15

Some Principles of Ephemeral Vision

*Mohan Matthen*

Here is a foundational proposition about vision:

*The Material Object Paradigm* Visual experience is normally structured around material objects—material masses bounded by continuous surfaces. What we normally see is their features, their movements, and what happens to them.

The Material Object Paradigm is contested from many directions, and I shall not attempt to defend it here. My concern in this paper is with visual states that flout the paradigm. For there are other things we see, or seem to see—light, regions of darkness, shadows, reflections in mirrors, shiny spots, and depicted objects. Aside from light (which presents a rather different problem), each of these lacks physical mass. Because they are non-physical, it’s appropriate to call them visual ephemera.

The phenomenology of ephemeral vision is complex. In some ways, it is strikingly similar to that of seeing ordinary material objects; ephemera look as if they occupy clearly demarcated volumes; they change; they move; they possess colour. At the same time, their visual presentation is different from that of material objects: in good conditions of observation, it is visually evident that they are not material objects.

In the context of the Material Object Paradigm, there is an analytic job to be done with regard to these phenomena. Here are some of the questions they raise.

A. Do we see ephemera such as reflections and shadows? Because such things lack mass and are therefore not physical causes, the Price-Grice Causal Theory of Perception says “No.” I disagree. In my view, we see them, but in a different sense than the one analysed in the causal theory.

B. Do we see light? Many philosophers (starting from Aristotle) take the view that ambient illumination is a condition of seeing other things, but is not itself seen. In my view, this cannot be sustained. (A corollary to my discussion of light: we are sometimes able to see perfectly transparent objects. This corollary challenges Mizrahi, this volume.)

C. Where does vision locate *depicted* objects? I’ll argue that they are not seen as being in the same space as material objects. This invites an interesting reflection on the Kantian notion that perception presents us with a single space.

D. Are photographs “transparent?” Kendall Walton has argued that we see our deceased ancestors by looking at photographs of them. Walton’s argument relies on a Causal Theory of Perception (CTP). Walton fails to notice that CTP does not straightforwardly apply to photographs. When properly extended, CTP does not support Walton’s contention. Roy Sorensen’s (2008) contention that we see the rearward side of the Moon during a solar eclipse also falls to a correct extension of Grice-Price.

E. When do visual features fail to compose from parts to wholes? That is, when are the parts of something seen to be F because the whole appears to possess some visual feature, rather than the other way around? The answer helps us understand certain aspects of ephemeral seeing.

In this paper, my aim is to set out some fundamental principles to aid our understanding of these and other issues. My primary objective is to understand these phenomena as derivative from the normal condition, which is that we see material objects.

I should say, as an opening disclaimer, that I am less concerned with the analysis of examples than with the articulation of principles. Some, for example Vivian Mizrahi in her elegant contribution to this volume, will disagree with some of what I say about cases, specifically about mirrors and about transparent media. It is not my aim to nail this down in my favour; I hope she and others can agree with my principles, even while they disagree about how I apply them to some particular phenomenon. On the other hand, some, for example, H. P. Grice, Kendall Walton (with “photographic realism”), Brian O’Shaughnessy (with his treatment of light), and Roy Sorensen in this volume and in his book, *Seeing Dark Things* (2008), operate with principles different from mine. My aim is to persuade readers that my principles of ephemeral vision are more viable.

A: OBJECT SEEING: SOME ELEMENTS

To see something is to experience it in a particular manner. Seeing something is, moreover, to be causally related to it. Ephemeral vision occurs when one or other of these conditions is not properly satisfied. In the first part of this paper (sections I-IV), I explore some elementary principles of seeing objects.

**I. Object Seeing and Fact Seeing**

Sometimes we speak of seeing objects and at other times of seeing facts, where facts are (as I understand them here) concrete states of affairs or events.[[1]](#endnote-1) When we speak of seeing objects, we typically use the direct object construction: I see my *dog*; I see *buildings* outside my window. When we speak of seeing facts, we often use the propositional construction: I see *that* my dog is black; I see *that* the building closest to me is very long.

Fact seeing (or seeing-that) is sometimes understood broadly. In the broad usage, which is usually called “epistemic”,

I epistemically see that *p* if

(a) I have, or have had, visual evidence that *p* is true, and in addition,

(b) I believe that *p* is true.

I epistemically see that someone has walked through a muddy field, because I see footprints in the mud, which leads me to believe that someone has walked through the field.[[2]](#endnote-2) (The qualifier “epistemically” is not used in ordinary English; we just say “I see that somebody has walked through this field.”)

In the present context, I shall mainly be concerned with a narrower sense of fact-seeing: this narrow usage requires that *the fact itself be presented by vision*. Narrowly speaking, I do *not* see the person having walked—things in the past don’t affect vision now (except by the time-lapse of light travelling from there to the eye)—I only see the footprints. I’ll call the *narrow* usage the *experiential* sense.[[3]](#endnote-3) In the experiential sense of ‘see’, you see only that of which you have a visual impression.

According to the Material Object Paradigm, vision is normally structured around material objects. So experiential fact-seeing reduces to material object-seeing. We may clarify this as follows:

*Material Object Paradigm 2* Normally, experiential fact-seeing is experience of material objects: their features, their movements, and what happens to them.

For example, I fact-see that there is an apple in the bowl by seeing a material object (an apple) located within another material object (the bowl).

**II. The Object-Directedness of Seeing**

When you see something you are connected to it in certain ways. There is, first of all, a connection in your experience. You can, for example, adjust your perspective on what you see. To give an example, you can’t literally say that you saw Germany winning the World Cup in 2014; if you were at home watching it on TV. One reason why this is not experiential seeing is that you cannot adjust your perspective on the game in the way you would have been able to if you had been in the stadium—for example, you could not look at a different part of the field by turning your head. (There is a controversy about TV and photography that I’ll return to later.)

Again, you see things experientially only in virtue of their having an effect on your visual system. For this reason, you can’t say you have seen Elizabeth I; you have seen her in pictures, but she does not exist now, and cannot have an effect on your visual system. In these cases, your visual experience is not directly enough connected to the object, in the manner that it would have been had you been face to face with Elizabeth I with your eyes open and your visual system in good working order.

The perspective-control and causal-impact conditions imply that ‘see’ is *object-directed.* That is, to say that *S* sees *O* is to imply that *O* exists. Otherwise, there would nothing in visual space to adjust one’s perspective on, and fact or object causally to connect with. This introduces considerations *beyond* visual experience. It is not *just* about the subjective character of visual experience taken on its own, or *just* about its significance to the perceiver. Object-directedness is about how a visual experience connects to something beyond itself. If I do not wish to make this additional statement, I need to hedge the ‘see’. For example, instead of saying “I see a cat outside my window,” I might say: “From here, it *looks as if* there is a cat outside the window” but concede that I am not sure that it really is a cat. This suspends the object-directedness of the simple ‘see.’ This describes what my eyes tell me and makes no commitment to what lies beyond.

These points are elementary, but they raise an interesting question about visual ephemera. I seem to see shadows; I can adjust my perspective on them. Yet, shadows are not material objects, and it is obscure how immaterial objects can causally impact me. The objects we see in pictures are not really there either, and once again it is unclear how I can be connected to them in the right way. Moreover, it does not even seem to me as if I am directly connected to a material thing when I see a shadow or a depiction: these things don’t even appear to be material. At the same time, it’s clear that when I seem to see such ephemera, there is some real situation that engages my visual system—for example, it really is a shadow that I see. What is going on here? In what way is this visual experience accurate and in what way is it misleading (if it is)? How should we construe the peculiar visual phenomenology of shadows and other ephemera?

**III. Grice-Seeing**

H. P. Grice (1961) offered a causal analysis of object seeing. His theory is a development of one that was offered by H. H. Price (1932). In what follows, I’ll invoke Grice alone when I am talking about something in his development of Price; otherwise, I’ll talk about “the Causal Theory” or “the Price-Grice view.”

Summarizing and paraphrasing Grice (1961):

If I perceive *X* then *X* is causally involved in the generation of some sense-impression in the kind of way that “when I look at my hand in a good light, it is causally responsible for its looking to me as if there is a hand before me . . . *whatever that kind of way may be*.” (ibid, p.143)

Grice’s causal theory prioritizes the reality-connectedness of ‘see,’ and pins it on a *causal* connection. Provided that the perceiver meets a certain very weak condition—she must experience some sense-impression, nothing more than this—the entire weight of the locution falls on an external causal link.

Imagine that RCAF fighter jet, serial number 188961, whizzes past my window at such high speed that it causes no visual impression in me other than that of an indistinct streak or momentary darkening of the sky. Though no visual characteristic of this object is given to me by my sensory experience, it is nonetheless true, on the Price-Grice analysis, that I see RCAF jet 188961—*that particular object*. The visual sense-impression of momentary darkening is generated in me by RCAF jet 188961, arguably “in the way that when I look at my hand in a good light, it is causally responsible for its looking to me as if there is a hand before me.” Though the streak is indistinguishable from that which the jet 188962 would also have generated—or for that matter, visually indistinguishable from any number of momentary light-blocking events—I see 188961, which was causally responsible for the sense-impression, not 188962, which was not.

What is at issue in the Price-Grice account of seeing *X* is simply how a visual experience connects up with a particular object in the vicinity. It does not require that any information about *X* should be recoverable from my visual experience. This, however, is what is needed *for seeming to see* *X*; I *seem* to see a jet if it is to me as if I see one. In this sense of ‘see,’ therefore, I can see something without its seeming to me as if I see it. Because I’ll be concerned primarily with the details of Grice’s articulation of the causal theory, I’ll call this form of connection *Grice-seeing*.

As we’ll see later, Grice-seeing has to be modified. For the moment, however, I will leave it as it stands in the above quotation.

**IV. Figure-Ground Seeing**

Fred Dretske (1969) insists on a more information-rich sense of object seeing than this. Suppose that an animal successfully camouflages itself; as a result, you cannot visually discern its presence. The animal is nonetheless responsible for “some sense-impression,” namely the sense-impression that occupies that part of the visual field that the animal happens to occupy. According to the causal account, then, you see the animal (though it doesn’t seem to you as if you see it). The animal is, as the saying goes, “hidden in plain sight;” you see it, but you are unable to distinguish it from its background.

The causal account goes against at least one dominant intuition about the camouflage case. Perhaps there is a sense in which you see the animal, but given that you do not visually register its presence, there is also a clear sense in which you *fail* to see it. (That’s the point of camouflage, after all.) You *don’t* see it in the following sense: you cannot attend to a perfectly camouflaged animal; you cannot select it for action (for example, you cannot knowingly point at it); your visual state contains nothing that would allow you to form a belief about it. Dretske wanted a sense of ‘see’ that accommodated this sort of facility. He therefore proposed that *S* sees an object only if *S* visually differentiates the object from its immediate environment. When *S* does this, she can attend to it, select the object for action, and form beliefs about it.

For present purposes I should like to leave the Grice-sense undisturbed. I’ll allow that you Grice-see the camouflaged animal and I Grice-see the fighter jet. I will introduce a *second* notion of seeing by abstracting from Dretske’s account in three ways.

*First*, Dretske himself thought that his sense of ‘see’ was *added* to the causal sense of ‘see.’ He writes, “We do not believe *S* can see *D* if there is no causal linkage between *S* and *D*.” However, it will be convenient for present purposes to define a kind of seeing that respects Dretske’s visual differentiation condition without adding Grice’s condition. Accordingly, I stipulate that S *figure-ground* *“sees”* (more accurately, seems to see[[4]](#endnote-4)) an apparent object only if S has a visual experience that apparently differentiates an object from its surroundings and gives evidence of its visual properties, whether or not the object really exists.

*Second*, Dretske’s visual differentiation criterion is a little less demanding than what I need for present purposes. Here is an example that shows why I want to strengthen it. I am looking at a uniformly red disc. There is a sense in which every part of the disc is visually differentiated from every other—any visible part of the disc occupies a unique visual place that differentiates it from other parts. Dretske fully intended this, since he would have insisted that we see every facing part of the disc. However, as my term “figure-ground” suggests—I take it from Gestalt psychology, of course[[5]](#endnote-5)—I want to stick with the *whole objects* that vision demarcates from their surroundings. (This becomes important in my discussion of backlit objects and object-dependent perceptual properties.) Normally figure-ground seeing involves an object that is visually differentiated from its surroundings by a contrast contour. In visual experience, the red disc is differentiated as *a whole and distinct object*. Its parts are not; they are not demarcated by a contour. We figure-ground see the disc but we do not figure-ground see its parts.

*Third*, I want to concentrate on the visual information actually provided by an experience. Not every visual experience of an object provides us with identifying information about that object. Elisabeth is drinking coffee from a cup that looks pretty much like the one she drank from yesterday (Y); in fact, it is not that one, but the one she drank from three days ago (T). In the causal sense, Elisabeth sees T, not Y, because it is T that causes the relevant sense-impression. In the sense of ‘see’ I am carving out, she merely sees a cup. Since her visual state gives her no information regarding which cup it is, she figure-ground sees neither Y nor T.

I do not figure-ground see the streaking jet; a stationary fighter jet is differentiated from its surroundings as a whole object; a rapidly moving one does not present a visual contour. You do not figure-ground see the camouflaged animal; though you do form a sense-impression of its colour, it too is not differentiated by a visual contour. Elisabeth does not figure-ground see a particular cup; she merely sees a cup.

To summarize, then:

*S* figure-ground sees *X* (e.g. a cat) if

*X* appears as a separate whole object, demarcated from the rest of *S*’s visual field by a *visual* or implied *amodal contour* (VAC) and can be identified as *X* on the basis of this appearance alone. (Note: *X* is a placeholder for a noun phrase.[[6]](#endnote-6))

Admittedly, this notion is a bit under-specified; in particular the notion of a amodally completed contour is somewhat vague. But it is good enough for present purposes.

In ephemeral vision, Grice-seeing and figure-ground seeing come apart. These are the two senses of ‘see’ that will be in play in my discussion. However, for the sake of clarity and completeness, I also introduce the sense of ‘see’ that Dretske intended.

*S* Dretske-sees *O* (where *O* is a particular object) if

(i) *S* Grice-sees *O* (as modified in section IX, below), and

(ii) *S* figure-ground sees *X*, and

(iii) *O* is causally responsible for (ii).

Note the greater specificity of (iii) relative to Grice’s definition. Grice simply required that *O* (the thing *S* sees) be responsible for some sense impression or other. Dretske requires that *O* be causally responsible for a figure-ground appearance of a discrete object.

Here is how this plays out in ordinary cases. I clearly see the keyboard that I am typing on: I Grice-see this particular keyboard (and not one of the millions of indistinguishable ones in use all around the globe), and figure-ground see an object of a certain size and shape. Since the keyboard is responsible for my seeing it as a separate object of a certain size and shape, I Dretske-see such an object. (Notice that I might *wrongly* see the keyboard as, for example, larger than the monitor behind.) On the other hand, I do not Dretske-see the RCAF jet because condition (ii) is not satisfied (and *a fortiori* not iii either).

B: ODDITIES ADEQUATELY COVERED BY THE MATERIAL OBJECT PARADIGM

To be clear about the scope and power of the Material Object Paradigm, I now discuss two cases that are superficially somewhat odd, but on closer examination fall under its rubric.

**V. Absences**

First, consider absences. Roy Sorensen (2015 and this volume) recounts spectacle seekers visiting the Louvre to “view the absence of the Mona Lisa” (when it was stolen and went missing for a time). First, to be clear, they did not, in any sense, see the absent painting: it was not there to be seen. Did they see its absence? Clearly, they did not figure-ground see it; the absence was not distinguished from its surroundings by a contour, real or amodally implied—the absence is not an object. Moreover, they did not Grice-see the absence of the Mona Lisa, inasmuch as there is no sense-impression it generates. Finally, they *did* fact-see that the wall was empty, but they did not, in the experiential sense, fact-see that the Mona Lisa was gone.

People wanted to see the Mona Lisa’s absence. Presumably, they wanted to be visually acquainted with evidence that that the Mona Lisa had been stolen. They achieved this. Sorensen quotes a reporter who wrote:

The crowds didn’t look at the other paintings. They contemplated at length the dusty space where the divine Mona Lisa had smiled the week before.

In short, they epistemically saw *that* the painting was absent. Remember, though, that epistemic seeing is *fact* seeing. There was no ephemeral object for the crowds to see: the “dusty space” referred to in the above report was not ephemeral; it was a standard material object of vision.

This brings out an important point. Seeing *that* an *X* is before me does not imply that I figure-ground see an *X.* In a forest, for instance, I may see that there is a gap between the trees. Do I figure-ground see the gap? Not necessarily. The gap might not stand out in vision; my experience of the gap may not be such as to enable me to attend to it as a single thing. (In such cases, the gap will count as part of the ground against which the trees are demarcated as figures.) Or consider holes. We figure-ground see some holes; these are sharply delineated holes that appear as figure against ground. This is so when I see a hole in the sole of my shoe, but not all holes are this way. A large hole in the ground may not appear as a distinct visual object, for example, because its boundary may not be visually salient. Such holes are not figure-ground seen, though (sometimes) they are Grice-seen.

To summarize: absences, gaps, and holes are not immaterial objects of vision. We may see *that* something is missing, or that there is a hole in the ground, or that there is a gap in the forest. Standardly, this is a matter of seeing some other object, and believing on the basis of some feature of this other object that something is missing.

**VI. Sorensen’s Eclipse. Or: Why We Do Not Always See Surfaces**

Now let’s move to a more controversial case, Roy Sorensen’s (2008) treatment of solar eclipses. When the Moon totally eclipses the Sun, we see the Moon as a dark disc against the glow of the Sun’s corona. Which surface of the Moon do we see? Sorensen says, provocatively, that we see its back surface—for it is this surface that is causally responsible for our sense-impression of the eclipse. The *back* surface of the Moon is the one that intercepts the light from the Sun, thus giving rise to the sense-impression of a dark disc.

Now, to talk of seeing surfaces is something of a departure from Grice, who says that we see a *hand*, not the facing (or, for that matter, the rearward) part of it. Grice’s focus on three-dimensional material objects is a natural way to think about visual objects. What compels us to say that we see a surface in the case of backlit objects—any surface at all?

Look at it this way. Grice proposes that I see those objects that affect my visual states in the way that my hand does in good light reflected off its front surface. With regard to the eclipse, we are dealing with a backlit object. Sorensen assumes that Grice’s analysis implies that we see the eclipsed Moon. Let’s concede this; let us allow that the case of the eclipse is sufficiently like that of objects in good reflected light. Sorensen also claims that the *rear* surface of the eclipsed Moon affects us in the way that three-dimensional objects do in virtue of reflected light. This is much less obvious. Though the rear surface of a backlit object does clearly cause us to see the object’s silhouette, it is not clear that the causal connection between this surface and vision is of the right sort to justify saying that we see it.

In section IX, below, I will deal in more detail with the modification of Grice’s theory. For now, let’s take a page out of Dretske’s book. Suppose that we see X if it is causally responsible for not jut any sense-impression, but one that enables us to attend to X, select it for action, etc.—in short, to *track* it. Then, it would seem, we see the Moon: it *is* causally responsible for such tracking sense-impressions—it is responsible for the impressions that enable me to track its progress across the Sun’s light cone. However, it seems that we cannot track either the front or the back surface—either could radically be modified, or even completely destroyed, without our being able to register the change. However, the two surfaces are untrackable for rather different reasons. We cannot track the back surface because light cannot travel from it to our eyes; we cannot track the front surface because light does not fall on it. The front surface is not occluded: if light were to fall on it from some other source, we would see it. The same is not true of the rear surface—we cannot see it even though it happens to be brightly illuminated.

In sum, then, the situation is as summarized in this table.

[INSERT FIGURE 15.1 HERE]

In its original form, the Grice criterion gives us no guidance as to whether we see the eclipsed Moon. Revising that criterion so as to admit the cause of tracking sense-impressions, we find that neither surface is seen, though the front one could be seen if some light were to fall on it. We see backlit objects, but we don’t see their surfaces.

C: SOME EPHEMERA

I turn now to immaterial objects that we seem to see.

**VII. Mirrors and Pictures**

Grice-seeing and figure-ground seeing come completely apart when we consider mirror reflections. When you look into a mirror, you seem to see the image of your face in front of you. You figure-ground see the reflection; you can attend to it; you can select it for action (though you would be in error if you treated it as a material object in that location). But you do not Grice-see the reflection. It is not causally responsible for it looking to you as if there is a face in front of you. In fact, it is not causally responsible for anything at all. It is simply not the kind of thing that could be causally active. It is a virtual object; it has no fundamental physical properties and cannot exert a physical influence on anything.

However it might be with regard to Grice-seeing, it seems to me that you figure-ground see (or seem to see) the image. The mirror-image is distinguished from other things in the scene by a VAC (a visible/amodally completed contour). You are not *looking* at your face when you see it; you are looking straight out at a location in which your face is not; your line of sight to that location is apparently unobstructed; your eyes focus on it. Nor is this some kind of illusion: reflections look like reflections. The mirror image is not an apparent face; it looks to be just what it is, an image of a face. There is a mismatch between the object of figure-ground seeing and the object of Grice-seeing. Whatever and wherever the latter might be, the former seems to be located in a place behind the mirror that you cannot see.

Something similar is true of objects seen in pictures. Here, I assume that, as Richard Wollheim (1973) claims, seeing an object in a picture is not merely seeing the part of the two-dimensional picture surface that depicts the object. There is a duality of seeing when you look at the surface of a picture: you see the picture as an object, and you also somehow “see” the three-dimensional objects and scene that it depicts. Take a depiction of a scene: Veronese’s *Conversion of Mary Magdalene*, say. The question is: What do you Grice-see when you look at the painting? Obviously, you Grice-see the surface of the painting. Your sense-impressions are caused in the relevant sense by the texture of the canvas, the paint-strokes on it, etc. Now, according to Wollheim, you also see a scene *in the picture*: a kneeling woman in blue with a man standing over her, and other figures looking on. Evidently, you don’t Grice-see these figures. They are non-existent and have no causal powers. Once again, though, you figure-ground see them; they are clearly differentiated from everything else, and you can attend to them, point at them, form beliefs about them, etc.

Now, consider this absolutely crucial fact. Veronese’s figures do not have the appearance of real figures. However much you may marvel at his realism, you do *not* seem to see a *kneeling woman*. It’s visually evident that this is only a painting that you are looking at. What is it, then, that you see as a figure against a ground. What is the appropriate substituend for *X* in the figure-ground seeing schema?

*X* (=??) appears as a separate whole object defined by a *visual* or implied *amodal contour* (VAC) and can be identified as *X* on the basis of this appearance alone.

 Of course, you figure-ground see brush strokes etc., but these are not my target. The VACs of the brush strokes are different from those of the kneeling woman. Further, I have just demonstrated good reasons why “a kneeling woman” is not an appropriate substituend for *X* —there is nothing there that you identify as a kneeling woman. Nor is there anything there that *looks like a kneeling woman*: some say that the paint on the surface of the painting looks like a woman, but Wollheim’s duality-of-seeing thesis contradicts this. You cannot attend to the brush strokes and the woman simultaneously; the brush strokes look like brush strokes, not like a woman, and vice versa. There is something else that you figure-ground see when you look at the picture. To echo the point about mirror reflections, the object of figure-ground “seeing” and Grice seeing are distinct in the case of depiction.

The appropriate position, I would suggest, is that you figure-ground see a *depicted kneeling woman*, an object distinct both from the brush strokes and canvas and also from any real or imagined woman. In the puzzling metaphysics of ephemera, depictions constitute a shadowy realm of non-existent “entities.” They are to vision somewhat as fictional entities are to the literary mind. There is, however, a big difference. Fiction is about ordinary objects—people, buildings, etc. I am arguing that pictures are different. When you read fiction, you take in representations of ordinary things, whether they are real or not. Pictures, in sharp contrast, do not show us ordinary things. The things they show us do not have the visual appearance of ordinary things. Pictures show us depictions, and depictions of ordinary objects such as people and buildings are *not* visually the same as ordinary objects. They belong to a distinct ontological category. I will not say more about the metaphysics of depictions here. This paper has a different aim.

With mirror-reflected images and pictured objects, vision offers up an object for attention, orientation, and the formation of beliefs. We are not reality-connected to these objects in the way that Grice demands. Yet these are not standard cases of hallucination (in which we are also not reality connected). Mirror images do not look real to us, and pictured objects do not look like three-dimensional material objects.[[7]](#endnote-7) These objects are ephemera, but not just for the reason that they are immaterial, and thus not Grice-seen. Hallucinations would also be ephemeral in this sense, and we are in pursuit of a different phenomenon. Depicted objects and reflections are ephemeral because they display certain important visual characteristics of material objects while at the same time looking as if they are not actually material objects.

**VIII. Real Location**

Certain things we seem to see seem not to have real spatial location. We figure-ground see them; that is, vision provides us with VACs that differentiate them from other things that we see at the same time. But they do not appear to be located relative to ourselves in the space that surrounds us. Though they are visually differentiated from other things that we see concurrently, they do not appear to possess location relative to these other things. Here, I have in mind phenomena generated by the visual system itself—floaters, phosphenes, and the “stars” that one sees when one is struck on the head. These things do not appear to be in contiguous space because they retain their positions relative to the visual field even when we move (Siegel, 2006). When I turn to the right, things located in real external space move left relative to my visual field. However, turning to the right or left leaves the visual field position of floaters and the like unaffected. Even when I close my eyes, floaters in the centre of my visual field remain in the centre of my visual field.

This is another way that certain visual phenomena can be ephemeral. They do not visually appear to be in external space. As Kant noted, this gives them the appearance of not being objectively real.

Interestingly, depicted objects also appear not to be located in the space that surrounds us. If you look at things around you, they are located relative to you. But when you see something in a picture, you do not see it as located relative to you; though their case is different from that of floaters and other such self-generated phenomena in that they appear to be independent of you. Unlike self-generated phenomena, pictured objects do move relative to the visual field when you move. In certain other ways, though, depicted objects behave unlike the real objects you see.

 First, objects in pictures violate normal distance cues. Let’s say you are looking a small picture of a man: the mark on the surface of the canvas is just an inch tall. Normally, when a man subtends so small a visual angle, he would look quite far away—say 30 metres. Here however, the other distance cues are suppressed—for instance, you do not see any terrain between you and the man, and you see non-depicted things surrounding the picture (the picture frame, the wall on which it hangs, etc.). Moreover, depicted objects do not shift their position in the visual field normally as you move—their visual displacement is different from that of ordinary material objects. The depicted man does not seem to get closer as we walk up to the picture—not, at any rate, in the way a distant real man would. And hidden sides of him are not revealed as you walk sideways.[[8]](#endnote-8) Relative to you, he does not appear located. In these ways, depicted space thus appears disconnected from real space.

Given these disanalogies between the space in which depicted objects are seen and the space in which apparently real objects are seen, we need to extend the peculiar ontology of depicted objects to space. What we see in pictures is not space, but depicted space. Depicted space is not space, and does not look like space. Depicted space challenges Kant’s one space requirement. According to Kant, to seeing an object as existing objectively is to see it as located in space. What is the status of depicted objects? Do you see them as existing independently of you? And what would Kant say about depicted space? How do its a priori properties relate to that of real space? Finally, what about Kant’s requirement that sensibility can only accommodate one space? Clearly, you can be aware of depicted space as distinct from the space given in ordinary perception. Moreover, you can be sensibly aware of disconnected (i.e., multiple) depicted spaces. Does any of this reflect on or modify our idea of real space?[[9]](#endnote-9)

**IX. Photographs and the Causal Connection Posited by Grice**

Kendall Walton (1984) claims that we see *real objects* in photographs, but not in paintings.[[10]](#endnote-10) When I look at my dog, my dog is what I see. When I look at the painting of Mary Magdelene, I see a depicted woman. However, he says, when I look at a photograph of my long deceased grandparents, I see my grandparents. Just as my dog is what I see when I look at her, my grandparents are what I see when I look at the photograph of them. It is not depicted objects I see, according to Walton. I see *them*; I see the clothes they were wearing that day; I see the room they were photographed in.

Walton’s point is that photographs are the product of an entirely non-mental causal chain from object to photographic paper, whereas in the case of even the most realistic paintings, the causal chain goes through the mind of the artist.

Part of what it is to see something is to have visual experiences which are caused by it in a purely mechanical manner. Objects cause their photographs and visual experiences of viewers mechanically; so we see the objects through the photographs. By contrast, objects cause paintings not mechanically but in a more “human” way, a way involving the artist; so we don’t see through paintings. (p.261)

 Walton fully recognizes the following obvious facts: photographs are no more realistic than paintings can be; they no more create an illusion of seeing the depicted object than paintings; they are no less interpretations of reality. Photographs can be manipulated; for this reason, the viewer may not know what she is seeing. Nonetheless, there are elements of photographs that trace “mechanically” back to objects without the intervention of a mind. Walton holds that we see the objects from which these elements of photographs originate.

Perceptual contact with the world is to be distinguished from two different sorts of nonperceptual access to it: access mediated by intervening descriptions as well as access via another person. . . . when someone describes a scene to us, we are doubly removed from it; contact is broken both by the intervention of the person, the teller, and by the verbal form of the telling. Perceptual contact can itself be mediated—by mirrors or television circuits or photographs. But *this* mediation *is* a means of *maintaining* contact. Viewers of photographs are in perceptual contact with the world. (p.273)

For present purposes, I do not wish to deny that there may be parts of photographs that come about as a result of a causal chain that does not include any mental events. Walton usually outrages photography critics, who point out that photographers often insert their own mental attitudes into their photographs, but he has adequate responses to their criticisms. I’ll leave these issues to the side. My question here is whether (by constrast with paintings), photographs offer us a view of objects and facts such as our deceased ancestors and the style of clothes they wore on a particular day. Do we Grice-see them in photographs? Oddly enough, Walton does not cite Grice’s paper on the causal theory. Instead, he cites Grice’s (1957) paper on meaning. This is because his concern is with “mechanical” or non-mental causation, and he argues that at a crucial juncture, photographs have natural meaning, while paintings have non-natural meaning. The point I want to make here skirts this issue. It is that (for reasons that derive directly from Walton) mechanical causation is necessary for Grice-seeing, but not sufficient.

I want now to come to an issue that earlier I postponed. Grice says that what we see causes a sense-impression in us “in the kind of way in which, for example, when I look at my hand in a good light, my hand is causally responsible for its looking [to] me as if there were a hand before me” (1962, p.143). The question I now want to put is: What kind of way is that? Grice himself thinks that only a specialist can answer this question. “I see nothing absurd in the idea that a non-specialist concept should contain, so to speak, a blank space to be filled in by the specialist.”

I want to agree with Grice that we should defer to specialists with regard to the details of the account. Nevertheless, I think that Grice takes a wrong turn here. He assumes that the causal story will be *mechanistic* (or “mechanical” as Walton says). It will involve “a reference to the transmission of light-waves to the retina,” he says. “We may be in a position to say that the same kind of mechanism is involved in a plurality of cases without being in a position to say what that mechanism is” (p.144). This was a proposal of the early sixties. We know better now.

Grice goes astray in fixing on mechanisms. It is true that light is always involved in vision. It is *not* true that retinas and their homologues are always involved. There is machine vision, invertebrate vision (which involves compound eyes, no retina), and who knows what other sorts of possible mechanisms for processing the information contained in light. Grice says that to adjudicate these cases, “we might well wish to hear from a specialist a comparative account of the human eye and the relevant sense-organs of the creature in question.” True enough, again. My contention, however, is that this comparative account will be *functional*, not mechanistic. To be clear about roles, philosophers can contribute to recognizing that the correct account is functional; biologists, physiologists, and psychologists are needed to fill in the details of that functionality.

Here is my suggestion. Vision purports to offer the perceiver tracking information about objects, information about circumstances that are concurrent with the visual state. A perceiver extracts information from visual perception; she uses this information to form beliefs about objects and act on them. She is also able to recognize when the information she possesses through this source is inadequate or misleading, and in this circumstance, she knows how to go about getting more visual information to remedy the shortcoming.

Thus:

*S* sees *X* if *X* causes a sense-impression (not necessarily conscious) in *S* that *S* is able, concurrently with the sense-impression, to use to gain information about *X*, form beliefs about *X*, and act on *X* . . .

To this, we may add, in deference to “the specialist”:

. . . in the kind of way in which, for example, when I look at my hand in a good light, my hand is causally responsible for my having such a tracking sense impression.

The functional elaboration of Grice’s proposal closes the gap between Grice-seeing and Dretske-seeing. I’ll present this as an analysis of *seeing* simpliciter:

*S* sees *X* if *S* can visually track *X*, and *X* is the cause of the impressions by which *S* tracks *X*.

Coming back to Walton, how would we now assess the claim that we see our dead ancestors? Here the crucial fact is that, as Walton is fully aware, photographs are pictures, and the objects we see in pictures neither look real nor look as if they are located in the same space as ourselves. A photograph of your deceased ancestor does not give you the ability to gain information about her *as she is now*. Also of relevance: you have no impression of *when* the information conveyed by the photograph was concurrent. The photograph does not enable you to attend to her. It does not give you the ability to scrutinize her in the way that you need to do in order to find out specific information that you desire. It does not give you the means to move to investigate her visual attributes beyond what is given in this view.[[11]](#endnote-11) What is more, looking at a photograph does not give you even the impression that you have these abilities relative to the ancestor. It is clear from the outset that this is a picture. In all of these ways, seeing a photographic depiction of your ancestor is different from seeing her.[[12]](#endnote-12)

**X Light**

Light is an interesting case. Do we see it?

First consider beams of light. It is fairly intuitive that we see them coming through windows on sunny days, and from flashlights, searchlights, and other sources of light in a darkened environment. As Brian O’Shaughnessy (1984-85) puts it:

Surely we *sometimes* see light. For example, a torchlight shining across a dark and dusty room. This is something that has a shape and a position, that can be viewed from angles and that exhibits foreshortening. (ibid, p.193)

O’Shaughnessy immediately rejects this preliminary intuition.

For the truth is that the seeing of this torchlight is thanks to the seeing of objects rather than the reverse, that it is the seeing of an object-collective of the nature of a crowd, viz. a cylindrical collection of dust particles; indeed, for the most part the beam itself is invisible, and those shining specks are like so many Man Friday’s footsteps—evidence of the unseen! (ibid, p.194)

O’Shaughnessy is right about one thing. We see the collection of dust particles. This collection is not ephemeral; we figure-ground see the cylindrical collection; we figure-ground see many individual dust motes. What is more, the dust motes cause our visual impression, individually and collectively, in a standard way—so we Grice-see the beam and the motes as well.

Nevertheless, we *also* see the beam of light. The proof is this. As a beam moves, it encompasses different dust particles at different times. Moreover, the dust particles we see as the beam moves are clearly seen as stationary. The beam moves and is seen to move; the dust-motes do not and are not so seen—clearly, then, they are distinct. So it seems as if the light coming through the window or emanating from the flashlight is indeed visible in this case; however, it is made visible by the collection of dust particles.

Do we see ambient illumination—do we see the light that surrounds us and illuminates visual objects in our vicinity? The standard philosophical view is that we do not. We see objects *by* the light; in some cases, as with O’Shaughnessy’s beam, we see light *by* objects—but we don’t normally see light as such. This, at any rate, is the orthodoxy.

The facts are more complicated. First of all, our access to how brightly things are illuminated is usually indirect, because we have no prior impression of how light or dark they are in colour. As Robert Woodworth and Harold Schlosberg (1954) wrote: “It is a fact of common observation that coal looks black even in sunlight, and chalk white even in shadow. Yet under these conditions the eye receives much stronger light from the coal than from the chalk.” For coal to look black in sunlight, the visual system has to determine that it is in sunlight, or at least that it is in a bright light. In this case, the look of the coal depends on how bright the illumination appears to be, not the other way around.

There are cues available to the visual system that help it determine the level and colour of illumination independently of how brightly objects in its vicinity are illuminated. First, the average level of ambient brightness is needed to control pupillary aperture. The brighter the light, the more contracted your pupils must be, and the visual system has to make a scene-independent determination that can be used later to calibrate colour. Second, the scene contains what are known as *specular* reflections—shiny spots where diffused light is reflected from a layer deeper than the most superficial lamina. (Reflection from the outermost laminae determine colour.) Specular reflections come from shiny matte surfaces such as metals and tight human skin (e.g. on somebody’s nose or bald head). The visual system uses specular reflection to calibrate both brightness (by contrast with non-reflecting surfaces) and colour of illumination (Lee, 1992). Finally, the visual system employs “higher-order scene statistics,” as Jurgen Golz and Don MacLeod have called them (Golz and MacLeod, 2002; MacLeod, 2003). For example, it computes the correlation between chromaticity and luminance over the whole scene: if it finds, for instance, that all of the brightest places in the visual field are sending mostly red light to the eye, it infers that the scene is either being illuminated by red light or being filtered through a red film, and adjusts colour appearance accordingly, making red-reflecting surfaces appear white. (Viewed through a red glass, a scene will have a reddish cast, but the brightest objects in it will look white.)

These facts about the visual processing of light-levels and illumination-colour are processed independently of object brightness and colour. They constitute an independent sense-impression of light. Moreover, we Grice-see the illumination because it is causally responsible for this sense-impression. Note, however, that we do not figure-ground see light. We see it rather as illuminating various objects and parts of the scene with varying levels of brightness and colour—the coal there looks dark, but the light it stands in looks bright; the chalk here looks white, but the light it stands in looks red. Our seeing it in this way is not dependent on our seeing objects; we see it thus as the result of an independent visual process.

**XI. Ephemeral Visibilia Summarized**

Here is a table that summarizes what I have argued thus far. (I leave the detailed evaluation of darkness, marked by \*, for another occasion. I note, however, that darkness may need to be treated separately from light in certain situations.)

[INSERT FIGURE 15.2 HERE]

A ‘no’ in the Grice-seen column indicates a non-standard causal pathway from the real world to the perceiver. There are two ‘no’s in the figure-ground “seen” column, ambient illumination and darkness. My analysis suggests that light is a standard visibilium alongside material objects, but of a complementary kind; it is a standing condition needed for the proper visual perception of material objects, and seen as possessing brightness. Depicted objects and system-generated visibilia (such as floaters) are not Grice-seen and exhibit another peculiarity: they are not seen as possessing location relative to the subject.

D: WHOLE-PART PRIORITY AND EPHEMERA

**XII. Object-Dependent Visual Properties**

There are certain properties that vision detects only by detecting objects or contours. Yet, the properties thus seen look as if they are spatially compositional: *X* appears to possess the property *because* parts of *X* appear to possess it. This compositionality is an illusion; in fact, the property belongs to the parts in virtue of the nature of the whole. In the present context, this kind of object-dependent attribution is interesting because it leads to a special class of ephemerally seen object features, namely those associated with illusory objects or contours.

Cast shadows are portions of the object’s *surface* that stand in relative darkness because the illumination is less bright there as a result of another object blocking the light. Cast shadows are usually enclosed by a contour across which illumination changes sharply. They are clearly delineated dark areas and are figure-ground seen. They are not, however, Grice-seen because they are portions of a *surface* blocked from the light, and, as argued earlier, surfaces are not physical; as such, they are not causally responsible for anything.[[13]](#endnote-13) As Sorensen (2008, p.68) says, “This type of surface . . . cannot sustain the causal relations needed for visibility.” Shadows mark a difficulty for the Price-Grice causal theory, if it is understood as an analysis of ordinary language uses of ‘see.’ We see shadows in the ordinary language sense of ‘see;’ yet shadows are not causally responsible for any sense impression.

Cast shadows are a leading example of object-dependent, or, more accurately, contour-dependent perception. The shadowed part of an object reflects light that is different in colour from that reflected by the non-shadowed part. Why then is it not seen as a differently coloured part of the object? Roberto Casati (2003, pp.164-166) tells us that if the penumbra of a shadow is made sharp by tracing it with a felt marker, it begins to look more like a stain on the “screen” or shadowed object.

Put an opaque object—for example, a little statue—on a sheet of white paper, and set it in the sun or under a bright light so that its whole shadow falls on the paper. Now take a thick black pen and trace the shadow’s outline. Look at the result: *you no longer see a shadow*, but only a gray shape . . . The area inside the line has *taken on a color of its own*—a dark gray. This gray is very different from the gray of the area before it was outlined. (p.165)

The differentiating visible mark of a shadow is its fuzzy penumbra, which is the result of a spatially extended source of light; when this penumbra is made sharp or is eliminated, shadows are not recognizable as such.[[14]](#endnote-14) Now by contrast with shadows, stains *are* laminas. So when we see a shadow as a stain, it is as if the colour-wise difference of the shadow gets illusorily buried in a part of the outside lamina of the object, and this laminar part is now made to be figure-ground visible. The shadow-that-looks-like-a-stain is an example of a contour dependent perceptual feature. And so are stains themselves. Stains look as if the appearance of the whole is composed from the appearance of the parts, but in fact it results from the sharpness of its enclosing contour.

Brian O’Shaughnessy (1984-85) ran afoul of contour dependent properties in an argument he used to show that we see the *light that reaches our eyes from an object*, for example, yellow light when we look at a yellow object in white light. This light is distinct from ambient illumination; ambient illumination might be white (or isochromatic); but the light that is reflected from a yellow object in white light is yellow. O’Shaughnessy’s claim is that we see the yellow light that emanates from the object, *not the object itself*, at least not directly.

Here is one of his arguments:

Take any case where it is agreed that we see light, e.g. a bright moon on a dark night. Then imagine the item to grow until it occupies the entire visual field. Presumably, we then have a visual field inhabited by light at all points. Then adjust the colour and intensity of the light so as to match [some] scene. More, suppose it caused by a scene such that the colour/brightness of places in the scene determines and accords with the colour/brightness of places in the visual field. What more does one require to [show] at one and same moment perceive light and scene? Then if this seeing light *and* scene, how does it differ from the normal seeing of just such a scene? (p.196)

I don’t pretend fully to understand O’Shaghnessy’s logic. I’ll offer a more sympathetic interpretation a little later, but first, why can’t his argument be reversed?

\*Take any case where it is agreed that we see only reflecting surfaces *and not light*, e.g. the Moon in bright daylight. Then imagine the item to grow until it occupies the entire visual field. Presumably, we then have a visual field inhabited only by reflecting surfaces at all points. Then adjust the colour and intensity of the light so as to match a scene that includes the bright moon on a dark night. . . . What more does one require to [show] that we at one and same moment perceive only reflecting surfaces?

Obviously, the conclusions of both arguments are false. Sometimes we seem to see self-luminous surfaces (for example, when we look at the Moon on a dark night), and at other times, we seem to see reflecting surfaces. It is simply false that we seem to see only one or only the other. Where does the argument go wrong?

O’Shaughnessy wants to establish that when you view any scene, you do so by separately apprehending and then assembling the light that emanates from each visible point in the scene. He is committed, in other words, to spatial compositionality of all visual features. This is the principle he assumes in order to show that if *X* looks as if it is emitting light, then when you “adjust” the colour and intensity of *X*, it will still look as if it is emitting light. The same assumption is made by the second argument—except that it starts from a reflecting surface. This assumption is problematic. In both scenarios sketched above, there must be a change that happens while you “adjust the colour and intensity of the light”—a change from seeing a surface as luminous to seeing it as non-luminous, or a change in the opposite direction.

Oswaldo Da Pos (2004) demonstrated the falsity of what I take to O’Shaughnessy’s assumption. He showed subjects cards of different colours through a hole cut out of a screen. He then increased the light falling on the card by means of a lamp hidden behind the screen. As the source-hidden illumination increased, there was a point at which the card seemed to “fluoresce,” or emit light.[[15]](#endnote-15) This shows where O’Shaughnessy went astray. Da Pos’s experiment helps us understand how the visual system determines whether an object is emitting light. It determines whether more light comes off the object than falls on it. Since the light falling on Da Pos’s card was hidden and didn’t contribute to perceived ambient brightness, the visual system determined that more light was coming off it than was falling on it. The contour provided by the screen was crucial here. The screen is the comparison target. Given that the cards were throwing off a good bit more light than the screen, and the source of their illumination is not visible, there is a point at which the visual system computes that emanating light is greater than incident light. This excess must be accounted for by self-luminance.

The “bright moon on a dark night” of O’Shaughnessy’s argument is an example of the Da Pos effect. At night, the perceiver cannot see the source of its illumination. The ambient illumination is low, and so the Moon looks luminescent. You can even find your way by its light. During the day, the ambient illumination is high. Even though the Moon is emitting the same amount of light, it now looks as if it is reflecting less light than falls on it. Consequently, it looks like a reflecting surface.

For another example of object-dependent properties, consider the family of properties that includes, *transparency*, *clearness*, *fogginess*, *cloudiness*, and *opacity*. Ralph Evans (1949) realized that these are object-dependent properties. An object looks transparent if the colour we see in its visual field place appears to be that of an object behind it; it is cloudy if it diffuses the colour of things behind and also has some colour of its own; it is opaque if the colour is all reflected from it. This means that in order to perceive clarity, we must perceive the object, not just the colour of the places inside its visual contour, and we must also perceive the things behind it. Here’s an example. When you fixate on the bars of the cross, the gray of the inner bars spread faintly, and it looks as if there is a clear almost black disc in front of the cross, through which you can see the black background:

[INSERT FIGURE 15.3 HERE]

Evans wrote:

It is at once apparent that the expression “clear and achromatic” must necessarily involve an object if it is to refer to a direct perception. A real object or at least real material has to be assumed in order to give the term meaning as a direct perception. We are dealing, therefore, with the properties of objects. The perceptions, clear and achromatic, in combination at least, require the presence of an object which is visible in some other way, usually through its edges or because it refracts the light. (p.775)

As Evans says later, an object looks to be a certain colour, such as white, if “the light from the area considered as white has appeared to *originate* from that area” (p.776). For the object to look, in addition, translucent or cloudy, two further conditions must be met: (a) distinct objects must be seen *behind* or *through* the area in question, and (b) the area itself must be visible, for instance because it reflects light. This means that, as Nakamaya, Shimojo, and Ramachandran (1990) write:

Various visual features of an object such as its shape (contour), depth, luminance, and color are perceived as separable. But, at the same time, these features are linked and perceived as different aspects of the same object. (p.497)[[16]](#endnote-16)

There is a way of summing up this discussion that is perhaps a little more sympathetic to O’Shaughnessy. Every object except a black hole sends off light. Some send off light because they reflect light that falls on their forward facing surfaces; others let through light that falls on their rear surfaces; still others produce light. Perhaps O’Shaughnessy’s point is that one way or another, light reaches our eyes from these objects; he means to give this point emphasis by pointing out that the light coming from the Moon during the day might be no different from that which comes off it at night. The way he expresses this point is, however, quite misleading, because it overlooks the fact that the Moon nevertheless looks quite different at night and during the day. We do not have a visual impression of light coming off objects; rather we see them as reflectors, as clear or translucent, or as self-luminous. These are properties of *objects*, not of light. These are what we perceive, not the light that comes from an object. (Perceiving the light that comes from an object is different from perceiving the brightness of ambient illumination.) As an aside, one might add—it’s really very clever how vision extracts this information.

**XIII. Object-Dependent Illusions**

My final example of visual ephemera concerns illusory contours and object-dependent properties dependent on them. Since object contours determine certain properties, illusory contours give rise to illusory properties.

Consider a famous example of an illusory contour, the Kanizsa triangle. Here, an illusory contour is created by the alignment of two separate edges. Look what happens when a Kanizsa triangle is superimposed on a corner that would normally be perceived as concave:

[INSERT IMAGE 15.4 HERE]

Because the illusory contour created by the pacmen seems to create a triangle *in front of* and obscuring the corner, the three intersecting lines of the corner are reinterpreted as situated in front of the illusory object; they are inverted, thus creating a convex pyramid. (I am grateful to Lawrence Harris for showing me these ephemera.)

What is the status of the apparent pyramids in the above Kanizsa triangles? First of all, they are *depicted objects*. As such, their status is very much like other depicted objects: they are not Grice-seen, they are figure-ground seen, and they have no real location. The oddity of the presentation is just that it is ambiguous between two depicted scenes, one in which there is a concave corner and the other where the corner is occluded by a pyramid.

What if this scene could be recreated in three dimensions? What, in other words, if we could present pacmen aligned as above relative to a real three-dimensional concave corner? This would take some special technology, since the subject’s head movements would disturb the alignment of the pacmen, but let’s say we could somehow stabilize the two images. (Perhaps the pacmen could be projected onto the walls variably to allow for perspectival distortion from the subject’s movements; perhaps an eye-tracker could be used to stabilize the image.) Suppose that the illusion could be successfully recreated in this way. In this case, we would have an apparent but unreal three-dimensional pyramid occluding the corner in real space.

This would be a hallucination created by ephemeral vision. Unlike depicted objects and mirror reflections, this pyramid would look real. The pyramid would not simply be a misperception of the corner, because the corner continues to be amodally perceived. It would, therefore, be an unreal object in addition to all of the real objects seen. (I am indebted to Tom Stoneham for helpful discussion of this point.)

CONCLUSION: THE STRUCTURE OF VISUAL EXPERIENCE

To repeat what was said at the outset, most of the objects of visual experience are material objects. The visual system is so organized as to detect them. It does so with great zeal, signalling the presence of material objects and “amodally” completing their contours when these are incompletely presented. This activity taken by itself would yield many false positives: there are things in our environment that possess material object-like contours, but are not material objects. The visual system is capable of correcting these errors. However, it does this without completely erasing the appearance of objecthood. Thus, shadows, depicted objects, and the rest take on a strong look of materiality with a super-added look of immateriality—a cancellation sign, as it were. It is as if the visual system says: “Oh there’s another material object . . . except that it is not!” These creatures have a foot in both realms; they are the visual ephemera.

Many philosophical theories of seeing are constructed around generalizations that apply strictly only to material objects. Visual ephemera expose their shortcomings. The Grice causal theory has to be revised to give a more natural account of photographs than that advanced by Walton, and when it is so revised it gives a better account of backlit objects than that offered by Sorensen. Grice’s theory is also challenged when it comes to shadows. Ordinary language affirms that we see shadows, but Grice may be in a position of having to deny this. (See, however, note 20.) Consequently, we must also abandon Grice’s claim to be analysing ordinary language.

As a final exhibit, we examined object-dependent visual features, features that are attributed to parts of objects subsequent to their attribution to a whole. This challenges compositional theories of vision, which assume that visual wholes are always seen as a result of seeing their parts. In this context, I explored the possibility of a hallucination based on an illusory contour. The illusion is normal and universal, and this contradicts the suspicion voiced by some philosophers that hallucination is always a derangement. [[17]](#endnote-17)\*

REFERENCES

Brogaard, Berit (2015) ‘Perceptual Reports’ forthcoming in M. Matthen (ed.) Oxford

Handbook of the Philosophy of Perception (Oxford: Oxford University Press). See also Oxford Handbooks Online DOI: 10.1093/oxfordhb/10.1093/oxfordhb/9780199600472.013.005.

Casati, Roberto (2003) *The Shadow Club* tr. A. Asher (New York: Alfred A. Knopf).

Chang, L et. al. (forthcoming) ‘Spontaneous expression of mirror self-recognition in monkeys after learning precise visual-proprioceptive association for mirror images’*PNAS* Published online before print February 13, 2017, doi:10.1073/pnas.1620764114

Da Pos, Oswaldo (2004) ‘When Do Colours Become Fluorent?’, in J. L. Caivano and H-

P Struck (eds.) *AIC 2004* *Color and Paints, Proceedings of the Interim Meeting of the International Color Association* (Porto Allegre, Brasil: Associação Brasileira da Cor), pp. 3-8

Evans, Ralph M. (1949) ‘On Some Aspects of White, Gray, Black’, *Journal of the*

*Optical Society of America* 39: 774-779.

Golz, Jürgen, and Donald I. A. MacLeod (2002) ‘Influence of Scene Statistics on Colour

Constancy’ *Nature* 415: 637–640.

Grice, H. P. (1957) ‘Meaning’ *Philosophical Review* 66: 377-388.

Grice, H. P. (1961) ‘The Causal Theory of Perception’ *Proceedings of Aristotelian*

*Society supplementary* *volume* 35: 1211-152.

Lee, Hsien-Che (1992) ‘Method for Computing the Scene-Illuminant Chromaticity from

Specular Highlights’, in G. E. Healy, S. A. Shafer, and Lawrence B. Wolff (eds) *Color* (London: James and Bartlett), pp. 303-308.

MacLeod, Donald I. A. (2003) ‘The Verriest Lecture: Colour Discrimination, Colour

Constancy and Natural Scene Statistics’, in J. D. Mollon, J. Pokorny, and K. Knoblauch (eds.) *Normal and Defective Colour Vision* (Oxford: Oxford University Press), pp.188–217.

Matthen, Mohan (2015) ‘Individuating the Senses’, forthcoming in M. Matthen (ed.)

*Oxford Handbook of the Philosophy of Perception* (Oxford: Oxford University Press). See also Oxford Handbooks Online DOI: 10.1093/oxfordhb/9780199600472.013.025

Nakayama, Ken, Shimojo, Shinsuke, and Ramachandran, Vilayanur, S. (1990)

‘Transparency: Relation to Depth, Subjective Contours, Luminance, and Neon Color Spreading’, *Perception* 19: 497-513.

O’Shaughnessy, Brian (1984-85) ‘Seeing the Light’ *Proceedings of the Aristotelian*

*Society* 85: 193-218.

Price, H. H. (1932) *Perception* (London: Methuen).

Ramachandran, V. S. et al (1994) ‘On the Perception of Illusory Contours’ *Vision*

*Research* 34: 3145-3152.

Siegel, Susanna (2006) ‘Subject and object in the contents of visual experience’

*Philosophical Review* 115: 355-388.

Sorensen, Roy (2008) *Seeing Dark Things* (Oxford: Oxford University Press).

Sorensen, Roy (2015) ‘Perceiving Nothings’, forthcoming in M. Matthen (ed.) Oxford

Handbook of the Philosophy of Perception (Oxford: Oxford University Press). See also Oxford Handbooks Online DOI: 10.1093/oxfordhb/9780199600472.013.002.

Walton, Kendall (1984) ‘Transparent Pictures: On the Nature of Photographic Realism’,

*Critical Inquiry* 11: 246-77.

Wollheim, Richard (1973) ‘The Work of Art as Object’, in Wollheim, *On Art and the*

*Mind: Essays and Lectures* (London: Allen Lane), pp. 112-129.

Woodworth, Robert S. and Schlosberg, Harold (1954) *Experimental Psychology*, 5th ed.

New York: Holt, Rinehart, and Winston.[[18]](#endnote-18)

1. I take a fact to be the instantiation of a property or relation by an individual object or objects. [↑](#endnote-ref-1)
2. There is an *even broader* usage. Berit Brogaard (2015) writes: “If I hear on the radio that Bank of America has put the financial crisis behind it, I may say ‘It looks like I won’t need to find a new bank’.” In the case she envisages, she has evidence but no visual evidence. [↑](#endnote-ref-2)
3. The experiential sense is different from the “perceptual” sense detailed by Brogaard (2015) inasmuch as it is occurrent, not dispositional. Brogaard’s perceptual use includes “Her skin looks as smooth as silk.” This does not imply that anybody is currently looking at her skin. [↑](#endnote-ref-3)
4. To be clear, I want to suspend reality connection here, though Dretske did not. It is for this reason that I put scare-quotes around ‘see.’ In what follows, I shall use ‘figure-ground see’ as a term of art in which reality connectedness should be understood to have been cancelled. [↑](#endnote-ref-4)
5. Clare Mac Cumhaill points out that my use of the term ‘figure’ is not exactly faithful to Gestalt psychology; I’ll gloss over this here. [↑](#endnote-ref-5)
6. *X* is not an object variable; it does not range over objects. [↑](#endnote-ref-6)
7. I do not find it plausible that they look that way because we *learn* that they are unreal, having first taken them to be real. Animals pay no attention to mirror and TV images; to them they are some kind of strange light show, not real objects. If there is any learning then, it is to advance beyond the animal stage to mirror seeing and picture seeing—see Chang et al (forthcoming). (We can be fooled by *trompes de l’oeil*, but only when we view them from particular fixed perspectives. When we move, they are revealed as what they are: pictures.) [↑](#endnote-ref-7)
8. Some of this is true of scenes you view through the window of a high-up aircraft; distance cues are suppressed, and there is no intervening terrain. However, the perspectival shift induced by motion seems normal. [↑](#endnote-ref-8)
9. Tom Crowther corrected a mistake I have made regarding space in pictures, not only in the draft he read, but for a long time before. [↑](#endnote-ref-9)
10. Walton acknowledges that a special kind of seeing is involved here, not altogether different from Wollheim’s *seeing in* a picture. There is a difference between seeing something directly and seeing it through a photograph. He nevertheless claims that we really see things through photographs. [↑](#endnote-ref-10)
11. Movies give you information about what goes on in an extended period of time, but do not give you the ability to change your point of view or to inquire. [↑](#endnote-ref-11)
12. Walton would reject the concurrence requirement. He says that we see stars, but because of the time delay, we see them millions of years ago. He concludes that the temporal remove of my grandparents in the photo is not a reason to say I don’t see them. In my view, this is a misplaced analogy. When one sees the stars, one is subject to an illusion; the visual state gives one the illusory impression that one *sees* them as they now are, but as it happens, one does not. By the way, I would not count the miniscule delays in ordinary seeing the same way: ordinary seeing is also time-delayed, but so little so that it counts as veridical. [↑](#endnote-ref-12)
13. Tom Crowther comments that cast shadows might be considered laminar portions of an object on which less light falls. This suggestion deserves careful analysis; I am still inclined to think that shadows are and also look superficial [↑](#endnote-ref-13)
14. Sorensen talks of moving a physical object so that it coincides with a shadow. Strictly speaking, this is impossible, since the object has a sharp boundary and the shadow does not. [↑](#endnote-ref-14)
15. This phenomenon can be observed in a darkened room when a sunbeam coming through a window happens to pick out a patch that is lighter in colour than its surroundings. The patch looks self-luminous; if it were darker than its surroundings, or the same colour, it would not look this way. [↑](#endnote-ref-15)
16. See also Ramachandran et al (1994). [↑](#endnote-ref-16)
17. Earlier versions of this paper were delivered at the “Perceiving Light” workshop at Durham University and as a Klein Lecture at the University of Missouri. The audience provided me with much useful comment. I am very grateful to Tom Crowther and Clare Mac Cumhaill for detailed and insightful comments on a draft of this paper. Roy Sorensen provided incisive responses to my critique of his work. [↑](#endnote-ref-17)
18. [↑](#endnote-ref-18)