

# Object Seeing and Spatial Perception

Craig French

University of Nottingham

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## 0. Introduction

Ordinary visual experience is infused with spatiality. Visual perception typically involves a field of vision: a region of space, itself visually present, in which things are located, and in which such things are seen, and seen to be located.

We often see scenes involving multiple things standing in various (perceptible) spatial relationships to each other. Imagine, for instance, observing part of a country garden, with an array of flowers, and trees, and some wildlife. Or just consider the scene before your eyes as you sit at your desk, perhaps a book, or some paper, or a screen are at the centre of the scene you perceive, with various other things visibly occupying the surrounding space. If the conditions are normal enough we can visually locate things in such scenes—we can simply see where they are. For example, the pink roses are visibly to the left of the conifer trees; the coffee mug is visibly on top of the stack of books. Moreover, we can visually perceive distance properties instantiated in such scenes. For instance, the conifers are seen as closer to me than the roses are; the keyboard is visibly nearer to my hand than the mouse is. And we can visually track constituents of scenes as they move through space—e.g., a squirrel as it romps around the garden, and climbs a tree.

Among the constituents of such spatially ordered scenes are material objects: solid three-dimensional things, which are extended and located in space (things like books, animals, trees, and so on). When we see material objects we are typically presented not just with those things but (some of) their spatial properties. This is so even in cases where we see such objects without seeing scenes in which they are embedded (or without seeing them as parts of scenes). For instance, when one looks at an object close up or through an aperture in such a way that its surroundings don't come into view. Even when a material object is seen in isolation, typically one sees a spatially extended entity *as such*, its spatiality pervades one's consciousness just as the spatiality of scenes do when they are seen in the usual way.

These facts about typical cases of visual perception, supposing they are facts, certainly motivate an investigation into the relationship between seeing things and seeing space and spatial properties such as extension, shape, and spatial location. But do these facts about typical cases reflect a fundamental truth about visual perception? If we focus on just material objects, some think that they do. Some think, that is, that if one is to see an object then some of that object's spatial properties must be seen (in

some sense). I'll call this the *Spatiality Claim*. The question I want to address here is whether this claim is true.

In section (1) I consider a version of the Spatiality Claim and an argument for it given by Cassam (2007). In section (2) I present a challenge for Cassam's argument. His argument involves the idea that seeing an object, in an important range of cases, requires visual differentiation. But, I argue, there are *prima facie* counterexamples to this claim. I don't dwell on whether the challenge I present for Cassam's argument can be met or countered, since I am sympathetic to the specific version of the Spatiality Claim which is the conclusion of Cassam's argument. Instead, in section (3) I turn to discuss Cassam's version of the Spatiality Claim directly. I defend it against potential counterexamples which come from reflection on cases where subjects can see objects yet have some sort of spatial perception deficit, whether developmental or owing to brain damage (I draw here on Robertson (2004)). Having defended Cassam's version of the Spatiality Claim, I briefly outline, in section (4), why I think that a more general Spatiality Claim is plausible. One theme that emerges in what follows is that insofar as the Spatiality Claim, and versions of it, are defensible, we should focus on the relatively *determinable* spatial properties of objects and our perception of such properties.

## **1. The Spatial Location Claim**

In his illuminating discussion of spatial perception Quassim Cassam considers the question of whether object perception, that is, the perception of a material object in any modality, requires spatial perception (see Chapter 3 of his (2007)). Cassam thinks not, though he does think that object perception requires the *capacity* for spatial perception. In the course of discussing this Cassam endorses a more specific claim, namely that the *visual* perception of objects requires (actual) spatial perception. I want to begin by looking at how one argument for the claim that object *seeing* requires spatial perception emerges in Cassam's discussion and rejection of an argument for the more general claim that object *perception* requires spatial perception.

### **1.1 An Argument for the Spatial Location Claim**

For Cassam, spatial perception is either the perception of spatial properties (e.g., an object's shape, extension, location, etc), or the perception of space (p. 91). Here my focus will be on just the perception of spatial properties. As I'll be understanding things, following Cassam, such *perception* is distinct from (and doesn't require) spatial *conception* (see, e.g., pp. 109–110). One can, for instance, *see* an object to be located, or shaped in some way, without thinking of, or conceiving of the object as such. And although Cassam doesn't explicitly discuss this, it is clear that the focus is on just *conscious* spatial perception—that is, awareness of spatial properties or space.

Why might one think that object perception requires such spatial perception? Cassam considers an argument for this claim which relies on two premises:

The first states that it's not possible to perceive an object without differentiating it perceptually from other objects in its environment. The second states that it isn't possible to differentiate two objects perceptually without perceiving them as being in different places [which is a form of spatial perception] (p. 105).

Call this argument the *Perceptual Differentiation Argument*. Cassam himself rejects this argument since

both premises are too strong because they are too general. One can touch an object without differentiating it from neighbouring objects and one can hear or smell one object as distinct from another [that is, one can perceptually differentiate objects in the auditory and olfactory modalities] without hearing or smelling the two objects as being in different places (p. 105).

Now, the point of mentioning this unsound argument is that Cassam thinks that a version of it for specifically the *visual* perception of objects fares better. In unqualified form, Cassam puts things like this:

What is true is that it isn't possible to *see* an object without visually differentiating it from other objects in its environment and that one couldn't see two objects as distinct [that is, one couldn't visually differentiate them] without *seeing* them as being in different places (p. 105).

For Cassam, seeing objects as being in different places (as being *spatially* distinct) is a matter of seeing them as being in different locations, which, he thinks, is 'clearly a form of spatial perception' (p. 96). I take it that the idea here is that if one sees *a* and *b* as being in different locations or places (at a time), then, one sees (at that time), at least, *a* as being in a location, and *b* as being in a (visibly) distinct location, and for Cassam seeing something as being in a location counts as the perception of that thing's spatial location, one of its spatial properties (I'll have much more to say about this understanding of spatial property perception in section (3) below). If all of this is right, then object seeing requires spatial perception, specifically, the visual perception of an object's spatial location.

We can put the unqualified version of Cassam's argument like this:

(1) It isn't possible to see an object without visually differentiating it from distinct objects and features in its (apparent) immediate environment (the visual differentiation condition).

(2) It isn't possible to visually differentiate an object from distinct objects and features in its (apparent) immediate environment without seeing that object as being *spatially* distinct from those distinct objects and features.

Therefore,

(3) Object seeing requires the visual perception of an object's spatial location (and hence spatial perception).

The specific conclusion here is what we can call the *Spatial Location Claim*, and it entails the more general conclusion, namely, that object seeing requires spatial property perception, which above I called the *Spatiality Claim*. Let's call this argument the *Visual Differentiation Argument*.

As noted Cassam does think that the Spatial Location Claim (and hence the Spatiality Claim) is true. And he takes what I'm calling the Visual Differentiation Argument to be an improvement on the more general Perceptual Differentiation Argument. Though, it is important to note that Cassam endorses a slightly more subtle and qualified version of the Visual Differentiation Argument. The more qualified version only gets to the conclusion that object seeing requires spatial property perception *in an important range of cases*. We'll get to this complexity soon (section 1.5), but I'll ignore it for now for ease of exposition. I will eventually suggest that even in its more subtle formulation the Visual Differentiation Argument is more problematic than Cassam realizes. But first, let's discuss the Visual Differentiation Argument in more detail.

There is a lot to discuss here. First, what do we mean by object seeing? Second, what, more precisely, is visual differentiation? And why think that seeing an object requires visual differentiation? Third, why think that an object can be visually differentiated from its (apparent) immediate environment only if it is seen as spatially distinct from some aspects of that environment, and hence, only if it is seen as being spatially located? And finally, having addressed those questions, what is the aforementioned qualification that we need to add to the argument? I'll address these questions below and make a number of comments to clarify the Visual Differentiation Argument, some

of which are drawn from Cassam's own discussion (see his (2007), §3.3), some of which are additional clarifications (and for further helpful discussion see Campbell (2009)).

## **1.2 Object Seeing**

The Spatiality Claim is a claim about what is required for object seeing. But what notion of object seeing is in play here? There are different things one might legitimately have in mind in thinking about object seeing or the visual perception of an object. For instance one might think of the visual *perception* of an object as something we might also describe as the visual *cognition* of an object—where cognition is understood to be conceptually sophisticated, as requiring the possession of and capacity to employ a range of concepts. Accordingly, one might think that object seeing requires the conceptual *identification* or *recognition* or *categorization* or *classification* of an object. But this is not the notion of object seeing or visual perception of an object in play here.

I will follow Dretske, as I take it Cassam does, in taking object seeing to be a perceptual relation, in the visual modality, between a subject and a material object which is 'non-epistemic' or 'simple' (see Dretske (1969, Chapter 2), and his (1979), for discussion see Smith (2001)). The precise details of this notion of object seeing need not detain us here, the intuitive point, which it is important to bear in mind, is just that the notion of object seeing in play is the notion of a cognitively and conceptually primitive visual achievement. It is, as Dretske puts it, 'relatively free from the influences of education, past experience, linguistic sophistication, and conceptual dexterity' (1969, p. 4). To see an object, in this sense, is to exercise 'a primitive visual ability which is common to a great variety of sentient beings, an ability which we, as human beings, share with our cocker spaniel and pet cat' (Dretske, p. 4).

Note also that it is perfectly consistent with the idea that seeing an object is cognitively unsophisticated that it is nonetheless a mode of conscious awareness (or that it involves such awareness). Throughout I'm interested only in seeing objects in the ordinary sense in which such seeing is a form of or implies conscious awareness.

## **1.3 The Visual Differentiation Condition**

What then of the visual differentiation condition involved in the argument? The idea here is that seeing an object requires one to see it as being some way different to some aspects of its (apparent) immediate environment—that is, either aspects of its *actual* immediate environment (which one sees or which looks some way to one), or aspects of its *apparent* immediate environment, the immediate environment it merely appears to have. Seeing an object, on this view, requires seeing it as being different, e.g., in terms of, say, colour, shape, boundary, size, or some other visible property, such that it is a visibly distinguishable element among the elements in one's visual consciousness (at a time). Imagine, for instance, seeing a bright pink bird set against a clear blue sky, if one sees the bird and sky for what they are (at a time), one will likely see the bird as being different, colour wise, to what surrounds it, one will visually differentiate it.

Seeing an object *a* as being some way different to *b* (where *b* is some aspect of *a*'s (apparent) immediate environment, e.g., a close-by object) might not always be as simple as it is in the pink bird–blue sky case. The (apparent) difference might be much subtler. For instance, one might *just about* see *a* and *b* to be different in respect of colour. This will be a case of visual differentiation by means of colour perception, even if it not as straightforward or “easy” as it is in the pink bird–blue sky case: one *does* see *a* as different, colourwise, to *b*, yet not so clearly as one sees the pink bird as being different (colour wise) to the blue sky in the case mentioned above.

In outlining the visual differentiation condition Cassam draws heavily on the discussion of visual differentiation in Chapter 2 of Dretske (1969), but Dretske tends to put things in terms of an object *looking* some way different (to its surroundings) to a subject, rather than in terms of ‘seeing as’ (though c.f., pp. 9–10). These different ways of talking get at the same thing: they are supposed to indicate that visual differentiation concerns *visual appearances* as opposed to how one *conceives* of or *thinks* of what one perceives. Intuitively, one can see one thing as being visibly different to another thing even if one doesn't (or cannot) think about the seen things as different in the relevant way. For example, in seeing the pink bird in the blue sky it just *looks* to me to be different to how the sky looks. This is not the same as me *thinking* of it as different, though it might be the *basis* for such a thought.

To say that visual differentiation is about how things are in one's visual consciousness, as opposed to thought, perhaps also helps us to appreciate that to say that *S* visually differentiates *a* from *b* is not to say that there is something *S* *does*, namely, *differentiates* or *distinguishes* *a* from *b* (at least not on the understanding of these expressions being employed here). It is, rather, and to repeat, a matter of how things visually appear to *S*. (That is not to say, of course, that action or effort might not aid or result in visual differentiation. Perhaps, for instance, attending carefully to some element of a scene in a certain way can alter how things visually appear to one by bringing certain visible differences into view).

The idea behind the visual differentiation condition, then, is that seeing an object requires that object to be singled out in one's *visual consciousness*, not in one's thought, and not necessarily in an action-involving way. And we can give expression to this by saying that seeing an object requires seeing it as (being) some way different to its (apparent) immediate environment.

The visual differentiation condition is just a further specification of something many believe. Namely, that if one is to see an object then it must look *some* way to one, or, one must see it as being some way ("all seeing is seeing-as"). The further specification is that in seeing an object it must look to one to be some way *different* to some aspects of its (apparent) immediate environment. This is still a relatively unspecific condition. For there are indefinitely many specific ways in which *a* can look to one to be some way different to *b*, and the condition requires only that seeing an object *a* requires it to look to one to be different to *b* (some aspect of its (apparent) immediate environment) in some such way or another—rather than there being some such way which is such that if *S* sees *a* then *S* must see *a* as being different to *b* in *that* way. There is no doubt more to be said by way of explaining what the visual differentiation condition is (and is not), but I want to turn now to the question of why we should accept it. Dretske motivates the visual differentiation condition on the basis of various examples (see, e.g., pp. 23–25), and Cassam follows him in this. One of these examples we can call *Wall of Cubes*, and let's suppose the subject of this case is called 'Jasper'.

Consider Jasper viewing nine cubic bricks making up a wall of cubes (fig. 1). Jasper visually differentiates the middle cube—cube #5—that is, Jasper sees that cube as being different to the other cubes, he sees where its boundaries are, and sees it to be spatially distinct from the surrounding cubes. Now suppose the lights are dimmed and Jasper retreats to a distance such that the ensemble of cubes appears to him as a uniform mass without distinguishable parts. Consequently, cube #5, for instance, is not visually differentiated for Jasper. Dretske thinks that when the lights are dimmed and Jasper retreats he can no longer *see* cube #5. This is because the cube is not visually differentiated. Although it is not *seen*, still, Dretske thinks, 'cube #5 makes a positive contribution to the way the 'square' [the wall of cubes] looks, in the sense that without it the square might appear to have a hole in the center, and in the sense that the light from #5 is stimulating [Jasper's] visual receptors...' (pp. 23–24). And in this sense, Dretske admits, the cube still *looks some way* to Jasper. But since it is not seen as some way different to its (apparent) immediate environment he doesn't see it.

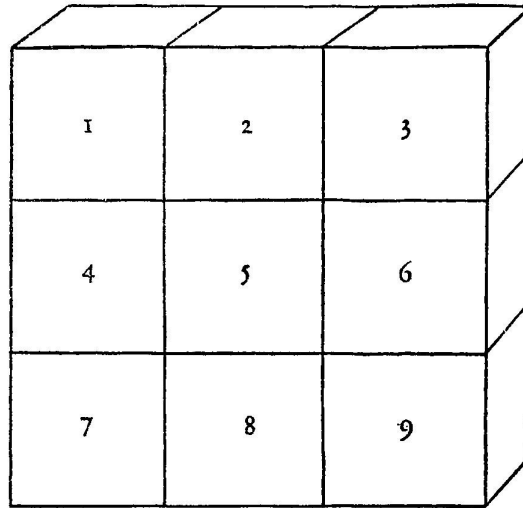


Figure 1: *Wall of Cubes*, see Dretske, p. 24.

And Cassam appeals to another of Dretske's examples:

Imagine an astronaut looking down from an orbiting satellite at a portion of the earth that looks uniformly green to him. Even if he knows that there is a hill beneath him somewhere, and is looking in the direction of the hill, it's just not plausible that he sees the hill. He doesn't see it because 'nothing marks it out as an isolable element in the landscape' [Dretske (1969), p. 26]; he is too far away to differentiate it and therefore too far away to see it, even though there is actually a hill where he is looking (Cassam (2007), pp. 94–95).

Let's call this further case *Astronaut*. The idea, then, is that cases like *Wall of Cubes* and *Astronaut* help us to appreciate that seeing an object requires visual differentiation. In these cases (and others) there is some object (a cube, a hill) which makes some difference to how things visually appear to the subject. Yet, we don't think, in these cases, that the subject *sees* the relevant object. The explanation for this is that seeing an object requires visual differentiation, and the objects are not visually differentiated for the subject in these cases.

For a defender of the visual differentiation condition an excellent type of case is a certain sort of camouflage case. That is, a case where an object is camouflaged because it visually blends in to its background (and so, from many viewing points, simply can't be visually differentiated). We tend to think that objects can't be seen if they are camouflaged in this way—grist to the mill of the defender of the visual differentiation condition. Indeed, in her discussion of visual differentiation, Susanna Siegel motivates the visual differentiation condition with just this sort of case:



Suppose you have a friend, Franco, who likes doing stunts in the sky. He dresses in red, and uses invisible fibres to suspend himself in the air. And there you see him, while you are looking through the window of a skyscraper: he is a figure in red, bobbing and waving. Now... consider a subject looking through the window of a skyscraper, call her *S* ... *S* seems to see nothing but a uniform bright blue expanse. *S*'s experience is at least partly veridical: this time, Franco has painted his body so that its surfaces look to *S* to be the exact shade of blue as the sky looks, and he is suspended from invisible fibres in *S*'s line of sight as she looks through the window. Although Franco is not part of the uniform expanse of bright blue light, the part of the scene before *S*'s eyes where Franco is located appears to be part of such a uniformly bright blue expanse. Call this the Franco case (2006, p. 434).

Of this case Siegel says:

... even though *S* is looking straight at him, *S* does not see Franco. Perhaps *S* sees Franco's disguised surfaces. But *S* is not in a position to form a *de re* belief about Franco on the strength of her visual experience... Franco, in this case, is like a chameleon: he blends in with his surroundings to the point where he is, to *S*, indistinguishable from them. If Franco were painted a different colour, or if instead of hanging still he moved around, as in the first case, he probably would bring about a change in *S*'s visual phenomenology, and *S* would be able to see him. But the fact remains: *S* does not see him in the world in which he is painted blue and hangs still (p. 434).

I think it is intuitively plausible that in this set up, where Franco is visually indistinguishable from his surroundings, *S* doesn't see him. But in any case, Siegel motivates this verdict also on the basis of the idea that *S* is not in a position to form a *de re* belief about Franco on the strength of her visual experience. This is a natural motivation for Siegel to offer since on the notion of object seeing she is interested in 'if one sees an object *o*, one can form a *de re* mental state about *o*, or demonstratively refer to *o*, just by exercising whatever general apparatus is needed for *de re* mental states or demonstrative reference... The experience of seeing *o* suffices for forming a *de re* mental state or for making demonstrative reference, so long as the subject has the cognitive apparatus needed for these things' (p. 432). But is this notion of object seeing consistent with the simple or non-epistemic notion we are interested in here? Yes. Since it is consistent with the idea that seeing an object doesn't constitutively require one to form some conceptual *de re* mental state about it that seeing an object must put one who is capable of forming such states in a position to do so.

As noted, Siegel uses this case to support the visual differentiation condition, as she says:

a natural moral to draw is that for object-seeing, not just any phenomenology will do; what's needed is visual phenomenology that suffices for differentiating Franco from his surroundings. It will be useful to have a label for this kind of visual phenomenology; call it 'differentiation phenomenology'... What makes this a natural moral to draw from the Franco case? A clear case of lacking differentiation phenomenology is the case in which a thing is camouflaged. And when a thing is camouflaged, you can't see it. It is therefore natural to suppose that a necessary condition for seeing something is that the perceiver have differentiation phenomenology (p. 435).

These three cases may not *establish* that seeing an object requires visual differentiation, but they do make the claim seem very plausible. For now, I will move on to complete my outline of Cassam's argument, but in section (2) below I will return to the question of whether we should accept the visual differentiation condition. I will suggest that, despite the plausibility of these cases, there seem to be counterexamples to the visual differentiation condition; even cases where a thing is camouflaged (in the relevant sense where that is a matter of a thing visually blending in to its background) and still seen.

#### **1.4 Visual Differentiation and Spatial Perception**

What now of the next step in the argument, premise (2), that seeing *a* and *b* as being in some way different or distinct requires seeing them as being *spatially* distinct?

This is bound to seem correct if we focus on just *some* cases of visual differentiation, that is, those cases where objects are differentiated by means of seeing them as being in different places. For instance, consider this sort of case: one sees some fish swimming around in a tank of water, freely and independently, one can just *see* them as being *different* since one sees them as *spatially distinct* (as occupying different locations at a time, and tracing distinct paths through space over time). In this case one sees the things as different by means of spatial perception. The visual experience one has is as of distinct entities in a space. If we focus on just *such* cases of visual differentiation it is bound to seem right that there is a close link between visual differentiation and spatial perception.

But what about other cases? As noted, *a* can look to one to be some way different to *b* in a number of different ways. What about cases where the relevant way in which *a* and *b* look different isn't a spatial way? An example Cassam discusses is when one 'can see that (at a given time) *a* is pink and *b* is not pink' (p. 99). Isn't this a case where visual differentiation doesn't require the perception of spatial location, since one differentiates *a* from *b* by means of seeing them as having different *colours*? However, as Cassam goes on to suggest, even that sort of visual differentiation requires that the relevant objects are seen as spatially distinct. He says:

one couldn't see *a* and *b* as distinct without seeing them as being in different places; it isn't possible to perceive both pinkness and its absence in the same region of space at the same time. The most we can say, therefore, is that seeing *a* and *b* as being in different places needn't be the *means* by which one sees them as numerically distinct. It doesn't follow that seeing them as being in different places isn't a background necessary condition of seeing them as numerically distinct by seeing one of them as pink and the other as not pink. Seeing *a* and *b* as being in different places is what makes it possible to distinguish them on the basis of colour, and it wouldn't be possible to distinguish them on this basis without perceiving them as being in different places. The perception of location is, in this sense, an enabling condition for distinguishing them on the basis of colour (pp. 99–100).

So Cassam readily admits that there are all sorts of ways in which objects can be visually differentiated, or be seen as distinct or different. These ways need not themselves have anything to do, directly, with the spatial features of the things in question. But the point Cassam insists upon is that whatever the way in which *S* sees *a* as distinct from or different to *b* is, *S* will have to see *a* as being spatially distinct from *b*, in order to, as Campbell puts it, 'house' the 'outcome of the perceptual differentiation' (2009, p. 316).

So premise (2), like premise (1), looks at least *prima facie* plausible. I'll say no more about premise (2) since my main critical focus will be on premise (1). Before we get to that, though, we need to discuss why, as I noted above, Cassam endorses only a qualified version of the Visual Differentiation Argument.

### 1.5 Qualifying the Argument

Cassam thinks that the argument isn't quite satisfactory as it stands, for we can see objects in situations where their environments are not visible to us, or where they have no apparent environments at all (p. 95, fn 12). Why think this? Well, for a start, individuals with a condition known as simultanagnosia, are *unable* to perceive more than one object at a time (there is more on this in section (3) below). But a more ordinary case comes from Dretske (1969), pp. 26–27, let's call the case *Nose*: when I put my nose up to a wall and my whole field of vision is filled with just the wall, presumably, in normal conditions, I can see the wall, but I can't see any of what surrounds the wall, nor does there appear to me to be anything which surrounds the wall. I can see the wall in this case but I don't visually differentiate it, that is, I don't see it as being some way different to its (apparent) immediate environment since no such (apparent) environment is visible to me. (This is so even if we admit that *Nose* is somehow parasitic on more normal cases of object perception where we do distinguish the object from its background).

The visual differentiation condition, then, is applicable, if at all, only in a restricted range of cases: just those cases where one sees an object in a situation where that object looks some way to one *and* where it has an apparent immediate environment—which might just be its actual immediate environment which looks some way to one, or a merely apparent environment. Thus, the first premise of the Visual Differentiation Argument can be taken to apply to just those cases, and not every case of object seeing. And so the qualified conclusion of the argument is: in *just that restricted range of cases*, object seeing requires spatial perception. Incorporating this restriction isn't a major blow to the argument however, for the *typical* situations in which we see objects fall within the relevant range of cases—we typically see objects situated as they are amongst other things which we also see, or, as constituents of scenes which we see. And if we can establish that in a restricted range of cases, including those typical cases, object seeing requires spatial perception, then we will obviously be making progress in trying to establish the more general Spatiality Claim.

The question I now want to address is whether the Visual Differentiation Argument, understood in this more subtle way, is any good?

## **2. Questioning the Visual Differentiation Condition**

Henceforth when I talk about the visual differentiation condition I will understand it to be restricted in the way mentioned in the previous section. In this section I will offer some putative counterexamples to the visual differentiation condition. The cases do seem to falsify the condition, but I certainly don't claim to be presenting a knock-down argument here—perhaps there are further things to be said about the examples I offer which help to alleviate the pressure I claim they put on the visual differentiation condition. I mean just to raise a challenge which needs to be addressed in order for us to give any weight to the Visual Differentiation Argument.

### **2.1 Invisible Frame**

Here is the first case. Imagine a modern art gallery known for its quirky installations. In this gallery one of the installations is a large frame, hanging on one of the gallery walls. The frame is empty, it doesn't house anything (so it is not like a typical portrait frame installed in a more orthodox art gallery). Thus, when installed, one can see right through the frame's rectangular gap to the wall it is hung on or attached to. Suppose also that the frame is designed so as to visually blend in with the wall behind it. That is, suppose the colour and texture of the frame's surface matches the colour and texture of the wall's surface. Suppose also that although the frame is very large in that it effectively "frames" a large area of the wall, its structural parts (the lengths of material used to construct the rectangular shaped frame) are very thin, so that when

hung on the wall it barely extends out from the wall. This helps to reduce shadows and other depth cues which might otherwise prevent the visual blending (or camouflage) effect that the artist is going for. Suppose also that the lighting is carefully designed so as to help bring about this effect. The artist calls this installation *Invisible Frame* and takes pleasure at the fact that many visitors to the gallery don't notice it (or believe that there is a frame there). They take the art installation to be *the wall*, and the title of 'invisible frame' to constitute some sort of profound statement by the artist.

What can we say about this case so far? Well, let's suppose the artist's installation is so effective that from many angles viewers don't just fail to notice the frame, they literally can't see it—it really is invisible. This is perfectly understandable if seeing requires visual differentiation, since from the relevant viewing angles the frame is not visually differentiated. Although the frame isn't seen from those angles it does *look some way* to the viewers, just like cube #5 looks some way to Jasper in *Wall of Cubes* when it isn't visually differentiated. That is, the frame is an element of the scene before the viewers, in their field of vision, which makes a positive contribution to how the scene looks to them. (So perhaps here it is more plausible to say only that *in a sense* the frame is invisible—it can't be *seen*—yet in a sense it is visible to viewers, since it looks some way to them.)

Now consider a subject, Juliet. Suppose that she is viewing the installation. Juliet has no idea that there is a frame there, she is one of those visitors to the gallery who thinks that the wall itself is the work of art. Suppose that she puts her nose right up to the wall so that all that is in her field of vision is the wall (she doesn't get any of the frame in her field of vision at that moment). As noted above when considering the *Nose* case, intuitively we would want to say that in such conditions Juliet can see the wall before her eyes, even though she doesn't visually differentiate it. But now suppose that she gradually moves back so as a bit of the frame enters her field of view, but it is not visually differentiated from the wall (and she doesn't notice it). Now in these circumstances we would, as noted, perhaps be inclined to think that Juliet still doesn't see the *frame*, but would we be inclined to think that she no longer sees *the wall*? After all, at *this* moment since a bit of the frame enters into her field of vision, the wall is no longer visually differentiated. It doesn't look different to any of *its* immediate environment (the frame) which looks some way to Juliet.

I take it that in this case, call it *Invisible Frame*, we wouldn't intuitively suppose that Juliet can no longer *see* the wall (anymore than we would intuitively think that in the *Nose* case mentioned above the subject can't see the wall). But that Juliet cannot see the wall is exactly the verdict we have to deliver if we insist upon the visual differentiation condition: since Juliet's altered situation is one in which the wall and an aspect of its immediate environment (the frame) looks some way to her, but the wall isn't seen (by her) as being different to any aspect of its immediate environment.

## 2.2 Camouflaged Roof

As noted above, in outlining Siegel's motivation for the visual differentiation condition, a very good sort of case for a defender of the visual differentiation condition is a camouflage case. That is, a case in which the object cannot be seen because it is camouflaged in a certain way.

Now it is wrong to think that if an object is camouflaged by any means or in any way, then it can't be seen. For instance, consider this sort of case: Suppose that there is a military bunker situated in a hilly landscape, and for reasons of security it has to be disguised. Suppose then that the bunker is made to look just like one of the other hills in the area. In a perfectly ordinary sense the bunker is *camouflaged*. It doesn't seem right to think that *this* sort of camouflage prevents the bunker from being seen. Presumably one can see it, and moreover see it *as a hill*. The effect of the camouflage is to prevent visual *identification* of the hill, not visual *perception* of it. When the military personnel who work in the bunker arrive, and go into the building, it is not as if they can't *see* the building they are going into. They can, but they see something which is disguised to look like a distinct sort of thing. And when enemies approach the bunker they may well *see* it (it shows up on their visual radar equipment, they count it among the other hills they see, they wouldn't be inclined to walk into it, etc), but due to the quality of the camouflage they won't see it *for the bunker it is*.

So when Siegel notes in the discussion quoted above that if a thing is camouflaged, it can't be seen, this is strictly speaking false unless Siegel has in mind camouflage in a more specific (yet still ordinary) sense: where the object's being camouflaged is constituted by its visually blending into its background so as it is not something that can be visually distinguished from (seen as different to) its (apparent) immediate environment from many viewing angles. The military bunker is not camouflaged in *that* way, it can be seen as one of the many distinguishable hills, and so can be seen as different to its (apparent) immediate surroundings. So does *that* sort of camouflage prevent seeing? This is not obvious either. I want to suggest a *prima facie* counterexample, and hence suggest that not all camouflage cases *of the more specific sort that Siegel is interested in* are such that in them the camouflaged thing cannot be seen.

Suppose that a bunker is installed in a flat landscape, in the middle of a field. But this time, suppose that the bunker is installed underground. For security reasons the roof of the bunker has to be disguised. It is disguised by making it look just like the surrounding field, and this is done in such a way that it visually blends into the field. So, the bunker has a grassy roof, and it can't be visually differentiated from the surrounding field, for instance, there is no visible marking where the roof ends and the surrounding field continues.

Suppose that Jenny is a military agent, responsible for camouflaging military installations, and inspecting and maintaining such camouflaged sites. She visits the bunker with the camouflaged roof. Now, suppose that she is lowered from a helicopter right onto the camouflaged roof, but for security reasons she is wearing a blindfold. She was told by her superiors that she would be lowered on to the camouflaged roof of the bunker. They confirm, by means of GPS tracking, that she has landed on the centre of the roof, and instruct her to take off her blindfold. She quickly takes off her blindfold with her head lowered and throws it out of view. At that moment Jenny looks downwards, and let's suppose that what enters into her field of vision (and looks some way to her) is mainly the grassy roof but also some of the surrounding field (and nothing else, e.g., none of the sky, etc). Her superiors then ask: 'can you see the roof?' and she answers 'Yes, it is right below me'. She then looks around, taking in some more of the field, and adds: 'The camouflage is effective, the roof doesn't look any different to the grass'. Call this case *Camouflaged Roof*.

The intuitive verdict in *Camouflaged Roof* seems to me to be that Jenny can see the camouflaged roof, even though it is not seen as anyway different to its immediate surroundings, and even though it is camouflaged in the specific way we are interested in here. Moreover, Juliet seems to be able to form a *de re* thought about the roof on the basis of her visual experience. She can think, for instance: *that roof* is camouflaged well, or *that* must be the roof. So even if we think that *S*'s seeing an object must put *S* in a position to form a *de re* thought about that object (if *S* is capable of forming such thoughts), it still seems right to think that in this case Juliet *sees* the roof.

## 2.3 Discussion

The cases I have offered, *Invisible Frame* and *Camouflaged Roof*, seem to be counterexamples to the visual differentiation condition (even when we understand that condition in the way recommended by Dretske and Cassam as incorporating the restriction mentioned above). That is, they are cases where some object (a wall, and a roof, respectively) is seen by a subject, in a situation where aspects of its immediate environment looks some way to one, yet in which that object doesn't look any way different to any aspects of its immediate environment.

Before moving on, I want to note that it is consistent with what I have argued so far that visual differentiation is still important when it comes to seeing. It is just that it is wrong to think that the way to articulate that importance is with the visual differentiation condition.

One way to appreciate the importance of visual differentiation is to note

how it may well be required for all sorts of visual achievements we are interested in. For instance, seeing an object as (being) (an) *F* for a range of *F*s may well require visual differentiation. For instance, seeing an object as being shaped in some relatively determinate way (e.g., as being cubic in shape) may well require one to visually differentiate it from aspects of its apparent immediate environment.

Another way to appreciate the importance of visual differentiation is to note that visual differentiation might still be explanatorily relevant in a range of cases of simply seeing some object. Nothing I have said in offering the (potential) counterexamples I have offered warrants a re-evaluation of the more favourable cases discussed above—*Wall of Cubes*, *Astronaut*, and the *Franco Case*—as they have been described. Indeed, I myself find those cases persuasive in the sense that it seems quite right to say that in them the relevant subjects don't see the relevant objects *because* they don't visually differentiate the relevant objects. The problem is with moving from this observation to the more general claim that if one sees an object it *must* be visually differentiated from its surroundings. For this just doesn't seem to be the case, in the light of the examples I have offered in addition to the more favourable cases.

A more appropriate perspective to take, given the further examples I have put forward in this section, is that in certain contexts or circumstances, visual differentiation will be required for seeing an object, but not in all contexts or circumstances. In some but not all contexts or circumstances whether *S* visually differentiates *a* from its (apparent) immediate environment is relevant to the question of whether *S* sees *a*.

It is a delicate question of how we are to codify things such that we can see precisely which sorts of cases, with which sorts of features, will be cases in which visual differentiation is explanatorily relevant, and which sorts of cases with which sorts of features, will be cases in which visual differentiation is not explanatorily relevant. It may be that such a codification is impossible, but supposing it is not, what might such a codification look like?

To put things very abstractly: we might suppose that some condition *p* is required for seeing an object. In a range of cases *p* is ensured because *S* visually differentiates the relevant object. In *these* cases visual differentiation is explanatorily relevant. That is, in these cases the fact that *S* visually differentiates *a* is part of what explains why *S* counts as seeing *a*, since it is the visual differentiation of *a* which ensures that condition *p*, a condition on object seeing, is satisfied. But it could be that in other cases *p* is ensured in some other way, and so visual differentiation is not required or is not explanatorily relevant even if it is in place.

For instance, the higher-level condition *p* might be the condition that if an object is seen it must be *singled out* for one in *some* sense. In a range of cases the object is



singled out precisely by visual differentiation: it is singled out in one's visual consciousness, and hence the higher-level condition is satisfied (it is singled out in *some* sense). But in other cases perhaps *S* can see *a* without visual differentiation, so long as the higher-level condition is satisfied in some other (suitable) way. When Jenny lands on the military roof, the object of her subsequent attention—the roof—has already been singled out for her in a non-visual way: she has been placed on it, thanks to the efforts of her superiors and their GPS equipment, and she *knows* that she is on *it* and looking at *it*, and thus in a sense the roof is singled out *for her*, in thought. Part of what explains why Jenny counts as seeing the roof in this case is the satisfaction of this singling out condition. But the way in which the condition is satisfied in this case renders visual differentiation unnecessary.

I don't mean to endorse this sort of picture or the singling out condition. I am just trying to explain how even if we don't endorse the visual differentiation condition in the form recommended by Dretske, Siegel, and Cassam, we can still treat it as explanatorily relevant in a range of cases—including the cases those authors discuss.

Now, the crucial point for the purposes of the discussion of *spatial perception*, is that if we take *Invisible Frame* and *Camouflaged Roof* to be the counterexamples they seem to be, then we must reject the Visual Differentiation Argument, since it means that premise (1) of that argument is false. (The Visual Differentiation Argument needs the visual differentiation *condition*, not just the idea that visual differentiation is contextually or defeasibly required for object seeing). The falsity of premise (1) of the Visual Differentiation Argument is exactly the conclusion I am drawn to, since the above cases do seem to me to be straightforward counterexamples. This is just a *prima facie* challenge, there are no doubt replies in the offing. But since I am sympathetic to the *conclusion* of the Visual Differentiation Argument, I don't want to engage in tedious rounds of objections and replies. Instead, I'll turn to defend that conclusion. And if there are satisfactory ways of dealing with the potential counterexamples I have offered, then the Visual Differentiation Argument can feed nicely into my independent defence of its conclusion.

### **3. Defending the Spatial Location Claim**

The Spatiality Claim, it will be remembered, is the claim that the perception of spatial properties is required for seeing an object. Thus far we have been focusing on a specific version of the Spatiality Claim, a version which concerns specifically the perception of an object's spatial *location*, not other of its spatial properties—the Spatial Location Claim. I now want to evaluate the Spatial Location Claim directly, rather than an argument for it. And since we are no longer concerned with visual differentiation, we can drop the restriction to just those cases where one sees an object in a situation where some aspects of its (apparent) immediate environment

looks some way to one. So now our focus is on object seeing *per se*, and whether spatial location perception is required for it. First, I will discuss how, more precisely, we are to understand the Spatial Location Claim.

So far, following Cassam, we have been discussing spatial property perception mainly in terms of seeing as. However, Cassam frames things in different ways at different times. On the one hand Cassam talks of *seeing* a property (or an object's property), and, on the other hand, seeing an object *as* having a property. For instance, in giving expression to his commitment to the Spatiality Claim, Cassam says 'there is no such thing as seeing an object without seeing any of its spatial properties' (p. 117). But Cassam also expresses the more specific Spatial Location Claim in terms of 'seeing as'—the idea there being, as we have seen, that seeing an object requires seeing it as being in a spatial location. But these ways of talking are not equivalent. Let me explain why this is so.

In its ordinary sense the verb 'see' is governed by what Dretske calls an *existence condition*. Dretske puts the point like this:

Unlike such verbs as 'to desire', where it is possible to desire a speckled poodle without their being any speckled poodles, one cannot see a speckled poodle, or step on a speckled poodle, without there being one ((1969), pp. 43–44).

If *S* sees some object, *x*, then there is an *x* which *S* sees. One cannot genuinely *see* a pig before one, in the ordinary sense, if there is no pig there which one actually sees. We might think that there is an application of this to property perception, including spatial property perception. For instance, one cannot see an object's cubic shape if it doesn't have a cubic shape which is seen by one. Likewise, one cannot see an object's spatial location, if that object's location property is not seen by one (and hence if it doesn't occupy the relevant location).

Now although seeing *a* as (an) *F* requires that *a* exists, it isn't governed by an existence condition in the *property* position. Perhaps a happier way to express this point is to say that seeing *a* as (an) *F* is not a *factive* state, for *S* can see *a* as (an) *F* without it being the case that *a* is (an) *F*. Suppose, for instance that *S* sees *a* as being cubic in shape. This simply doesn't entail that *a* is cubic (and so doesn't entail that *a* has cubic shape which is seen by *S*). *S* might see *a* as being cubic in shape when it is not shaped in that way at all, that is, *S* might *misperceive* *a* with respect to its shape.

Similarly, *S* can see *a* as being to the left of *b*. But this doesn't entail that *a* is to the left of *b* (and so doesn't entail that *a*'s being to the left of *b*, that property, is seen by *S*). *S* might see *a* as being to the left of *b* when it doesn't instantiate that location property, that is, *S* might perceptually *mislocate* *a* (more on this below).

So, framing Spatiality Claims, such as the Spatial Location Claim, in terms both of seeing, and of seeing as, is misleading, since on the usual understanding of these ways of talking, seeing an object's property requires the instantiation of the relevant property in the object, whereas seeing an object *as* having a property doesn't. So, we can distinguish two versions of the Spatial Location Claim:

Spatial Location Claim (1)

Seeing an object requires *seeing* some of its spatial location properties.

Spatial Location Claim (2)

Seeing an object requires *seeing it as* being in a spatial location.

I now want to evaluate a certain sort of challenge to Spatial Location Claim (1).

### 3.1 Perceptual Mislocation

In one good sense perceptually mislocating an object in the visual modality is a matter of seeing an object and *seeing* it as being in a location (relative to oneself or something one sees) which it doesn't actually occupy, or, to put it another way, it is a case where a seen object *looks* to one to occupy a (relative) location it doesn't actually occupy. Cases of visual mislocation do nothing to refute Spatial Location Claim (2), but one might think that they falsify Spatial Location Claim (1). That is, one might be tempted to think that cases where one visually *mislocates* an object will be cases where one sees an object but not its actual spatial location. I will argue that even if there are such cases of visual perceptual mislocation, it is not obvious that they entail the falsity of Spatial Location Claim (1).

First, are there cases of visual mislocation? It seems so. Perceptual mislocation can happen as a result of a condition known as *allegesthesia*, which Robertson (2004) describes as 'perceiving a stimulus presented in one location as in another location' (p. 157). Robertson notes that

This phenomenon is quite remarkable to observe. A patient can be very certain that a tap on his left hand was actually on his right or that a visual stimulus shown on his left was presented on his right. A patient might point to a place where nothing appears and say, "Yes, it is right there" even while it remains clearly present on the left (p. 157).

Allegesthesia is a general condition, but as Robertson's remark makes clear, it can take visual form. One case study, for instance, is reported by Mendez and Chen (2009). They state that *visual* allegesthesia is 'a condition in which visual images are transposed from one half of the visual field to the other...', and go on to describe the 'unusual case of a [brain damaged] man with continuous transposition of his right visual field into

his left...' (p. 1009). In their description they note that under examination the patient 'reported that the examiner, standing on his right side, was seen on his left. When the examiner moved items on the right, the patient reported the movements on the left' (p. 1010). Such cases of visual allesthesia seem to be cases where objects are seen yet where they are seen as occupying locations which they don't actually occupy.

Another relevant case study comes from McCloskey, Rapp, et al. (1995). There we are told of AH, a college student who has a visual localization deficit (in this case the deficit was developmental, rather than from acquired brain damage). This isn't a case of visual allesthesia in Mendez and Chen's sense, but it is plausible to think that AH sometimes visually mislocates objects in the sense described above (that is, it is plausible to think that in some conditions, AH sees objects as occupying locations which they don't actually occupy). Evidence for this comes from AH's performance in copying tasks, and directed movement tasks, some of which I'll describe briefly now. In copying tasks AH was required to sketch certain visual stimuli which remained continuously in view (so it wasn't a test of visual memory but of occurrent visual perception). For instance, AH was given the Rey-Osterrieth complex figure (see fig. 2 below), and in her copy of it she 'reproduced various component parts correctly, but made numerous errors involving location and orientation of the parts' (McCloskey, Rapp, et al. (1995), p. 112).

In one directed movement task McCloskey and colleagues required AH to reach for a 3-cm wooden cube or cylinder which was placed on the table in front of her at one of 10 locations. The object was first placed on the table whilst AH had her eyes closed, she then opened her eyes and reached for the object. AH showed localization errors on 63 out of 96 trials for objects on her left or right, that is, she reached to the wrong side of the midline 66% of the time on such trials (p. 113). (But she showed no localization errors on 24 trials in which the object was placed directly in front of her).

It is natural to suppose that AH's performance in these (and other) tasks reflects how she *saw* the stimuli. That is, they reflect facts about the character of AH's conscious visual perception. And thus her performance indicates that in some conditions, though not all, objects (or object representations) were seen as occupying locations they didn't actually occupy. (For further discussion of AH see McCloskey and Rapp (2000) and Robertson (2004), pp. 33–36).

It seems, then, that there are actual cases where individuals see objects, and see them as being in spatial locations (relative to themselves or other things), but where they see them as being in spatial locations which they don't actually occupy. These cases are consistent with Spatial Location Claim (2), but are they consistent with Spatial Location Claim (1)? Aren't these cases where one simply doesn't see the actual spatial locations (spatial location properties) of objects, contra Spatial Location Claim (1)?

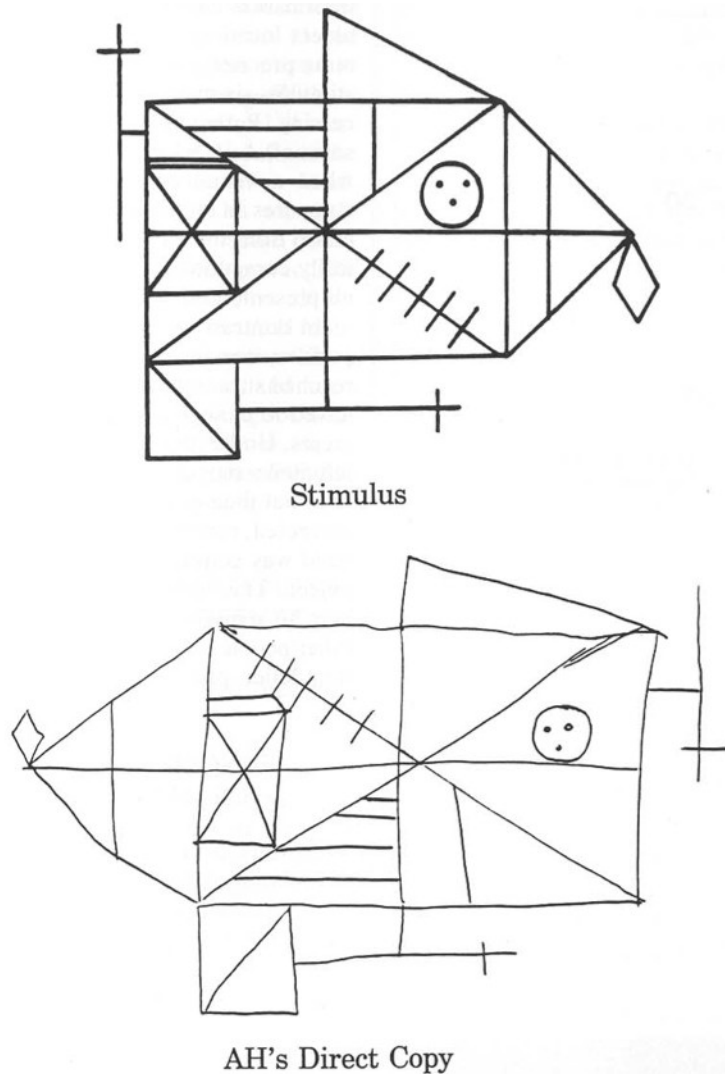


Figure 2: The Rey-Osterrieth complex figure and AH's direct copy, taken from McCloskey, Rapp, et al. (1995), p. 112

One way in which we might defend Spatial Location Claim (1) comes from recognizing that spatial location perception is, so to speak, *multilayered*. That is, suppose we see an object. We might also see the property it has of being in some location (or *locations*) relative to oneself (e.g., its being to one's left, above one, etc). That's one layer, on another layer we might also see the property it has of being in some location (or locations) relative to other things (e.g., its being to the right of that lamppost). And at yet another layer it might also be that an object can be seen as occupying a region of space—or be presented to one as in a region of space—where that *isn't* a matter of an object being presented in some region of space *relative* to oneself or other things. We might then think that the mislocation cases I've discussed are

mislocation cases only in a sense, since the mislocation is, *so to speak*, at just some layers, but not others.

In the cases discussed above one misperceives where the objects are relative to oneself and/or other things, but for all that, it may be that in a non-relative sense, one still sees where they are in space. That is, for all that, it may still be that one sees (and doesn't misperceive) the objects as occupying the very regions of space they actually occupy, and sees the spatial location properties in virtue of which they occupy those absolute locations. The point, then, if we admit that spatial location perception has these "layers" (or aspects), and more, is that even if the cases discussed force us to admit that there are *some* spatial location properties of objects we don't see, for all that there might be other spatial location properties of objects we do see. If there are, the cases don't refute Spatial Location Claim (1).

I think this a fair reply as it stands, but I want to focus my attention on another reply—a reply which doesn't involve us in the complexities that arise when we think that spatial location perception is multilayered in the way suggested. The reply I want to give questions the idea that in the mislocation cases subject's don't see the relative spatial location properties of objects. To get a firmer grip on the issue we can ask: when AH sees the wooden cube as being to her left when it is actually to her right, does she thereby fail to see—to make perceptual contact with—the property the cube has of being to the right of her? Or: when a patient suffering visual allesthesia sees the doctor as being to his left, when in fact the doctor is to his right, does the patient thereby fail to see the property the doctor has of being to his right? I want to suggest now that there is a coherent and plausible way of understanding these cases on which AH *sees* the cube's property of being to the right of her, and the allesthesia patient *sees* the doctor's property of being to the right of him, it is just that these properties are not seen *for what they are*, or *as they are*. Thus, I will suggest, there is a coherent and plausible way of understanding the cases on which they are certainly counterexamples to the following:

Spatial Location Claim (3)

Seeing an object requires seeing its (relative) spatial location properties *for what they are*.

But for all that they are not counterexamples to Spatial Location Claim (1).

In claiming that there is a way of understanding the cases on which they are counterexamples to Spatial Location Claim (3), but not Spatial Location Claim (1), I am employing a distinction between seeing something, and seeing something for what it is. This distinction certainly has application in the domain of seeing material objects. We are quite familiar with the idea that an object can be seen in all sorts of different ways, which ways being dependent upon a whole host of different factors.

And in a range of cases, the way in which an object is seen, or the way it looks to one in seeing it, will mean that it is simply not seen for what it is. I can see a pig before me even if it is disguised as a badger. I don't see it for what it is—the fact of its being a pig is not manifest in my visual experience. It is not obvious to me why we should think any differently about the perception of properties. And thus it is not clear to me why we shouldn't embrace the distinction between seeing a property and seeing a property for what it is. It doesn't seem incoherent to suppose that in some conditions one can perceive an object's property in such a way that it fails to visually manifest itself as the property it is.

Indeed, Kalderon (2011) has things to say about some cases of colour perception and shape perception which suggest something like this distinction. Let me outline that now. Kalderon asks us to consider a blue bead seen in pink light. He goes on to say that

A blue bead in pink light looks black. If the illumination were strongly enough colored and the rest of the elements of the scene were appropriately arrayed, then the perceiving subject may not be able to identify the bead as blue purely on the basis of his perception of that bead. Not only does it look like a black bead, it also looks to be black (p. 18).

In my terms, the subject in this scenario sees a blue bead as a black bead. Now, does this mean that they fail to see the blue colour of the bead? This is not how Kalderon thinks of things:

The perceiver is not blind to the color of the bead in the sense that he does not see it; rather, the perceiver is blind to the color of the bead in the sense that he is not in a position to recognize it by sight. Why should the fact that the bead looks black mean that we do not see the blue color of the bead—after all, that is just what blue things look like in pink light. Compare this with Austin's 1962 example. When looking at a straight stick submerged in water you see the shape of the stick even though it looks bent— that is just what a straight stick submerged in water looks like. (pp. 19–20).

Kalderon notes that this view of the case is partially motivated by the partiality of perception, that is, the idea that perception provides us with 'only a partial perspective on the material environment. If perception is partial, then what is seen depends not only on what there is to see, but on the visual sensibility of the perceiver and the circumstances of perception' (p. 7). Kalderon gives the motivation here:

If colors are encounterable features of the material environment, then different perspectives on a given color instance will present different color appearances. The look of a particular shade will vary with position and

intensity of the illuminant and with the color and position of other elements of the scene. If perception is partial, then blue will have one look in natural daylight, another look under artificial light, and another again in strongly colored illumination. If perception is partial, and colors are encounterable features of the material environment, then colors have multiple looks. In this way there are on a par with shapes that present different appearances from different perspectives (p. 19).

On Kalderon's view, as I'm understanding it, there is a distinction between seeing a property and seeing that property for what it is. One can see the blue colour of the bead even though, in certain conditions, one doesn't see it for the colour it is, even though, that is, in certain conditions it doesn't manifest itself to one as the property it is (since, in certain conditions the bead looks like a *black* bead and looks to be *black*). And one can see the straight shape of a stick even if in certain conditions one doesn't see that shape for what it is.

Whether or not Kalderon is ultimately *correct* to think of the cases in this way is not something I want to consider. The point is just that Kalderon's discussion helps us to appreciate that it is at least coherent to think that there is a distinction between seeing a property and seeing that property for what it is. Moreover, if perception is partial in the way that Kalderon suggests it is then it is natural to suppose that spatial properties, in addition to shape, which are also encounterable features of the material environment, present different appearances from different perspectives or in different conditions.

Drawing on Kalderon's discussion, we can say the following: If we admit the distinction between seeing a property and seeing a property for what it is, and think that perception is partial, it doesn't seem incoherent or implausible to suppose that AH sees the property the wooden cube has of being to the right of her. It is just that in the conditions of her perception—crucially, conditions partially characterized by her developmental disorder—that property is not visually manifest to her as the property it is (since in those conditions the cube is seen as being *to her left*). Likewise, if we admit the distinction between seeing a property and seeing a property for what it is, and think that perception is partial, it doesn't seem implausible to suppose that the patient with visual allesthesia can see the property the doctor has of being to the right of him. It is just that in the conditions of his perception—crucially, conditions partially characterized by a certain sort of brain damage—that property is not visually manifest to him as the property it is (since in those conditions the doctor is seen as being *to his left*).

I haven't tried to argue that this treatment of the visual mislocation cases is *correct*. I have just tried to suggest that this way of understanding the cases is coherent and plausible. The point of this is to show that there is a coherent and plausible way of



understanding these spatial mislocation cases on which they are *not* counterexamples to Spatial Location Claim (1). So, we can conclude this part of the discussion by observing that not only are these visual mislocation cases not counterexamples to Spatial Location Claim (2), they are not *obviously* counterexamples to Spatial Location Claim (1).

I turn now to another sort of problem case for these Spatial Location Claims. This further problem case is potentially problematic for *both* of the Spatial Location Claims. I will argue, however, that properly understood, both Spatial Location Claims are consistent with the further case.

### 3.2 Balint's Syndrome

Consider Balint's Syndrome. This syndrome, typically caused by brain lesions (specifically damage to both parietal lobes, see Robertson 2003, p. 96), is defined in terms of three main deficits: simultanagnosia, optic ataxia, and optic apraxia (see Robertson 2003, 2004). We don't need to discuss or elaborate the specific details of the syndrome to get a sense of why there is potentially a problem from Balint's Syndrome for the Spatial Location Claims, we just need to get a sense of how individuals with Balint's Syndrome perceive the world. Thus, I'll outline the syndrome by quoting at length some passages from the work of Lynn Robertson, who has done pioneering work on this condition. First, Robertson gives us a vivid illustration of the condition by describing how a Balint's patient would perceive a depiction of a complex scene. She then describes the perceptual life of an actual Balint's patient who she has examined over many years. I'll quote from each description in turn (for helpful philosophical discussion of the syndrome see Campbell (2007), and Schwenkler (2012)).

Robertson asks us to imagine looking at Caillebotte's *Paris Street: Rainy Day* (which is reprinted in her (2004), p. 5). This painting depicts a street scene on a rainy day. It is a complex scene which involves various objects (umbrellas, people, buildings, and so on) standing in various spatial relationships. In viewing the scene you might

admire the layout of the buildings as well as the violations the painter has made in proportion and symmetry. The play of water and its reflection off the stones catches your eye, and then your attention might be drawn to the pearl earring of the woman in the foreground. It looks delicate and bright against the darkness of that part of the painting. You may even wish you were part of the couple walking arm in arm down a Paris street under a shared umbrella (Robertson, p. 4).

But now Robertson describes things from the perspective of an individual with Balint's Syndrome:

Now imagine you look again. There is only an umbrella. You see nothing else. Your eyes are fixed straight ahead of you, yet that umbrella seems to fill your whole visual world. But then, all of a sudden, it is replaced by one of the cobblestones. You only see one [this is the simultagnagnosia aspect]. Are there others? This image might stay with you for what seems like minutes, but then, without notice, the cobblestone disappears and is replaced by a single gentleman. Next, the pearl earring may take over. It looks like a white dot of some sort. For you it does not look like an earring, since it attaches itself to nothing. You don't even know where it is. Is it to your left or right? Is it far or near? Is it closer to the floor or the ceiling? Sometimes it looks very small, other times, very large. It may change colors from white to sienna to bluegray (other colors in the painting). Since you don't know where it is, you cannot point to it, and if it were a real pearl hanging in front of you that you wanted to hold, you would have to make random arm movements until you touched it by chance [this is the optic ataxia element]. Once in your hand, you could readily identify it as a pearl earring and you could put it on your own ear easily (you have not lost motor control or the spatial knowledge of your own body). The space "out there," whether the spatial relationship between one object and another or the spatial relationship between a part of you and the object you see, is no longer available. Somehow your brain is not computing those spaces. There is no there there (pp. 5-6).

Although this *illustration* of Balint's syndrome involves perceiving *depictions* of objects, the details—the symptoms—of the syndrome illustrated apply to perceiving actual objects and real world scenes. Indeed, Robertson's illustration is based on her experience with a Balint's patient RM:

Single objects popped in and out of view in RM's everyday life... an object continued to be perceptually present for a while and then was replaced by another object or part of an object without warning [simultanagnosia]. However, the spatial location of the object or part he perceived at any given moment was unknown to him. RM was unable to accurately reach in the direction of the object he saw (whether with his right or left hand), producing random movements until his hand happened to bump into the object (optic ataxia). He would then readily grasp it. Neither could he verbally report the object as being to the left or right of him or towards his head or feet. His location errors were not due to spatial confusion, as he could readily report that his right or left hand or the right or left or upper or lower part of his back had been touched. He would accurately follow instructions to touch his upper left arm with his right index finger or to grab his right ear with his left hand. He could also follow commands to move his eyes or hands to the right or left, up or down, although eye movements were initiated slowly. The spatial frames of his body were intact. Despite an intact body-centered frame of reference, he

was dismal at determining where items were that were placed in front of him even when they remained in full view (p. 156).

And, Robertson adds

During early testing of his extrapersonal spatial abilities he often made statements like, "See, that's my problem. I can't see where it is." He also found it hard to describe what his perception was like. His explanations suggested that objects that popped into his view were not mislocated per se. Rather, they simply had no location in his perceptual experience (p. 156).

Robertson's descriptions suggest that individuals with Balint's Syndrome can (consciously) see objects without seeing their spatial locations ("There is no there there"). Balint's cases are *not* like the above visual mislocation cases. They are more extreme. As Robertson notes

These patients perceive a single object (it might be small or large, complex or simple at any given time), yet they have no idea where it is located. It is not mislocated. Instead it seems to have no position at all (p. 107).

If this is the correct way to interpret the perceptual lives of individuals with Balint's Syndrome, then it seems that the Spatial Location Claims can't be right. Is this the end of the road, then, for the Spatial Location Claims? Not quite. I will now explain why.

Many of the properties we perceive are determinates of determinables. For instance, in perceiving the crimson colour of a drop of blood I am perceiving a determinate of the determinable *red*. Crimson is a more determinate way of being red. But we can also perceive relatively determinable properties. In some conditions of perception I might perceive the property an object has of being *red*, even if I don't perceive the more determinate way of being red which the object instantiates. And perhaps in other conditions all I perceive is the property the object has of being *coloured*, as opposed to the determinate way in which it is coloured. Of course nothing can *be* coloured without being coloured in some determinate way, and nothing can *be* red without being red in some determinate way, but it doesn't follow from this that one cannot *see* those determinable properties without seeing the determinations of them.

This sort of structure is also present in spatial properties and the visual perception of them. Consider some of the cases I discussed earlier, *Nose* and *Invisible Frame*. In these cases one sees a wall close up. The boundaries that mark out the visible shape of the wall are just not perceptually available to one. In such conditions one simply cannot see the determinate shape of the wall. But it is not as if one sees it as *lacking* a shape, it is not as if one fails to get a visual sense of there being a *shaped* thing before one. It is plausible to suppose that in those conditions of perception, the wall's

property of *being shaped* (in some way or another), is what is seen, even though its determinate shape property is not. The same goes for the wall's determinate or precise *extension*. One can't see how great the extension of the wall is from one's vantage point—outside of what fills one's field of vision. But it is *visibly extended*. One way to think about this is as follows: one can see the property the wall has of being extended (a determinable property), even though one can't see the more determinate way in which the wall is extended, e.g., how absolutely massive it is. (Stazicker (this volume) develops an account of the visual presence of determinable properties; see also the very helpful discussion in Stazicker (2011) of how visual consciousness represents things as instantiating determinable properties, even when it doesn't represent them as instantiating determinations of those properties, and the empirical evidence which supports the idea that there is such representation of determinable properties).

It seems also that when we see objects which are very far away we are not in a position to see their determinate spatial location properties. For instance, suppose one sees the New York skyline at night, and also the moon shining down brightly. It is not at all obvious that one sees the moon's determinate spatial location properties (e.g., where exactly or precisely it is located relative to oneself, or the other aspects of the skyline such as a prominent skyscraper). But it seems obvious that in seeing the moon one's perception involves a layer or some layers of spatial location perception. One at least sees the property it has of being located (perhaps we might add: *out there*).

What I want to suggest is that RM's condition is consistent with the idea that he can see an object's property of *being located* or *being somewhere or other*. This is why the case of RM and individuals with Balint's Syndrome doesn't force us to reject the Spatial Location Claims. At most they force us to be clear that those claims are not restricted to just the perception of *determinate* location properties. (See French (MS) for a much more detailed development of the idea that Balint's Syndrome is consistent with relatively unspecific spatial perception).

RM's spatial deficits certainly ensure that he can't see the *determinate* or precise locations of objects, in egocentric or allocentric space—that is, relative to himself, or relative to other things. He is never, owing to brain damage, presented with objects in such a way that those spatial relationships are manifest to him (he can only see one object at a time, and even then he can't consciously perceive where an object is in relation to himself).

It is plausible to suppose that our ability to see the determinate and precise locations of objects and other things is related to the fact that we can perceive large chunks of space out there before us, in which objects are located. At any given moment, when perceiving normally, what is present to us is a large region of space, the same region

which we can move around and act in, which constitutes our ‘field of vision’ in a good sense of that expression, and in which things are *visibly* located, and stand in various *visible* spatial locations. The region of space we perceive is required for those objects to stand in those spatial relationships, and our perception of the region of space is required for our perceptual access to those spatial relationships (and so required for our being able to see the relative spatial location properties they instantiate). But RM doesn’t have conscious perceptual access to such extended regions of space, and as a result his field of vision, at any given point, is extremely limited. The condition which enables us to perceive the determinate (relative) locations of things is not satisfied in RM and individuals with Balint’s Syndrome.

In a sense, then, it is plausible to describe the perceptual lives of individuals with Balint’s Syndrome as lives in which there is no there there, or as lives in which things don’t seem to have positions in space. But if this is understood as pertaining to the perception of *determinate* spatial location properties—and this, it seems, is all the experimental data warrants—then it is consistent with the idea that even individuals with Balint’s Syndrome can see objects to be *located*. That is, it is consistent with the idea that in seeing an object an individual with Balint’s Syndrome sees that object’s property of being *somewhere* or other, even if they can’t see precisely *where*.

So unless we have a special reason to suppose that individuals with Balint’s Syndrome can’t see even these determinable location properties, it seems that Balint’s Syndrome doesn’t provide a counterexample to the Spatial Location Claims, so long as those claims are understood in the following more precise way (modified also to allow for the multilayered nature of spatial location perception):

Spatial Location Claim (1)

Seeing an object requires seeing some of its determinate or determinable spatial location properties.

Spatial Location Claim (2)

Seeing an object requires seeing it as being determinately or determinably located in space.

To be clear: to see one of an object’s determinate spatial location properties is to see a property it has of being in a particular region of space, or location (perhaps relative to other things one sees, or oneself, or not). To see an object’s (most) determinable spatial location property is to see the property the object has of being located, or being *somewhere* (which may or may not involve seeing some of an object’s more determinate spatial location properties). To see an object *as* being determinately located in space is to see an object as being in a specific region of space, or location (perhaps relative to other things one sees, or relative to oneself, or not). And to see an object as determinably located in space is to see an object as being located, or as being

somewhere (which may or may not involve seeing the object as being determinately located). The idea, then, is that cases of Balint's Syndrome don't contradict the Spatial Location Claims understood as such, since it is consistent with having that condition that one can visually perceive an object's determinable spatial location property, and visually perceive an object as being determinably located in space. (It is also worth noting that this affords us a further reply to the mislocation cases: plausibly, even when AH, for instance, mislocates the wooden cube, she still sees the property it has of being somewhere).

Consistency is one thing, but is it *plausible* to suppose that RM, say, can see an object's determinable spatial location property? Here is one reason we might offer for thinking that it is. RM can see not only objects, but other spatial features they instantiate, such as shape, and extension. It is plausible to suppose, then, that insofar as RM perceives objects there is a limited space which is present to him, a space in which those objects are shaped and extended, and in which those objects are *visibly* shaped and extended. That is, it is plausible to suppose that even RM has a limited field of vision. But it is hard to make sense of RM's object perception having *this* much spatial structure and content if he can't see the property an object has of being located or somewhere, or if he can't see an object as being somewhere.

#### **4. Revisiting the Spatiality Claim**

In the previous section I tried to defend the Spatial Location Claims from some potentially devastating counterexamples. If this defence is successful then we have yet to find a reason to doubt that in seeing an object one must *see it as* being (determinately or determinably) spatially located. Indeed, we have yet to find a reason to doubt that in seeing an object one must *see* its (determinate or determinable) spatial location properties. But even if this defence is unsuccessful there is a fallback position, a sort of concessive response which says: that *specific* version of the Spatiality Claim may be false, owing to the sorts of cases discussed, but, for all that, the Spatiality Claim can be true, if understood unspecifically. That is, given the distinctions between different claims we have made in discussing the perception of spatial location, more precisely, we should say: it is consistent with the falsity of the Spatial Location Claims that the following Spatiality Claims are true:

The Spatiality Claim (A)

Seeing an object requires seeing some of its determinate or determinable spatial properties.

The Spatiality Claim (B)

Seeing an object requires seeing it as instantiating some determinate or determinable spatial properties.

Again, consistency is one thing, plausibility another. I want to end, then, by saying briefly why I think that at least Spatiality Claim (B) is plausible.

A *conscious* perception of an object is (or involves) an experience which has a conscious phenomenal character. And it is plausible to suppose that this requires perceiving an object as being *some* way or another (whether or not that is a determinate or determinable way, and whether or not that is a spatial way). It is hard to make sense of the idea that one's perception of an object has a conscious character if there is no way at all in which that object appears to one. There might be such a thing as registering, or being perceptually sensitive to, the presence of an object (and some of its features) without consciously perceiving that object as being some way (as there plausibly is in blindsight), but this wouldn't count as consciously perceiving an object.

But even if we accept the plausible claim that seeing an object requires seeing it as being some way, why should we accept the more specific claim that seeing an object requires seeing it as being some *spatial* way (whether determinate or determinable)? Maybe one can see an object and see it *just* as being coloured in some way (say, red, or scarlet). But to see an object as being coloured in some way is plausibly to see an *area* of an object (or that object's surface) instantiating (or apparently instantiating) that colour (even if the area is minimal, or dot like). And it is hard to see how this is possible if the object is not seen as at least *determinably* spatial (that is, if one doesn't see it as say, being, at least in part, shaped, extended, and located).

So if, as seems plausible, seeing an object requires seeing it as (being) propertied in some way or other (whether or not that is a determinate or determinable way), then seeing an object plausibly requires seeing it as at least determinably spatial. For it seems plausible to suppose that seeing an object as being at least determinably spatial facilitates or makes possible seeing an object as being propertied in other ways.

This is to articulate one way in which the Spatiality Claim (2) seems plausible. One might consistently hold this claim and deny Spatiality Claim (1). (One might think that seeing an object *as* being determinably spatial has nothing to do with *seeing* an object's determinable spatial properties). However, even Claim (1) seems intuitively plausible, especially if we think that the nature and character of object perception is partly determined by the objects we see. Material objects are essentially spatial objects, they are objects which are essentially shaped, extended, located, and so on. So it doesn't seem implausible to suppose that genuine visual perceptual contact with a material object will involve genuine perceptual contact with some of its determinable spatial properties. Indeed, we might even think that *seeing* some of an object's determinable spatial properties is what grounds that object's appearing to one in some determinably spatial ways.

## Conclusion

I began by noting that ordinary visual experience is infused with spatiality. I then focused on just the visual perception of material objects and the question of whether seeing an object requires seeing some of its spatial properties (the Spatiality Claim). In discussing Cassam's view I focused on a specific version of the Spatiality Claim, namely, the Spatial Location Claim. I looked into one of Cassam's arguments for that claim—the Visual Differentiation Argument—and found it wanting. I then discussed the Spatial Location Claim, on its own terms, in more depth. I distinguished two versions of this claim. I argued that even cases where individuals can visually perceive objects but have deficient spatial location perception (whether developmental or as a result of brain damage), are consistent with both versions of the Spatial Location Claim. I then returned to discuss and defend the more general Spatiality Claim. I argued specifically that Spatiality Claim (2) is plausible, and suggested that Spatiality Claim (1) might be defensible too. I hope to have made a case for the idea that Spatiality Claims are not as problematic as they might otherwise appear in the light of important empirical considerations, so long as they are properly understood. That is, so long as we appreciate the multilayered nature of spatial location perception, the distinction between seeing a property and seeing a property for what it is, the related fact of the partiality of perception, and so long as we appreciate that spatial perception can include the perception of (or as of ) *determinable* spatial properties.

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