a desire do not explain all types of action.

As Joseph LeDoux has argued in a series of publications, when we experience fear, this can result in action in two different ways (see, e.g., 1995, 1996, 2003). Our sensory organs project information to the thalamus, a deep structure in the brain on top of the brainstem, near the center of the brain. In the thalamus, emotional stimuli split into two separate streams both projecting to the amygdala, the part of the brain that processes fear. If we are faced with a venomous water moccasin snake, the brain may take in information through the perceptual system, but project it directly to the amygdala. In that case, we might exhibit fear responses before forming beliefs about the fearful stimulus or the bodily fear reaction. This response is fast and may be crucial for survival in life-threatening situations. A different pathway for processing fear involves first forming beliefs about the threatening stimulus, which then activates the amygdala and results in a fear response. This pathway is slow, but also provides more details of the threatening situation. It can for this reason reinforce the fear response, detect false alarms, and inform us in situations that require careful decision-making. The fast pathway, which is about half a second ahead of the slower pathway, leads to fear responses that can elicit actions long before we become knowledgeable of the fact that something is not as it should be.

Besides explaining how we can react to fear so quickly, the two-pathway hypothesis also explains why patients with amnesia sometimes can react with fear to immediate threats despite their inability to form short-term memories or hold information in working memory for more than a couple of seconds. The loss of working memory can hinder the completion of the simplest tasks, such as holding a phone number in one's head for the two seconds it takes to reach for the phone. A fast pathway from visual processing to fear processing would explain how amnesiacs who have lost working memory nonetheless can respond very quickly to frightening stimuli. One example of this phenomenon comes from Antonio Damasio's (1999) studies of his patient, David. David had suffered extensive damage to both temporal lobes and had learning and memory difficulties. He could not recognize or name any person he was interacting with on a daily basis or remember whether he had ever seen them

before. But David nonetheless showed consistent preferences for and avoidances of certain people. In one of Damasio's studies, David was exposed to three people over a period of time (43–44). The first person was pleasant, welcoming, and rewarding ("the exciting guy"). The second person was the emotionally neutral person ("the neutral guy"). And the third was bland and tedious ("the boring guy"). After the encounters, David was shown photographs of the three people and could not remember whether he had met them before. However, when asked whom he would go to if he needed help and who was his friend, David consistently chose the exciting guy and consistently failed to choose the boring guy.

It may be thought that conscious acquaintance with a mind-independent physical object can explain fast emotional responses just as elegantly as the representational theory. This, however, is not the case. Although only accurate seeings can have had an evolutionary advantage, and hence are the psychological states that matter to our fast emotional responses that bypass the belief system, it is the very same feature of experience that explains fast emotional responses in veridical and illusory cases. So, what explains fast emotional responses in veridical cases will depend on what explains fast emotional responses in illusory cases. In the case of illusions, only the representational feature of visual experiences can explain fast emotional responses. For example, if you mistake a water hose for a venomous water moccasin, this may trigger a fast fear response. But it is not your conscious acquaintance with the water hose that causes the fear response; rather, it is the representation of it as a venomous water moccasin. The representational feature of experience thus plays a fundamental role not only in explaining the phenomenology of experience but also in explaining action. This adds further support to the hypothesis that the representational feature of experience is a fundamental feature of experience.

SIGNPOST

It has traditionally been thought that 'to see' is an extensional transitive verb that sometimes is used perceptually and sometimes epistemically. 'To see' has a perceptual use when it combines with a noun-phrase complement or an unsupported clause, but has an epistemic use when it combines with a 'that'-clause. I have argued that the traditional view is incorrect. There are purely perceptual occurrences of 'see' that combine with 'that'-clauses. Furthermore: when 'see' occurs in these constructions, the verb is intensional and hence generates a barrier for substitution of co-extensional terms within its scope. Objectual uses of 'see', I have argued, can be true of mental states expressible with an occurrence of 'see' combined with an unsupported clause

(e.g., Mary walk down the stairs), and occurrences of 'see' with an unsupported clause are logically equivalent to occurrences of 'see' that take 'that'-clauses as their complements. As occurrences of 'see' that take 'that'-clauses as complements are intensional, it follows that 'see' can function as an intensional transitive verb regardless of what its complement is. In the latter part of the chapter I used this observation in an argument for the view that seeings are representational mental states.

7

BEYOND SEEING

ALTHOUGH THE FOCUS of this book is primarily on visual verbs and their relation to perception, one cannot help but wonder to what extent any of the lessons for the case of vision carry over to other perceptual verbs. Can we learn something from the semantics of 'sound', 'hear', 'smell', 'taste', and 'feel' about auditory, olfactory, gustatory, tactile, and bodily experience? I think that we can. Many of the points that apply to 'seem' and 'see' carry over to other perceptual verbs. 'Feel', as we will see, is different from the other perceptual verbs in a number of ways, perhaps because it can be used to describe such different experiental states as touch, bodily sensation, and emotion. However, as I will argue, there is an analogous argument from the semantics of 'feel' to the view that touch, bodily sensation, and emotion are representational.

'SOUND'

Let us begin with the language we use to describe auditory experience. Like 'seem', 'sound' can function as a subject-raising verb. Consider:

(1)

(a) It sounds like John is getting a cold.

(b) John sounds like he is getting a cold.

The unraised sentence in 1(a) is equivalent to the raised version in 1(b).

There are cases where 'sound' has some of the marks of a subject-raising verb but appears to fall short for one reason or another. Consider:

(2)
(a) It sounds as if Peter is walking in the hallway.
(b) ?Peter sounds as if he is walking in the hallway.

2(b) is marginal at best. For example, if Peter has a strange lung condition that makes him sound like he is walking in a hallway, 2(b) may be felicitous. But it is not equivalent to 2(a). I think the reason for this turns on the hyperintensional nature of raised subject-raising verbs. Compare:

(3)
(a) It seems as if Santa Claus is visiting our house.
(b) Santa Claus seems to be visiting our house.

3(a) and 3(b) are not equivalent, because only 3(b) has existential commitment. As noted in chapter 1, the raised and unraised forms of sentences containing subject-raising verbs are equivalent only when the existential commitment is presupposed in the context. On the standard use of 2(a), 2(a) does not presuppose that Peter exists, even if we know that he does.[1] Given that 'sound' functions as a subject-raising verb, the argument on the basis of the semantics of 'seem' for the view that visual experience is representational should carry over to the case of auditory experience. Here, I offer a brief outline of how the semantic argument for the view that auditory experience might go.

Like 'seem', 'sound' has non-epistemic, epistemic, and comparative uses. Consider:

(4)
(a) What you said sounds good.
(b) It sounds like we ought to evacuate.
(c) You sound like your mother.
(d) It sounds as if you are drunk.
(e) That music sounds good.
(f) That musical note sounds like an E.
(g) ?The musical note sounds high-pitched

[1] One might think that on a standard use of 2(a), 'Peter' takes wide-scope. I will discuss this later.

The uses of 'sound' in 4(a)–(b) are epistemic. We can interpret 'sound', in this sense, as expressing a probabilistic belief that is sensitive to evidence. For example, if the radio host announces that there will be flooding in our area, you might reply with 4(b). If the radio host comes back on the radio and informs us that what he said earlier was a hoax, then it would be infelicitous to utter 4(b). 4(c) is a grammatically comparative claim. Using Irene Heim's semantics for comparative claims, 4(c) cashes out to 'for some way *w* such that *w* is a way that your mom sounds, you sound that way, too'. 4(d) is not surface-grammatically comparative, but is best interpreted as a comparative claim of the form 'for some way *w* such that *w* is a way that drunk people sound, you sound that way, too'. The use of 'sound' in 4(e) is the phenomenal (non-comparative, non-epistemic) use. However, 'good' here is an aesthetic, evaluative predicate or perhaps a predicate of personal taste. So, 4(e) does not express a genuine perceptual state but, rather, an aesthetic attitude. There are no non-marginal phenomenal uses of 'sound' that express auditory states. For example, 4(f) seems to have an underlying comparative structure, and 4(g) is either marginal or infelicitous.

Despite the fact that it seems there are no non-marginal phenomenal uses of 'sound', there is nonetheless a case to be made for a representational view of auditory experience.[2] As we have already seen, the analysis of comparative claims makes unanalyzed appeal to the phenomenal use. So, (perceptual) comparative 'sound'-reports describe (attended) auditory experience. Let us call the psychological states described by (perceptual) comparative 'sound'-reports 'soundings'.

Auditory Reflection Argument

1. True non-epistemic, comparative 'sound'-reports reflect representational phenomenal properties of auditory experience.
2. If (1), then auditory experience is representational.

Conclusion: Auditory experience is representational.

'*E* reflects property *F*' can be defined as in chapter 3:

Phenomenal Property Reflection (PPR)

A report that describes experience *E* reflects a phenomenal property *F* iff [necessarily, the report is true iff *F* is a phenomenal property of *E*].

[2] The argument here is an abbreviated variant of the argument in chapter 3 that concerns visual experience. The gaps in this argument (as presented) can be filled in analogously to what is done in chapter 3.

The first question to be answered here is whether at least some 'sound'-reports reflect distinctly phenomenal properties. Here is an argument that they do: Let '*o* sounds *F* to *S* at *t*' be a comparative non-epistemic 'sound'-report. Let the domain consist of properties that correspond to '*F*'. An example of this would be: 'Peter sounds sick to Jane at the present time'. Since this is likely to be comparative, it can be analyzed as 'for some way that sick people sound, Peter sounds that way too to Jane at the present time' Now, *PPR* entails the following: for some property *F*, if '*o* sounds *F* to *S* at *t*' does not reflect *F*, then either the report is necessarily false or it is not necessary that the report is true iff *F* is a phenomenal property of *o*'s experience.

As for the first horn of the dilemma, '*o* sounds *F* to *S* at *t*' cannot plausibly be necessarily false for all values of '*o*', '*F*', '*S*', and '*t*'. As for the second horn of the dilemma, we need to show that the following is true:

> *Sound Principle*
> For some non-epistemic 'sound'-reports of the form '*o* sounds *F* to *S*', the report is true iff a property corresponding to '*F*' is a phenomenal property of *S*'s *o* experience.

The right-to-left direction is obviously true. If, for example, Nico has an experience of a sound event at *t* that has the property of sounding like a cough, then '*o* sounds like a cough to Nico at *t*' is true. The left-to-right direction is less obvious in this case because of the phenomenon of deaf hearing (Garde & Cowey, 2000; Brogaard, et al. 2017). In deaf-hearing cases, subjects can correctly report on the qualities of sound events, in spite of reporting not having any auditory awareness of what they are correctly reporting on. But as it turns out, the uses of 'sound' occurring in the reports do not persist in the presence of a defeater—for example, when the subjects are told that they are wrong. So, the reports are epistemic rather than non-epistemic.

A non-epistemic 'sound'-report that reports on an auditory stimulus can be true only if it is based on the auditory phenomenology of an experience. It follows that when we use a non-epistemic 'sound'-report to report on an auditory experience, the report is true just in case it is based on the phenomenal properties of the experience. So, for non-epistemic 'sound'-reports of the form '*o* sounds *F* to *S*', it is necessary that if the report is true, then there is an experience with property *F*, where *F* corresponds to '*F*'. This establishes the left-to-right direction of the *Sound* principle. Hence, non-epistemic 'sound'-reports reflect distinctly phenomenal properties.

Moreover, non-epistemic 'sound'-reports reflect representational phenomenal properties, where a representational phenomenal property is the property of representing a certain state of affair as obtaining, for example, the property of

representing a sound event as a cough sound. This concludes the argument for premise (1).

The argument for premise (2) runs as follows. Any representational property of auditory experience is the property of representing some state of affair involving a sound event as obtaining. It follows that auditory experience is representational.

There is also a case to be made for the claim that auditory experience is fundamentally representational. The argument runs as follows:

Argument from Auditory Phenomenology

1. Phenomenal soundings are needed to explain the phenomenology of auditory experience.
2. If phenomenal soundings are needed to explain the phenomenology of auditory experience, then the representational view of auditory experience is correct.

Conclusion: The representational view of auditory experience is correct.

There is no need to go into all the details of the argument, as it is analogous to the argument for the view that visual experience is fundamentally representational. However, here are a few remarks in support of the premises. Given naïve realism, auditory experience is a perceptual relation between a perceiver and an external sound event from a particular spatiotemporal point of view, and in particular hearing conditions (Brewer, 2011). However, different sound events can give rise to different phenomenal experiences in different perceivers. For example, it has been shown that there is individual variation in sound perception in noisy conditions (Vinnik, et al. 2011). It is also well known that children and adolescents can hear sounds (18 to 20 kHz) that adults cannot hear. The Mosquito teen repellent, a device invented by Howard Stapleton and that has been installed to deter teens from lingering in front of stores and in parks, plays a tone at a frequency that very few people over thirty can hear. A teenager has used the same approach to invent an adult-proof ringtone. These kinds of differences in the phenomenology of auditory experience in different individuals exposed to the same sound event in the same hearing conditions can only be explained by appealing to auditory soundings. But if we need to appeal to auditory soundings to explain differences in the phenomenology of auditory experience, then the external sound event does not exhaust the phenomenology of auditory experience, even in veridical cases. As phenomenal soundings are representational psychological states, and they are required in the explanation of the phenomenology of auditory experience, the representational view is correct.

Another way to arrive at the same conclusion is to look at differences in intraperceptual principles depending on the auditory conditions in early childhood

development. As in the case of vision, perceptual principles govern the computation of auditory constancy, such as distance constancy and volume constancy. We can estimate the distance to a sound source with great accuracy on the basis of the spectral changes in the sound, the intensity of the sound, and the rate of change of intensity (De Coensel et al., 2013; Boothroyd, 1997). But our ability to make such estimates depends on prior experience of the sound source, its typical speed, power and spectrum, and contextual cues, such as whether we are inside or outside. Owing to the influence of learning on experience, people commonly develop different intraperceptual principles for estimating sound constancy. So, the same sound event will often be accompanied by different phenomenal soundings in the same hearing conditions. This strongly suggests that external sound events are not fully constitutive of auditory experience. Phenomenal soundings evidently play an essential role in explaining the phenomenology of auditory experience.

What does auditory experience represent? One enticing answer for veridical cases is that it represents the sound events that produce the sound waves that nondeviantly trigger the phenomenal sounding, as well as properties of the sound events, such as pitch, quality, loudness, and duration. In hallucinatory cases, auditory experience represents not sound events understood as individuals but sound properties. More specifically, hallucinatory auditory experience represents sound properties that are such that if they had been instantiated in a normal environment and had been consciously heard by the hearer's closest normal counterpart, then they would have yielded the phenomenal sounding in question. This answer to the question of what auditory experience represents is attractive, provided that we are committed to the particularity of non-hallucinatory experience. That is, if we think that non-hallucinatory visual experience represents visually perceptible individuals, such as apples, coffee mugs, and tigers, then we have good reasons to think that auditory experience represents auditorily perceptible individuals, or sound events. In this book, I am not taking a stance on whether experience is particular or not. For simplicity, I shall simply assume that it is.

The hard question is to spell out what exactly sound events are. Although I cannot argue for the view here, I believe that the sound events represented by auditory experience are best understood as events that involve the physical mind-independent objects that produce the sounds. Something like this view has been defended at length by Casey O'Callaghan (2010, 2011). O'Callaghan, however, rejects the view that sound events are properties of objects. I don't think we need to do that. Arguably, events are best treated as property instances of physical mind-independent objects—that is, instances of properties by objects at times (Kim, 1966; Goldman, 1970; Taylor, 1985), in which case sound events can be understood as a special type of property instance.

'SMELL' AND 'TASTE'

Unlike 'seem' and 'sound', 'smell' and 'taste' do not appear to have any natural uses as subject-raising verbs, as the following examples illustrate:

(5)
(a) This beer smells like coffee.
(b) ?It smells as if this beer is coffee.
(c) This beer tastes like coffee.
(d) It tastes as if this beer is coffee.

'Smell' and 'taste', it seems, are simply linking verbs connecting the subject of the verb to additional information about the subject (e.g., 'to grow' as in 'to grow stronger'). 'It smells' and 'it tastes' thus do not function as intensional operators. When those expressions occur in sentences, 'it' is a pronoun referring to an object (e.g., a food or drink). For the case of 'taste' and 'smell', then, we cannot provide an argument for a representational theory of experience directly on the basis of the semantics of perceptual reports. However, as will be shown, we can use what we know about the mental states expressed by the reports to present an argument for the representational view.

'Smell' and 'taste' also differ from 'seem' and 'sound' in that they don't have any non-marginal epistemic uses. The occurrence of 'smell' in Nirvana's 'smells like teen spirit' seems to be epistemic, but the use is non-literal. Like 'seem' but unlike 'sound', however, 'smell' and 'taste' both have comparative and phenomenal uses that are directly relevant to perception. Consider:

(6)
(a) The juice smells like strawberries.
(b) The medicine tastes like chocolate.
(c) The milk smells sour.
(d) Vegemite tastes bitter.

6(a)–(b) are comparative claims. 6(a), for example, has the truth condition: there is a way *w* such that strawberries smell *w*, and the juice smells *w*, too. 6(c)–(d) are phenomenal claims. The latter express phenomenal smellings and phenomenal tastings, respectively. All these are perceptual uses. So, it would be easy to conjure up an argument analogous to the one just presented to show that olfactory and gustatory experience are fundamentally representational.

Here is an outline of this type of argument: Smellings and tastings differ remarkably among different individuals. For example, some people find Brussels sprouts bitter, whereas others find them bland or even grassy. These differences are due to

genetically determined variations in the smell and taste receptors (Bufe et al. 2005; Mainland et al., 2014). The genes for taste and smell code for multiple variations of taste and smell receptors, respectively, which has the surprising implication that very few people have exactly the same set of taste and smell receptors, and hence very few people have olfactory and gustatory experiences with the same phenomenology. It is estimated that as much as 30 percent of the human olfactory and gustatory receptors differ between any two individuals.

What do smell and sounds represent? If olfactory and gustatory experiences are particular, which I shall assume here, then they represent odor and taste chemicals present in the air or in food and drink. Different smellings and tastings in different individuals who are exposed to the same odor or taste chemical compound in the same perceptual conditions can thus represent the same chemical compound. As we cannot account for the phenomenology of olfactory and gustatory experiences in terms of a perceptual relation that obtains between the perceiver and the smell and taste chemicals represented, the smellings and tastings play an essential role in explaining the phenomenology of olfactory and gustatory experiences. As smellings and tastings are representational, it is a fundamental feature of olfactory and gustatory experiences that they are representational. So, the representational view of olfaction and gustation is correct.

It is worth noting that the cases of smell and taste make it exceedingly clear that we cannot simply equate the representational view with a version of representationalism that accounts for the phenomenology of experience in terms of its content, a position also sometimes known as 'reductive representationalism' (Tye, 1995; Dretske, 1995). Olfactory and gustatory experiences often have negative or positive valences. The smell of rotting meat has a negative valence for me. The taste of Indian food has a positive valence for me. Whether the positive and negative valences of smell and taste are properties of the experiences themselves, as opposed to some other psychological states, is a substantial question and not one that I can address here. One can treat positive and negative valences of experiences as second-order representational properties or non-representational phenomenal properties. In the case of pain, for example, the pain may represent a disturbance in the body and represent the disturbance as bad. Alternatively, the pain may represent a disturbance in the body and also have a non-representational phenomenal property of being bad. A similar distinction can be drawn in the cases of smell and taste. For example, the smell of rotting meat may represent the meat as rotten and represent that as bad, or it may represent the meat as rotten and also have a non-representational phenomenal property of being bad. For smell and taste, the second treatment seems more plausible than the first. Although rotting meat may be bad, it is the smell itself that has a negative valence, not the rotting meat. In other words, the valences of smell and taste appear to be non-representational phenomenal properties of the

experiences themselves. But if the valences are properties of the experiences themselves as opposed to properties of what is represented, then we cannot fully account for the phenomenology of the experiences in terms of their content.

'FEEL'

Like 'seem', 'feel' can be used epistemically, non-epistemically, comparatively, and non-comparatively. When '*x* feels' is used epistemically, it means, roughly, '*x* believes' or 'It is *x*'s opinion', as in 'I feel that education at the college level should be focused on improving the critical thinking skills of students'. Comparative non-epistemic 'feel'-reports have a distinctly comparative underlying syntax and purport to describe aspects of experience (broadly construed to include sensory experience from mixed modalities and proprioception). They tell us that an experience of an object or event is experientially similar to another experience. The modality of the experience need not be made explicit, and in some cases what is described is the input from several sense modalities. For example, I may say 'It feels as if you are ignoring me, though I know perfectly well that you are not'. This is true only if experiences of your behavior share certain experiential properties in common with typical experiences of the behavior of someone who is ignoring me. Some further examples:

(7)
(a) This house feels like my childhood home.
(b) This country feels old-fashioned.
(c) It feels as if my friends don't respect my religion.
(d) The entrance is so white that it feels as if you're walking into a huge iPod.

7(a) is true if I have, say, a visual, auditory, and olfactory experience as of this house instantiating certain properties, and a typical experience of my childhood home would be an experience as of the home instantiating some of these properties. 7(b) is true if I have an experience as of the country's economy, traditions, music, or architecture having certain properties, and experiences of old-fashioned things are experiences as of these things instantiating some of these properties. 7(c) is true if I have, say, a visual and auditory experience as of my friends behaving in a certain way, and that way is akin in its sensory properties (e.g., visual and auditory properties) to the ways of people who don't respect my religion. 7(d) is true just in case an experience of the entrance is sensorily akin to an experience of a huge iPod.

Typical uses of the sentences in (7) have roughly the same meaning as typical uses of the sentences that result from substituting 'look' for 'feel'. But when 'look' is substituted for 'feel' and the sentences are read comparatively, the experience described is visual rather than auditory, olfactory, or tactile. If this house looks like

my childhood home, then it shares visible features in common with my childhood home. If this house feels like my childhood home, then it could share visible features in common with my childhood home, but the features could also be tactile, olfactory, or auditory or some of them could be visual and some of them olfactory.

Some comparative reports purport to describe aspects of bodily experiences (construed broadly to include, for example, emotions, tactile experiences, and proprioceptive experiences). They tell us that someone's bodily experience is experientially similar to an experience of something else, but they need not indicate in which way they are similar. Here are some examples:

(8)
(a) I feel like my heart is going to burst.
(b) It feels as if someone is jerking needles into the root of my tooth.
(c) This fabric feels like velvet.
(d) It feels like I have to throw up.

In 8(a), an experience is said to have experiential properties similar to an experience as of a heart bursting. In 8(b), an experience is said to have experiential properties similar to an experience of needles being jerked into the root of one's tooth. In 8(c), an experience of this fabric is said to have experiential properties similar to a tactile experience of velvet. Finally, in 8(d), an experience is said to have experiential properties similar to the bodily sensation one has when one is about to throw up.

Both kinds of comparative reports have a distinctly comparative structure. Like the corresponding 'look'-reports, they are best analyzed as kinds of existentially quantified comparative sentences. If we apply Heim's analysis of comparative sentences to comparative 'feel'-constructions, 8(c) is to be read as containing the implicit clause 'wh_1 [velvet feels t_1]'. Or in English, 'this way *x*: velvet feels *x*'. This clause scopes out of the comparative claim. So, the sentence has the structure '[wh_1 [velvet feels t_1]]$_2$ [this fabric feels t_2]'. 8(c) can thus be assigned the truth-condition: there is an *x* such that *x* is how velvet feels, and this fabric feels *x*. Or: there is an *x* such that *x* is a phenomenal property of a bodily experience of velvet, and a bodily experience of this fabric has *x*. Similarly, 8(d) can be assigned the truth-condition: there is an *x* such that *x* is a phenomenal property of a bodily experience of having to throw up, and my bodily experience has *x*.

'Feel' also has a non-comparative sense, as in 'John felt sick', 'Linda felt Michael pinch her arm', and 'Charlotte felt an itch'.[3] Like comparative reports,

[3] Noncomparative 'feel'-reports do not just describe aspects of emotions, tactile experiences, or bodily sensations but can also be used to describe other kinds of perception, intention, and feelings of doubt and certainty, as in 'He felt the anger of the crowd,' 'I feel inclined to do it,' and 'I feel doubt.'

non-comparative reports can be used to describe (among other things) aspects of emotion, tactile experience, or bodily sensation. For example, 'John feels cold' can be used to describe John's bodily sensation of coldness or someone's tactile perception of John's body. 'John felt his heart beat very quickly' can be used to describe John's bodily sensation or tactile perception of the event: *John's heart beats very quickly* (in fact, it can also be used to describe a very quick bodily sensation or tactile experience of John's heart beat), and 'John felt his leg' can be used to describe John's bodily sensation or tactile experience of his leg.

When we describe emotions and bodily sensations, we often borrow vocabulary from our descriptions of tactile and visual experience (including experience of space), as in 'I have a sharp pain in my chest' and 'I feel empty'. But these initially figurative ways of speaking often become integrated into the language and become conventionalized. 'Sharp' plausibly is an example of that. 'Sharp', it seems, can now be an equally good characterization of a pain and a tactually experienced object. But many experiential properties of emotions and bodily sensations still go conventionally unnamed, hence the need for comparative reports. If sufficiently rich, a comparative report can be as or more informative than a non-comparative report. Compare 'I feel lethargic, confused, and choked up' with 'I feel like I am in a thick hampering haze'.

It may be suspected that non-comparative 'feel' reports are epistemic reports. For example, one may attempt to give truth-conditions for '*x* is sharp' as follows:

(9) '*x* feels sharp' is true iff *x* would normally induce in me the belief that *x* is sharp.

The truth of (9), however, does not show that non-comparative 'feel' reports are epistemic. The normal conditions cited in the analysans of (9) are presumably meant to exclude conditions in which I feel that *x* is sharp yet fail to believe that it is sharp owing to irrationality or philosophical belief—for example, concerning which properties objects instantiate. But this suggests that when I don't believe that *x* is sharp, there is a way that *x* feels if (9) is true. So, (9) reduces to:

(10) '*x* feels sharp' is true iff *x* feels to me in a way that would normally induce me to believe that *x* is sharp.

But (10) entails that there is a way in which *x* feels non-comparatively and non-epistemically.

We can divide non-comparative 'feel'-reports into four kinds based on grammatical structure: '*x* feels [adjectival phrase]', '*x* feels [unsupported clause]', '*x* feels [determiner phrase]', and '*x* feels ['that'-clause]'. Here are a few examples.

(11)

(a) It feels sharp.
(b) My face feels itchy.
(c) Rosa feels tired.
(d) John felt his leg move.
(e) Tim felt his fear escalating.
(f) John felt the softness of the satin.
(g) Tom felt a quickening of his heartbeat.
(h) Mary felt a pain in her leg.
(i) Benny could feel that Linda touched his back.
(j) Harry could feel that the soup was very hot.
(k) Alfred could feel that he was about to get a sunburn.

11(a)–(c) exemplify '*x* feels [adjectival phrase]'. 11(a) describes touch, 11(b) describes bodily sensation, and 11(c) describes an affective reflex. 11(d)–(e) exemplify '*x* feels [unsupported clause]'. 11(d) describes a bodily sensation, whereas 11(e) describes an emotional state. 11(f)–(h) exemplify '*x* feels [determiner phrase]'. 11(f) describes touch, 11(g) describes bodily sensation, and 11(h) describes a pain state. 11(i)–(k) exemplify '*x* feels ['that'-clause]'. 11(i) describes touch and 11(j)–(k) describe bodily sensations.

Let's focus in some more detail on the three main types of 'feel'-reports: 'feel'-reports with adjectival phrases, unsupported phrases, and noun phrases. Here are some examples of the form '*x* feels [adjectival phrase]':

(12)

(a) The sweater feels soft.
(b) My face feels itchy.
(c) Rosa feels tired.

Recall that subject-raising verbs are so-called because the true subject of the sentence can move to the front of the sentence without any change in meaning. 'Feel' functions as a subject-raising verb in 12(a) and 12(b), but not in 12(c). 12(a) is equivalent to 'it feels to me as if the sweater is soft' and 8(b) is equivalent to 'it feels to me as if my face is itchy'. Here the sweater and my face are not the true grammatical subjects of 'feel'. The sweater and the face are not undergoing an experience. Rather, the speaker is experiencing the sweater as soft (12a) and her face as itchy (12b). Unlike 12(a) and 12(b), 12(c) has two readings, depending on whether or not 'feel' is interpreted as a subject-raising verb. If 'feel' is interpreted as a subject-raising verb, 12(c) is equivalent to 'it feels to me as if Rosa is tired'. On this reading, the speaker

has an experience as of Rosa being tired. On the second and most natural reading, 'feel' does not function as a subject-raising verb. Rather, a feeling of tiredness is attributed to Rosa.

'Feel'-constructions with adjectival phrases may be implicitly comparative. If Alice is asked after her marathon how she felt when she arrived sober but naturally high at the finish line, she might say 'I felt drunk'. In this case, her bodily experience may not be best described as representing Alice as drunk. It may be better described as representing Alice as instantiating certain internally felt properties that are characteristic of a state of drunkenness. This, of course, is not to rule out the possibility that if Alice's bodily experience represents Alice as instantiating certain internally felt properties that are characteristic of a state of drunkenness, then it mistakenly represents Alice as drunk. This would be a case of a known illusion. I think a case could be made for either possibility.

A second type of non-comparative report is one in which 'feel' combines with an unsupported clause, as in 'John felt his leg move'. Unsupported clauses, recall, are clauses that exhibit "none of the internal inflectional structure of a full sentence or a clausal complement: neither tense, nor infinitival to, nor progressive –ing" (Higginbotham 102). 'Feel'-constructions with unsupported clauses seem superficially related to 'feel'-constructions with noun-phrase complements. For example, 'John felt his leg move' seems superficially related to 'John felt his leg'. However, 'feel'-constructions with noun-phrase complements must be kept apart from 'feel'-constructions with unsupported clauses. 'Feel'-constructions with unsupported clauses are structurally similar to more familiar constructions with unsupported clauses. Consider:

(13)
(a) John saw Mary chew.
(b) I like my broccoli raw.
(c) I consider Mark smart.

Higginbotham suggests that 'seeing'-constructions with unsupported clauses should be analyzed as follows (using Barwise's situation-semantics and 13(a) as an example):

(a) There is an *e*, and John saw *e*, and $e \in [[\text{Mary chew}]]^{M}$

This is to be read as follows: There is an event token *e* such that John saw *e* and *e* is in the extension of event type: Mary chews. One reason given in favor of the event analysis is that (i) 'seeing'-constructions with unsupported clauses are referentially transparent—that is, they do not admit of opaque readings; and (ii) the

event analysis predicts that this is so. However, I think it is questionable that 'seeing'-constructions with unsupported clauses are referentially transparent. Suppose, for the sake of argument, that 'to cry' and 'to shiver and shed tears because of sadness, rage, or pain' are (necessarily) co-extensive. Now, consider:

(14)

(a) John saw Mary cry.
(b) John saw Mary shiver and shed tears because of sadness, rage, or pain.
(c) John saw Mary shed tears.

If 'to cry' and 'to shiver and shed tears because of sadness, rage, or pain' are co-referential (as we have supposed for the sake of argument), and 'seeing'-constructions with unsupported clauses are referentially transparent, then 14(a) and 14(b) have the same truth-value. As 'Mary shivered and shed tears because of sadness, rage, or pain' entails 'Mary shed tears', 14(c) should be true if 14(a) is. But 14(a) could be true while 14(c) is false. Suppose John sees Mary from behind, she is shivering, has a handkerchief in her hand, and is making crying sounds. In this scenario, John might correctly use 14(a) to report what he saw, but if he had used 14(b) or 14(c), he would at best have said something misleading. John did not see Mary shed tears. So, it seems that 'seeing'-constructions with unsupported clauses are not referentially transparent.

I think the lesson is that while 'seeing'-constructions with unsupported clauses are referentially transparent in the noun-phrase position of the unsupported clause, it is not in general referentially transparent in verb-phrase position. As it turns out, however, the fact that 'seeing'-constructions with unsupported clauses are not referentially transparent does not undermine the event analysis. For, the event analysis does not predict that 'seeing'-constructions with unsupported clauses are referentially transparent. If the event analysis predicted that 'seeing'-constructions are referentially transparent, it would predict that 13(a) entails 13(c). But the traditional analysis does not predict this. When we see an event, we needn't see all of it. For example, 'John saw the car accident' does not imply 'John saw every part of the car accident'. We see (or witness) complex events and other high-level properties in part by visually detecting other properties that typically are associated with the events in question. For example, 'John witnessed the murder' may be true if John heard a gunshot, saw a man fall to the ground, and then ran away. Likewise, John can see a crying event in virtue of seeing various properties that typically are associated with crying—for instance, a shivering body, a handkerchief, runny mascara, and so on. Hence, even if all crying events essentially involve shedding tears, it can be true that John saw someone cry even if he didn't see the person shed any tears.

If, however, referential opacity is perfectly consistent with the event analysis, then the issue of whether 'seeing'-reports with unsupported clauses are referentially transparent or opaque is not a factor in determining whether the event analysis is correct. And, as we saw in chapter 6 there is no particular problem in interpreting 'seeing'-reports with unsupported clauses as 'seeing-that' constructions. 14(a) can be interpreted as equivalent to (15):

(15) John saw that Mary was crying.

(15) has two readings. On one reading, the past tense of the 'that'-clause makes a difference to the meaning of the whole. So, on this reading, (14) is best interpreted as meaning *John saw that (it was the case that Mary is crying)*. On this reading, the crying event precedes the seeing. On the second reading, the past tense is vacuous and makes no difference to the meaning of the whole. So, on this reading, (15) is best interpreted as meaning *John saw that (Mary is crying)*. Here the crying event overlaps the seeing.

The same sort of ambiguity is apparent in 'belief'-reports. For example, 'In 1995 Mary believed that Nixon was president' can be read as saying that Mary believed that Nixon was president at some point prior to 1995, or as saying that Mary believed that Nixon was president at the time of her belief (Brogaard, 2012b). Like the 'seeing'-constructions with unsupported clauses, 'seeing-that' constructions are referentially transparent in noun-phrase position but not in verb-phrase position.

'Seeing'-constructions with unsupported clauses lack substitutivity in verb-phrase position. This, however, does not suggest that the narrow content of the visual experience described represents a property expressed by the verb. The narrow content of an experience is a content that supervenes on intrinsic properties of the perceiver. So a perceiver and an intrinsic duplicate of the perceiver cannot have experiences with different narrow contents. When narrow content is construed in this way, it could be true to say that John saw Mary cry even if John does not have a visual experience that narrowly represents Mary as crying. If John had a visual experience as of Mary shivering and shedding tears, and Mary in fact is crying, then at least in some contexts it is true to say that John saw Mary cry.

What we have just said about 'seeing'-reports with unsupported clauses carries over to 'feel'-reports with unsupported clauses. Consider:

(16)

(a) Tom felt Mary pinch his arm.
(b) John felt his leg move.
(c) John felt Mary's remarks make a great impact on him.

Like 'seeing'-reports with unsupported clauses, 'feel'-reports with unsupported clauses needn't be referentially transparent. Suppose again that 'Mary cried' entails 'Mary shed tears'. The traditional analysis, then, predicts that 17(a) entails 17(b):

(17)
(a) John felt Mary cry on his shoulder.
(b) John felt Mary shed tears on his shoulder.

To feel an event is to feel some of its bodily manifestation properties. The event of crying and the event of shedding tears have different manifestation properties. So, even if crying entails shedding tears, 13(a) can be true without 13(b) being true. For example, John may feel someone cry in virtue of feeling someone's body shiver, but feeling someone's body shiver does not suffice for feeling someone shed tears.

These observations are consistent with both the event analysis and the propositional analysis. On the event analysis, 17(a) is to be read as saying that there is an *s* which John felt and *s* is in the extension of event type: Mary cries on John's shoulder. On the propositional analysis, 17(a) is to be read as saying: *John felt that (Mary is crying on his shoulder)*. John can feel an event by feeling some but not all of its manifestation properties. So, even if crying essentially involves shedding tears, John can feel a crying event without feeling the shedding of tears. Similarly, a 'that'-clause can express a semantic content *c* and *c* can be an accurate description of a mental content *m*, even if *c* is not identical to *m*. So, it can be true that John felt that (*x* is crying on his shoulder), even if the mental content of John's bodily sensation is not the content of '*x* is crying on my shoulder'.

The third kind of non-comparative 'feel'-reports is the 'feel'-construction with a noun-phrase complement. Here are some examples:

(18)
(a) Tom felt a quickening of his heartbeat.
(b) John felt the softness of the satin.
(c) Mary felt a pain in her leg.

'Feel'-constructions with a noun-phrase complement are syntactically different from 'feel'-reports with unsupported clauses. They result from combining 'feel' with a noun phrase rather than an unsupported clause. But the two kinds of construction are semantically similar. '*s* feels NP' is true in virtue of *s* undergoing a bodily perception of the bodily manifestation properties of an object or event. So, they do not require that the literal semantic content of the

description of the perceived object be a mental content of the bodily perception. For example, one can feel a quickening of one's heartbeat by feeling the bodily manifestation properties of a quickening of one's heartbeat. For this reason, 'feel'-constructions with unsupported clauses are not referentially transparent. Even if '*x* cries' analytically entails '*x* sheds tears', 'Tom felt someone cry' does not imply 'Tom felt someone's tears'. Tom can feel someone crying without feeling his or her tears.

Non-comparative 'feel'-reports purport to describe (among other things) emotional experience, tactile experience, and bodily sensation. One might wonder whether there is a way to determine if a report describes bodily sensation (including emotional experience) or tactile experience. Some have argued that there is. Anthony Kenny (2003), for example, argues that one can identify what a 'feel'-report of the form '*s* feels NP' describes by looking at its semantic implications. While his argument is somewhat inessential to my overall argument, a brief discussion of his case is in order.

Kenny divides 'feel'-reports into three grammatical types:

> Type 1: 'Feel' may be followed by noun phrase: I feel you, the smoothness of the satin, sadness, an itch on my back.
> Type 2: 'Feel' may be followed by an adjective: I feel sad, itchy, feverish, hot.
> Type 3: 'Feel' may be followed by a 'that'-clause or an 'accusative or infinite clause': I feel that the satin is smooth, that I am sad. I feel the satin to be smooth.

According to Kenny, when a 'feel'-reports of type 1 describes a (tactile) perception, it implies a proposition of type 3 but not type 2. When a 'feel'-reports of type 1 describes an emotion or a sensation, it implies a proposition of type 2 but not type 3.[4] For example, 'I feel the coldness' implies that I feel that the something is cold but it does not imply that I feel cold. 'I feel anger' implies that I feel angry but it does not imply that I feel that I am angry.

Though initially plausible, Kenny's test is not surefire. It is certainly often true that when '*s* feels NP' is used to describe an aspect of an emotion or bodily sensation, we can infer a type 2 proposition but not a type 3 proposition. If I feel anger, I feel angry but I need not feel that I am angry, in the epistemic sense of 'feel'. 'I feel angry' is perhaps best understood as a contraction of 'there is a way an angry

[4] Though Kenny does not specify what he means by 'implies,' I take it that he means something like 'metaphysically necessitates.'

person feels, and I feel that way', which does not imply that I judge that I am angry. I could feel angry but not know or believe that I am angry.

However, it is not quite right that, when a description of the form '*s* feels NP' is used to describe a tactile (or other) perception, we can infer a type 3 proposition. As noted, 'feel' followed by a 'that'-clause can, on one reading, express an opinion or judgment (and hence not an aspect of a tactile experience). On another reading, it is equivalent to a 'feel'-construction with an unsupported clause. Although we can sometimes infer a 'feel'-construction with an unsupported clause from '*s* feels NP', we cannot infer an epistemic 'feel'-report. For example, from the fact that I feel a lump in the mattress, it doesn't follow that I judge that there is a lump in the mattress. Joyce Trebilcot (1970) offers the following counterexample: I may feel the lump in the mattress, but mistake the lump for a sock and judge that there is a sock under the sheet. Of course, if I feel an explosion, then I feel something explode and hence that something is exploding. But here 'feel' must be given a perceptual reading rather than an epistemic reading.

A further problem is this: While it is often true that when a type 1 report purports to describe a tactile experience it does not imply a type 2 proposition, this is not true in general. Suppose I run a fever and feel cold, I am shivering, yet when I touch my body it feels hot. In that case, 'I feel the hotness of my skin' implies 'I feel hot', but the latter does not imply that I have a bodily sensation as of being hot. Kenny's test can, however, be modified to serve as an approximate test of whether 'feel'-constructions with noun-phrase complements purport to describe emotions/bodily sensations or tactile sensations as follows: When type 1 reports describe emotions or bodily sensations (as in 'John felt the slimness of his body'), they tend to imply a type 2 proposition (e.g., 'John felt slim'). When they describe tactile perceptions ('John felt the explosion'), they tend not to imply a type 2 proposition ('John felt the explosion' does not imply 'John felt explosive').

Kenny's test can also be employed as an approximate test for 'feel' constructions with adjectival phrases. If 'John feels cold' is implied by a 'feel'-construction with a noun-phrase complement—for example, 'John feels the coldness of his body'—then 'John feels cold' purports to describe a sensory experience. If it doesn't, then it purports to describe tactile experience.

There is no good test of whether a 'feel'-construction with an unsupported clause purports to describe a tactile experience or a bodily/emotional experience. 'John felt his quick heartbeat' implies 'John felt his heart beat quickly', regardless of whether the latter report purports to describe a tactile or bodily experience. The same goes

for 'John felt something explode'. When the latter purports to describe a tactile experience, it implies 'John felt the explosion'.

Let us now turn to the question of whether 'feel'-reports express representational states. The arguments for the view that 'feel'-reports express representational states and the view that the representational features of these states are fundamental are analogous to the arguments presented in the preceding sections on 'seem' and 'sound'. I shall not reiterate the argument from semantics here. Instead, I shall focus on some notable differences between feelings and seemings/soundings.

As we have seen, 'feel'-reports do not express psychological states that lie within a single sensory modality. Following the terminology in neuroscience, we can refer to the somatic senses collectively as the 'somatosensory modalities'. They include, among others, touch, temperature, pain, pleasure, visceral sensation (e.g., heartbeat) and kinesthetic experience (proprioception) (Gallace & Spence, 2010). Emotions are plausibly complex psychological states consisting of somatosensory states and perceptual states. For example, fear when seeing a tiger consists in visual experience and certain visceral (interoceptive) states. Each of the somatosensory modalities is associated with its own receptors and nerve endings. For example, free nerve endings, hair receptors, and mechanoreceptors are sensitive to mechanical skin deformation, nociceptors are specialized for pain experience, and thermoreceptors are sensitive to changes in the skin's temperature. Tactile experience (touch) can vary in grain and intensity, depending on where the skin deformation occurs, how hairy the skin is, and factors such as our age, sex, mood, and wakefulness. For example, the fingertips are the areas of our hands that are most sensitive to pressure and vibration.

The very same amount of pressure applied to the skin of different individuals or in different places on the skin can trigger different somatosensory experiences. If somatosensory experience were constituted by a perceptual relation between the perceiver and her mind-independent environment from a certain spatiotemporal perspective and in particular somatosensory conditions, then we should expect no individual variation in somatosensory experience. So, given profound individual variation in somatosensory experience, we will have to reject the naïve realist's account of experience.

What do somatosensory experiences represent? I think it is fairly clear that they represent changes in the body, and in some cases changes in the body in response to an external or internal object. For example, if I touch a round object, my tactile experience represents not just the skin deformation but also the round object that I touch. Similarly, if I experience fear upon seeing a tiger, my experience does not

simply represent visceral changes, such as an increased heartbeat and shortness of breath; it also represents the tiger.

As for the case of smell and taste, the case of somatosensory experience makes it exceedingly clear that reductive representationalism cannot be true in general. Many types of somatosensory experiences are associated with a negative or positive valence that cannot be reduced to property instances of a physical mind-independent individual.

Can we draw any interesting conclusions from the foregoing considerations about the structure of emotions, tactile experiences, and bodily sensations?

Whether any metaphysical claims can be deduced from the semantics of 'feel'-reports depends on which kinds of analytic entailments 'feel'-reports support. One could hold that 'feel'-reports support only minimal analytic entailments. If so, then it is unlikely that the semantics of such reports can tell us much about, say, emotions. Or one could hold that it supports more than minimal analytic entailments, but that these entailments do not tell us anything specific enough to decide among various philosophical theories of emotions. If so, the semantics would have to be supplemented with a theory of emotions, rather than providing traction on these theories. Or one could hold that entailments supported by 'feel'-reports are so specific that they do indeed provide traction for philosophical theories. Though I cannot provide an argument for it here, I am tempted to think that 'feel'-reports and other reports of bodily experience support more than minimal analytic entailments.

Emotional reports need not just describe bodily sensations. They also sometimes describe external objects and states of affairs (see, e.g., Solomon, 2004: 72). For example, we often say things like:

(19)

(a) John feared the angry dog.
(b) Mary was angry at John.
(c) Tom was happy that Amy was back.

How are reports like those in (19) related to 'feel'-reports? It might be thought that the reports in (19) reflect a different kind of representational content of emotional experiences: what is sometimes called a "formal content". For example, one could argue that my fear has the formal content that the dog is a threat to my well-being. 19(a), then, might be thought to reflect this content. 'John feels his heart race' and 'John feels afraid', then, would reflect one kind of content of John's state of fear, and 'John fears the angry dog' would reflect

a different kind of content of his state of fear. This sort of view is consistent with a conjunctive theory of emotions, according to which emotions are bodily sensations conjoined with a perception or judgment that attributes an emotive property to an external object.

However, conjunctive theories of emotion are problematic (Brogaard, 2015c). First, 14(a) could be false even if John has a sensation of a bodily reaction typically associated with fear, and he perceives the dog as a threat to his well-being. For example, John could perceive Jill's anger (while they are being attacked by a mad dog) as causing his bodily reaction as of fear, but judge only the dog to be a threat to his well-being. In that case, John judges that the dog is a threat to his well-being, and he has a sensation of a bodily reaction typically associated with fear. But he does not fear the dog. He fears Jill's anger. So the conjunctive theory makes the wrong predictions here.

Second, 19(a) can be true even if John's fear does not attribute the property of being a threat to his well-being to anything. John might just feel that the thing over there causes his body to shiver, his heart to race, and the hairs on his arms to rise. What is required for the truth of 19(a), it seems, is that John feels the angry dog cause or give rise to his fear response. So, 19(a)–19(c) could be true partially in virtue of the following sentences being true:

(20)

(a) John felt the dog cause his body to shiver, his heart to race, and the hairs on his arms to rise.

(b) Mary felt John cause her face to flush, her fists to tighten, and her jaw to clench.

(c) Tom felt Amy's being back cause a tickle in his tummy, a rush of blood through his body, and a smile on his lips.

If 20(a)–(c) are true partially in virtue of the truth of 19(a)–(c), then at least some of the content of emotions can be accurately reported using a 'feel'-construction with an unsupported clause (or a 'that'-clause). As 'feel'constructions with an unsupported clause have causal contents, emotional experiences plausibly have causal contents. For example, emotions may plausibly involve perceptions of external objects, perceptions of bodily reactions, and perceptions of causal processes. Call this theory of emotions the "perceived-response theory".

The sentences in (20) are perhaps a bit stilted. However, there are other more natural 'feel'-reports with unsupported clauses that purport to describe aspects

of emotional experiences. Here are a few examples (the first is taken from Sarah Addison Allen's *The Sugar Queen*):

(21)

(a) She felt him getting nearer, felt it like a pull in the pit of her stomach.

(b) Mary felt his grip make her breathing ragged and shallow.

(c) She felt the dark shadow make her heart beat faster.

The perceived-response theory of emotions suggests a unified theory of objectual and propositional emotions. It is common to draw a distinction between objectual and non-objectual emotions. If John fears the dog, the dog is an object of his fear. If John fears that the dog will kill him, the proposition that the dog will kill John is an object of his fear.

On the present account, the difference between objectual and propositional emotions just is a difference in whether John perceives the dog or the dog's being able to kill him as a cause of his bodily reactions. Of course, one does not rule out the other. John could perceive the dog as causing a fear response in virtue of perceiving the dog's being able to kill him as causing a fear response.

The unified account of objectual and propositional emotions avoids a well-known problem for objectual attitudes. It is possible that one can fear Satan, admire Sherlock Holmes, and love Odin. Theories that take these attitudes to be attitudinal relations to objects are committed to objects that do not exist. This is because in holding that objectual attitudes are relations to objects and not propositions, they are required to say that there is an object to which I am related to if, say, I love Odin. The solution to this problem is to allow that objectual attitudes really express relations to propositions, and this is the result we get on the present account: to fear Satan is to experience Satan give rise to feelings of fear; to admire Sherlock Holmes is to experience Sherlock Holmes give rise to feelings of admiration; and to love Odin is to experience Odin give rise to feelings of worship. These experiences are non-veridical, as the relevant objects do not exist (their wide contents are gappy), but they are genuine emotional experiences nonetheless.

In short, there is good reason to think that at least some emotional reports reflect a causal content of the emotion described. On the assumption that some of these reports reflect representational contents of emotional states, emotions have causal contents. If at least some descriptions of emotions have the form '*s* feels *x* cause bodily reaction *r*', then we needn't conceive of emotions as conjunctive states consisting of a bodily sensation and a judgment. Rather, emotions are perceptions of external objects giving rise to certain bodily reactions. Emotions are often thought to

be appraisals. For example, Goldie (2004) argues that emotions attribute emotion-proper properties to objects. My fear of the dog represents the dog as frightening, and my love for John represents John as adorable. However, this thesis is consistent with the view that emotions are perceptions of causal processes. To be frightening to *x* plausibly just is to cause certain familiar bodily reactions in *x*. So, if my fear represents the dog as frightening, then it represents the dog as causing certain familiar bodily reactions. So, acknowledging that emotions attribute emotion-proper properties to objects does not require accepting a conjunctive theory of emotions. I take at least some descriptions of emotions to reflect both narrow and wide contents. A description of my fear may reflect the narrow contents that my mouth is dry, my voice is faltering, my body is shivering, and there is something with doglike (or perhaps even Fido-like) properties in front of me, and it is causing the bodily changes. But by reflecting these narrow contents, the description may also reflect corresponding wide contents that consist of Fido himself, certain physiological changes in my body, and a causal reaction between them. Some of these considerations carry over to tactile experiences. Suppose 'The rock feels hard' is an accurate report of an aspect of a tactile experience. Which contents does it reflect? It evidently reflects that the rock is hard. But tactile experiences can reasonably be thought to involve not just representations of properties of objects but also properties of the body (see, e.g., de Vignemont, 2007 Kammers, et al. 2009; Folegatti et al. 2009). Plausibly I cannot have a tactile experience as of an object being hard without experiencing pressure to the part of my body that does the touching. This is reflected in the way we describe tactile experiences. We say things like:

(22)

(a) The bottle feels cold to the touch.
(b) John felt the rock press against his palm.
(c) Mary felt the fire make her body warm.

How are the sentences in (22) related to the tactual reports cited earlier? It may be thought that they reflect a different kind of mental state, a perception of the body responding causally to an object, as opposed to a tactile experience. On this view, then, tactile experiences, bodily sensations, and perceptions of the body responding causally to an object are different kinds of mental states. However, there is good reason to think that tactile experiences cannot be states entirely distinct from bodily sensations and perceptions of the body responding causally to an external object. If a rock feels hard when I put my hand around it, it feels that way partially in virtue of its giving rise to the sensation of pressure to my palm. To feel hard to someone plausibly just is to add pressure to the touching part of the body.

'The rock feels hard to me', then, may be true in virtue of 'I feel the rock press in a certain way against my palm' and hence in virtue of my perceiving the rock press in a certain way against my palm.

If this is right, then the content of tactile experiences can be accurately reported using a 'feel'-reports with an unsupported clause. So, at least some accurate descriptions of tactile experiences are structurally similar to accurate causal descriptions of emotions. Like emotions, tactile experiences are not conjunctions of bodily sensations and a perception of an external object having a certain property. They are perceptions of an external object causing certain bodily reactions.

Of course, just as most of our everyday descriptions of emotions do not describe every salient aspect of emotions, so descriptions of tactile experiences do not describe every salient aspect of tactile experiences. Most descriptions are partial. If 'I feel the rock cause pressure to my palm' is an accurate description of the speaker's tactile experience, then 'I feel the rock', 'I feel the pressure of the rock', 'I feel the rock in my palm', and 'The rock feels hard', too, are accurate descriptions of aspects of the speaker's tactile experience.

The language we use to describe pain sensations and other bodily sensations suggests that bodily sensations are akin structurally to emotional and tactile experiences. Suppose 'I feel a pain in my arm' is an accurate report of an aspect of a pain state. Then the report reflects the content that there is a pain in the speaker's arm, where the concept of pain can be understood as a mentalistic concept that, in normal cases, picks out a physiological bodily disturbance. If this connection between the narrow and the wide content of the concept of pain is understood by the speaker, then 'I feel pain in my arm' may reflect not only the content that there is a pain in the speaker's arm but also the content that there is a physiological disturbance to the speaker's body.

Pain sensations do not ordinarily represent external objects, but they do represent parts of the body. 'I feel a pain spiraling down my arm' describes an experience that represents not just a pain (and hence, in good cases, a physiological disturbance) but also my arm and a relation between my arm and the pain. Descriptions of pain sensations can thus be descriptions of perceptions of events, as in 'My arm feels like needles are piercing their way through it', 'I feel an intense throbbing pain that shoots through the back of my left, upper arm', and 'I feel pain that throbs for a second and then goes away'. So pain sensations sometimes have a structure that is superficially similar to that of tactile experiences and emotions. Though pain experiences are not typically perceptions of external objects causing bodily reactions, they are sensations of pains moving through or being located in body parts.

There are thus good reasons why the word 'feel' occurs in our descriptions of emotions, tactile experiences, and bodily sensations. First, there is good reason to think that emotions and tactile experiences have contents that are structurally similar.

Both represent an external object as causing a bodily reaction. Second, descriptions of how and what we feel are interwoven. Descriptions of pain sensations, for example, can themselves be partial descriptions of emotions, as in 'I feel pain in my chest'. Descriptions of pain experiences, bodily sensations, and perceptions of external objects, then, can function as partial descriptions of emotions, and descriptions of bodily sensations and descriptions of perceptions of external objects can function as partial descriptions of tactile experiences.

HEARING THINGS

'Taste', 'smell', and 'feel' double as transitive verbs, whereas 'sound' does not. We smell and taste things, but we don't *sound* things—we hear them. Consider:

(23)

(a) John heard the scream.
(b) Mary could still smell Tim's sweat after he had left the room.
(c) Lisa tasted the ice cream.
(d) Kim heard him enter his office.
(e) ?Vigo smelled the fart coming closer.
(f) ?Trine tasted the wine make its way down her throat.
(g) Steven could hear that it was ten o'clock.
(h) Mette could smell that the food was ready.
(i) Karen could taste that there were strawberries in the ice cream

The only differences among these cases of 'hear', 'smell', and 'taste' is that 'smell' and 'taste' combined with an unsupported clause are marginal at best. As the transitive uses of 'taste' and 'smell' work almost the same way as 'hear', I will focus primarily on the transitive verb 'hear'.

Like 'see', 'hear' is highly polysemous. Most of its meanings are either not perceptual or have only a vague connection to auditory perception. As illustrated by the following examples, 'hear' can mean, among many other things, 'agree with', 'receive information', 'listen to', 'deal with', 'understand', and 'perceive'. In addition, it occurs in many idioms and non-literal language.

(24)

(a) I hear you.
(b) I'm sorry to hear that you didn't get the grant.
(c) I am looking forward to hearing you sing.
(d) The appeal will be heard by a single judge.

(e) I can hear you have had some rough days.
(f) She heard the bitterness in his voice.
(g) Katie could hear the roar of the tiger.
(h) Hear me out!
(i) You must be hearing things.

Only the occurrence of 'hear' in 24(g), among those mentioned, seems to have a clearly lower perceptual use. The occurrence in 24(f) is perceptual, but may involve a cognitive or interpretative element. The occurrence of 'hear' in 24(e) warrants some special consideration. This use of 'hear' is epistemic. It should be distinguished from the perceptual use in 24(g). We can use a variation on Gisborne's test for 'seeing' to distinguish between the epistemic and the perceptual uses. Only the perceptual use of 'hear' admits of a prepositional phrase or subordinating conjunctive phrase that makes reference to perception. Consider:

(25)
(a) With his new hearing aid, John can finally hear Liz clearly
(b) *With his new hearing aid, John can finally hear that Liz has had some rough days.
(c) Katy could hear the roar of the tiger through the window.
(d) *John could hear that Peter was telling the truth through the window.
(e) She couldn't hear what her mom was saying because her sister was screaming.
(f) *She couldn't hear that her friend had studied hard for the test because her sister was screaming.

With the prepositional phrase referring to perception, the perceptual 'hear'-statement in 25(a) is clearly felicitous, whereas the epistemic 'hear'-report in 25(b) is not. 25(b) has a felicitous reading but only if we force a perceptual reading. With the prepositional phrase referring to perception, the perceptual 'hear'-statement in 25(c) is felicitous, whereas the epistemic 'hear'-report in 25(d) is not. And with the subordinating conjunctive phrase referring to perception, the perceptual 'hear'-statement in 25(e) is evidently felicitous, whereas the epistemic 'hear'-report in 25(f) is not.

The main question in chapter 6 regarding 'see' was whether there are any genuine perceptual uses of 'seeing-that'. I concluded that there are such uses. What about 'hearing-that'? Are there genuine perceptual uses of 'hearing-that' or are all uses audio-epistemic? There certainly are audio-epistemic readings of 'hearing-that'. Consider the following:

(26)

(a) #He could hear that the animal in the cage was a dog but he didn't know whether it was a dog.

(b) #He could hear that his husband had just entered the room but he didn't know whether he had just entered the room.

(c) #He could hear that a mosquito was in the room but he didn't know whether there was a mosquito in the room.

The sentences in (26) are infelicitous because they have an audio-epistemic reading. On this reading, they imply that the hearing subject is knowledgeable. But not all cases of 'hearing-that' are audio-epistemic. There are, indeed, genuine perceptual uses. Consider:

(27)

(a) You can clearly hear that nobody is screaming, so why do you believe that there are screaming monsters in the room?

(b) John could hear that the man on the screen said 'da-da' even though he didn't realize that this particular instance of the well-known illustration wasn't an illusion.

27(a) is felicitous in a scenario in which a child believes that there are screaming monsters in the room, despite hearing that no one is screaming. In this scenario, the child doesn't know that there aren't monsters in the room. 27(b) is felicitous in a scenario in which John is listening to what seems to be the McGurk illusion. Because John is familiar with the illusion, he doesn't form the belief that the speaker is mouthing 'da-da'. However, unbeknownst to him, the speaker is mouthing 'da-da'. So, John can hear that the man on the screen says 'da-da' but he doesn't know it. The cases show that it is not essential to the propositional use of 'hear' that it has an epistemic reading; it can indeed have a purely auditory reading.

Although the pure perceptual reading is available for propositional uses of 'hear', this reading is evidently is more apparent in the case of objectual 'hear'-reports and 'hear'-reports with unsupported clauses than in the case of propositional 'hear'-reports. Consider:

(28)

(a) Linda could hear the dog, but she didn't know whether it was a dog.

(b) Linda could hear the dog howling, but she didn't know whether it was a dog.

(c) ?Linda could hear that the dog was howling but she didn't know whether it was a dog.

As in the case of 'see', what explains this difference is that 'hear' tends to be world-centered in its objectual use but subject-centered in its propositional use. That is, objectual uses are more likely to report how things are with the subject from a God's-eye point of view, whereas propositional uses are more likely to report how things are with the subject from the subject's point of view.

Like 'see', 'hear' is a hyperintensional transitive. Consider the following examples:

(29)

(a) After taking that drug I am hearing David Letterman's voice everywhere.

(b) When Lisa Mercer woke up after the injury she heard that [pointing] man's voice but she didn't recognize it as such.

(c) When Lisa Mercer woke up after the injury she heard her father's voice, but she didn't recognize it as such.

(d) When Lisa woke up after the injury she heard Mr. Mercer's voice, but she didn't recognize it as such.

(e) When Lisa woke up after the injury she heard that the voice was that of Mr. Mercer.

(f) When Lisa woke up after the injury she heard that the voice was that of her father.

(g) ?When Lisa woke up after the injury she heard that the voice was that of Mr. Mercer, but she didn't recognize it as such.

In 29(a), if the speaker doesn't know that David letterman is the actual host of the *Late Show*, then substituting the expression 'the actual host of the *Late Show*' for the necessarily equivalent expression 'David Letterman' would result in a change in truth-value. Similarly, it is quite plausible that 29(b) is false, whereas 29(c) and 29(d) are true, in spite of the fact that 'that man', 'her father', and 'Mr. Mercer' are necessarily equivalent in the envisaged context. Similar remarks apply to 29(e)–(f). 29(e) could be true, whereas 29(f) is false, in spite of the fact that 'Mr. Mercer' and 'her father' are necessarily equivalent. 29(g) is questionable because the occurrence of 'hear' in the first conjunct is more likely to trigger a subject-centered reading. So, the second conjunct strikes us as odd.

As the central mark of hyperintensionality is the illegitimacy of substitutions of necessarily equivalent expressions within the scope of the context, the aforementioned cases show that 'hear' can generate a hyperintensional context in both its objectual use and its propositional use. Given that 'hear-that' can generate hyperintensional contexts, and 'hear-that' is a mental-state operator, 'hear-that' is a hyperintensional mental-state operator. So, we can articulate an argument analogous

to the argument presented in chapter 2 for the view that seemings are representational as follows:

Hearing Is Representational

1. 'Hear-that' is a hyperintensional mental-state operator.
2. Hyperintensional mental-state operators operate on representational content.
3. So, 'hear-that' operates on representational content.
4. If 'hear-that' operates on representational content, then hearings are representational states.

Conclusion: Hearings are representational states.

I have already argued that hyperintensional operators operate on representational content. Like 'see-that', 'hear-that' functions as a hyperintensional operator. So, 'hear-that' operates on representational content. As there are 'hear-that'-reports with purely perceptual readings, it follows that some 'hear-that'-reports express perceptual hearings. Since 'hear-that'-reports have representational contents, so do perceptual hearings. The argument doesn't show that hearings are fundamentally representational, but the hypothesis that they are representational turns out to be in conflict with many versions of naïve realism (e.g., Travis, 2014).

SIGNPOST

In this chapter, I have argued that at least some of the lessons pertaining to visual experience carry over to auditory, olfactory, gustatory, and somatosensory experiences. 'Taste' and 'smell' differ from 'seem', 'look', 'sound', and 'feel' in that they do not occur as subject-raising verbs. 'It tastes as if the beer is coffee', for example, is infelicitious. In spite of these differences, 'sound', 'smell', 'taste', and 'feel' have genuine non-epistemic uses. So, the corresponding perceptual reports express soundings, smellings, tastings, and feelings. I have argued that these states have representational features that play an essential role in explaining the phenomenology of sensory experience. This suggests that the representational view of experience is true for the standard perceptual modalities.

CONCLUSION

ONE OF THE main disputes in the current perception literature concerns the question of whether visual experience is fundamentally a matter of being related to an external object and its visually perceptible property instances or is rather a matter of representing the world in a particular way. In this book, I have argued that the semantics of 'look', 'seem', and 'see' can be used to settle the dispute in favor of the representational view.

Two of my main arguments in favor of this position turn on the semantics of 'seem' and 'look' when these verbs are used phenomenally, to use a term from the work of Frank Jackson (1977). Following Roderick Chisholm (1957), 'seem' and 'look' can be used epistemically or non-epistemically, comparatively or non-comparatively. Unlike non-epistemic uses of 'seem' and 'look', epistemic uses normally make us inclined to believe what seems or looks to be the case, but they are easily undermined by defeaters. Comparative uses of 'seem' and 'look' can be either grammatically comparative or semantically/pragmatically comparative. Either way, comparatives can be analyzed in terms of non-comparatives. Consider the following examples:

(1)

(a) Given what I just heard, it seems that we should go for a philosopher of mind.

(b) John's skin looks pale.

(c) The recent terrorist attacks in France look almost as bad as the 9/11 terrorist attacks.

(d) I know she is not Swedish but she looks Swedish.

On the most natural use of the sentence in 1(a), the 'seem' is epistemic. In the absence of a defeater, the truth of 1(a) implies that the speaker is inclined to believe that we should go for a philosopher of mind. But as the example specifies, the report is based on verbal testimony. If the testimony is defeated, the inclination to believe is likewise undermined. On the most natural use of the sentence in 1(b), the speaker is reporting on her visual experience. If she is told that her visual experience is inaccurate owing to bad lighting conditions, the appearance of paleness may well persist, which suggests that the use of 'look' is non-epistemic. 1(c) is grammatically comparative. It compares one event to another. It is furthermore likely to be an instance of the epistemic use, making the speaker inclined to believe that one event is almost as bad as the other, in the absence of a defeater. 1(d) is grammatically non-comparative. But it is most naturally analyzed semantically in a comparative way, comparing the looks of one person to the prototypical looks of Swedish people. Unlike 1(c), a typical use of 1(d) to report on the looks of the person is easily defeated, for example, by knowledge of abnormal viewing conditions. Jackson's phenomenal use of 'seem' and 'look' is the non-comparative, non-epistemic use.

The first of my two arguments for the representational view of experience was based on the semantic properties of the phenomenal use of 'seem' and 'look'. I argued that 'seem' and 'look' are subject-raising verbs. This means that they function as intensional operators at the level of logical form. The unraised sentence 'It seems that the table is red' is semantically equivalent to the raised sentence 'The table seems red'. The latter is a result of a movement of the noun-phrase 'the table' to a wide-scope position. A further look at the semantic and logical properties of 'seem' and 'look' revealed that 'it seems' and 'it looks' are hyperintensional operators. Hyperintensional operators do not allow for substitution of necessarily co-extensional expressions within their scope.

The first argument for the view that experience is representational proceeded by showing that phenomenal 'seem'- and 'look'-reports reflect phenomenal representational properties of visual experience, which means that the experiences described by these reports are representational states. Here is an overview:

Reflection Argument

1. True phenomenal 'look'-reports reflect representational phenomenal properties of experience.
2. If (1), then visual experience is representational.

Conclusion: Visual experience is representational.

'*E* reflects property *F*' was defined as follows:

Phenomenal Property Reflection (PPR)
A report that describes experience *E* reflects a phenomenal property *F* iff [necessarily, the report is true iff *F* is a phenomenal property of *E*].

The Reflection Argument does not establish that the representational feature of experience is fundamental. For the representational feature of experience to be fundamental, it must be essential to the phenomenal, functional, or epistemic role of experience (Logue, 2014). But the view that experience is representational is stronger than the view that experience has content in the sense that the experience is associated with a content of a sentence used to describe what it is like for the subject to undergo the experience. The latter conception of content is consistent with naïve realism, whereas the view that experience is representational is inconsistent with most forms of naïve realism (e.g., Martin, 2002; Fish, 2009b; Brewer, 2011; Travis, 2014).

My argument in favor of the view that experience is fundamentally representational proceeded by showing that the perceptual relation that naïve realists take to constitute perception doesn't explain the differences in perceptual seemings in different veridical cases. To explain those differences, the naïve realist would need to treat the perceptual relation as one that obtains between a phenomenal seeming and a mind-independent physical object. But this implies that experience is representational, and that the representational feature of experience is a fundamental feature of experience.

I have also provided an argument against the naïve realism and in favor of the representational view on the basis of the semantics of 'seeing'. I explained that contrary to what has been argued in the literature, there are purely perceptual uses of 'see-that'. When 'see' is so used, it functions as an intensional transitive. I then showed that objectual uses of 'see' and 'see' with an unsupported clause can be analyzed in terms of the propositional use of 'see'. I concluded that argument by showing that seeings play a role in actions that cannot be fully explained by the naïve realist view. Here is an overview of the argument in favor of the view that seeings are representational states:

'Seeing-That' Is Representational

1. 'See-that' is a hyperintensional mental-state operator.
2. Hyperintensional mental-state operators operate on representational content.
3. So, 'see-that' operates on representational content.
4. If 'see-that' operates on representational content, then seeings are representational states.

Conclusion: Seeings are representational states.

These arguments show that visual experience is representational and that the representational feature is crucial in explaining the phenomenology of experience, which means that the representational feature of experience is fundamental. So, the representational view is correct.

In the book's final chapter I showed that there are good reasons to think that many of these lessons carry over to auditory, gustatory, olfactory, and tactile experiences. There is even evidence to suggest that bodily sensations may be representational, although additional work is needed to establish this.

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