Vision, Self-Location, and the Phenomenology of the 'Point of View'[*]

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1 Visual Self-Location

Vashti has been kidnapped. She was dragged from bed, blindfolded, and forced into the back of a van. Once the van came to a stop, she was led out, made to walk up a flight of stairs, and tied down in a chair. Now the blindfold is removed. Vashti opens her eyes and sees the walls around her: they are red. She looks out the window: the ground looks to be a long way down. She looks around the room: she sees a desk, a lamp, and a beat-up sofa. Everything is covered with dust. Having thus taken in her surroundings, Vashti thinks to herself: *I am in a red room on some elevated floor. Across from me is a desk, and there is a lamp to my left and a beat-up sofa to my right. The room is not used very often, or else it would not be so dusty.* Vashti knows all this, and she knows it on the basis of what she sees. But exactly what *does* she see? Is what she sees the *very same thing* as what she takes to be the case?

There is at least one sense of "sees" on which Vashti pretty clearly does not see all of the things she judges to be so. For whatever we think about the contents of visual experience, Vashti almost certainly does *not* see, in the strictly perceptual sense, that the room she is in is rarely used. She takes this to be the case *based* on the visually evident accumulation of dust, but in this judgment Vashti clearly goes beyond the content of her visual experience itself. Is the same thing true, however, of Vashti's judgments that she is in a red room, up high, to the right of a lamp and the left of a sofa, and so on? Do these "self-locating" judgments relate to her visual experience in the same way as her judgment that the room is rarely used? These are the questions at the heart of this paper.

We can help to clarify the issue with a bit of philosophical terminology. Following Christopher Peacocke, let's say that a belief is *representationally dependent* on a mental state just in case (i) the belief and the mental state share a common content, and (ii) the belief is

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formed "by taking the mental state … at face value, in respect of this content" (Peacocke 2000: 264).[1] In our example, Vashti's judgment that the room is seldom used is representationally independent of her visual experience: she takes this to be the case *because* of what she sees, and what she sees *justifies* this belief, but still her judgment "goes beyond" her visual experience in some important way, as the fact that the room is seldom used is not part of the "face value" content of what she sees. The question whether a thought, experience, or other mental state has a given content is thus equivalent to the question whether there can be judgments with that content that are representationally dependent on such a state, i.e. whether there can be judgments with that content that are formed just by taking such a state at face value. Can self-locating judgments be related to visual experiences in this way? The aim of this paper is to show that they can.

(Before going any further, let me note that while throughout this paper I will consistently use the language of visual experiential contents, I do this simply for the sake of simplicity, and not because the argument hinges on any particular view of the metaphysics of perception. To the contrary, I believe that philosophers who question the claim that perceptual experiences have contents must also be able to make sense of the issues that are at stake in this paper. At the very least, if my argument is sound, then the phenomenon it centers on will have to be accounted for by theories according to which perceptual experiences do not have contents at all. And given the way my argument runs, it is hard to see how it will be possible to do this except by supposing that visual experience is self-locating in some manner. Exactly what I mean by this should be clearer once the argument is fully on the table.)

Here is how my argument will proceed. I begin in Section 2 by describing two different views of the contents of perception: the *Self-Location Thesis*, which holds that visual experience can have self-locating content, and the *Minimal View*, which holds that it cannot. I then briefly outline my argumentative method, which is a version of Susanna Siegel's "method of phenomenal contrast", according to which an adequate theory of perception must be able to explain the contrasts between phenomenally different experiences. In Section 3 I first identify a kind of experience whose distinctiveness I believe the Minimal View cannot explain: this is the experience of what J.J. Gibson called "visual kinesthesis", as exemplified most strikingly in

[1] Actually Peacocke's definition differs a bit from this, as it only defines representational dependence *simpliciter* for a belief, and not representational dependence with respect to a given experience or other mental state. But for our purposes the account can easily be modified to cut a bit more finely.

illusions of vection. The remainder of the section considers several different ways the Minimal View might try to explain this distinctiveness, and argues that none of them is successful. I conclude in Section 4 by relating my argument for the Self-Location Thesis to some more general questions about self-awareness and spatial representation.

2 Two Views

Certain philosophers seem comfortable taking it for granted that visual experience has self-locating content of the same sort[2] as judgments of one's own spatial location. For example, Quassim Cassam writes in *Self and World* that "in egocentric spatial perception the objects of perception are experienced as standing in spatial relations *to the perceiver*", and that such perception "can therefore be described as self-locating; in experiencing objects as spatially related to one, one literally experiences the bodily self as located in the perceived world" (Cassam 1994: 52-53). Similarly, Peacocke provides as an example of representational dependence the case of a self-locating judgment, made on the basis of the visual experience of a tree, that one is in front of a door. In forming this judgment one is making a claim about oneself, and one is justified in this claim by one's visual experience. And Peacocke supposes that this self-locating judgment can be formed simply by taking that experience at face value, in respect of a self-locating content that it already possesses:

> Consider … the everyday case in which an ordinary person forms a belief with the content 'I am in front of a door', and does so for the reason that he sees a door ahead of him. His visual experience represents the door as bearing a certain spatial relation to him. This is so even if he cannot see or otherwise experience his own body on this particular occasion. It would still be true that, taking his experience at face value, he would judge that he is in front of a door. (2000: 264)

So according to Peacocke, that *I am in front of a door* can be an element of the contents of visual experience and self-locating judgment alike: simply in having a certain visual experience, I may

[2] By "of the same sort" I mean only that *what is represented* is the same; it could be, however, that perceptual content is unlike the content of judgments in some other respect, say by being non-conceptual.

already be in a state that (as it were) "says" something about *where I am*. In addition to the tree and its spatial location, *my* location is among the things my experience represents, and moreover that experience represents my location *as* my location, since it possesses the very same sort of self-locating content as the perception-based judgment that that is the (tree-relative) location I am in. And the same, it seems, will hold for many of Vashti's judgments: that *she* is in a red room, that *she* is far above the ground, that the desk and the lamp and the sofa are in such-and-such locations with respect to *her*. If Peacocke and Cassam are right, then in thinking all of this Vashti may simply be mirroring what she sees, and not going beyond it in the way she does when, say, she judges that the room she is in is rarely used.

Let the *Self-Location Thesis* be the claim that, simply in virtue of its perspectival character, visual experience can include the location of the perceiver among its face value contents. In saying that it does this "simply in virtue of its perspectival character" we are alluding to an idea that is implicit in Cassam's view, and that Peacocke makes explicit in the passage quoted above, namely that visual experience can be self-locating even when "the self" is entirely out of view: that is, even when the perceiver's body is outside the field of vision. This idea has suggested to some philosophers that the Self-Location Thesis is simply incoherent. For example, here is John Perry:

> I see a cup of coffee in front of me. I reach out, pick it up, and drink from it. I must then have learned how far the cup was *from me*, and in what direction, for it is the position of the cup relative to me, and not its absolute position, that determines how I need to move my arm. But how can this be? I am not in the field of vision: no component of my visual experience is a perception of me. How then can this experience provide me with information about how objects are related to *me*? (Perry 1993: 205)

According to Perry, since his body is out of view in the case he imagines, there can only be an indirect relationship between his visual experience and his understanding of where things are with respect to him. This means that Perry is rejecting the Self-Location Thesis. If he is right, then so long as her body is out of view, Vashti's judgments that she is in a red room, up high, and so forth are just like her judgment that the room is seldom used, in being representationally independent of her visual experience. To say this is just to deny that visual experience is self-locating in the sense that Peacocke and Cassam suppose it is.

Call the sort of view endorsed by Perry, according to which visual experience *cannot* be self-locating simply in virtue of its perspectival character, the *Minimal View*. Against Peacocke and Cassam, proponents of the Minimal View will argue that in many cases it seems possible to characterize the perspectival content of visual experience in a non-self-locating way. Thus John Campbell writes:

> … there is a basic distinction that we have to draw here between what I shall call relational and what I shall call monadic egocentric spatial notions. Relational egocentric notions are those that we use when we say, for example, 'He is sitting on my left', 'The chasm yawned before him', 'Look behind you', and so on. These notions specify the person whose right or left, up or down is in question. They are two-place notions: 'x is to y's left', 'x is below y', and so on. Now in stating the spatial content of vision, we do not seem to need these relational notions. We do not need the general conception of something's being to the right or left of an arbitrary subject. Rather, we need the more primitive monadic egocentric terms. These are notions such as 'x is to the right', 'x is below', and so on. … [Ordinary human vision] represents things as 'to the right' or 'above' using the monadic egocentric notions, rather than the relational terms. (Campbell 2002: 184)

Campbell's argument in this passage is an example of what I will call the *minimizing strategy* in the philosophy of perception. This strategy centers on showing how an experience whose content admits a natural description through one set of concepts can be redescribed, perfectly adequately, with a different set of concepts whose commitments are less extensive. (Think again of how we understand Vashti's judgment that the room is rarely used, or of the perennial philosophical project of trying to show how the visual world can be described as a two-dimensional array.) Thus Campbell holds that we can characterize visual experience adequately just in terms of monadic spatial predicates, and so without any use of first-personal indexicals like "I" or "my". This is a way of arguing that the true face value content of visual experience is less than the Self-Location Thesis supposes: visual experience *justifies* judgments concerning where one is and where things stand in relation to one, but not by possessing any self-locating content of its own. In holding this, Campbell is on Perry's side as a proponent of the Minimal View.

Before launching into the argument, let me say a few words about how I am using the concept of a "phenomenologically adequate description" of an experience. When faced with competing accounts of the content of an experience, how are we to decide whether any given description is adequate, let alone which among the adequate descriptions are to be preferred? In keeping with what Susanna Siegel (2007, 2011) calls the *method of phenomenal contrast*, I will assume in this paper that any adequate description of an experience must *at least* provide one of the best explanations of each of the ways in which that experience differs from other experiences that are different from it. (If there are several hypotheses that are able to do this equally well, then some other method will be required to decide between them, but that will not turn out to be a problem here.) Siegel's method is a way of testing whether candidate hypotheses concerning the nature of experience are able to explain the thing they are supposed to, namely what experience is like. Given such a hypothesis, we put before it a pair of experiences that differ in some respect, and ask whether the hypothesis provides a better explanation of this difference than do its competitors. My strategy in this paper will be to show that the Self-Location Thesis does a better job than the Minimal View of explaining the differences between the experience that usually accompanies self-motion (though of course we can't yet call it "the experience *of* self-motion", on pain of begging the question), and the experience of a moving world.

3 Against the Minimal View

According to the Minimal View, a person's visual experience does not involve, at least not just in virtue of its perspectival character, any representation of where *he or she* is located, or where things are located with respect *to him or her*. Thus for one who endorses this view, Vashti can properly be said to see that *she is in* a red room only in the same sort of sense as, say, a detective who sees a broken window and footprints on the ground can be said to see that a house has been burglarized: in each case the subject's visual experience justifies an ensuing judgment, but not in virtue of sharing its content. And this is supposed to be made plausible by the possibility, in keeping with the minimizing strategy, of taking an experience whose content philosophers like Peacocke and Cassam will characterize in self-locating terms, and redescribing it using something like Campbell's monadic spatial predicates: Vashti sees not that *she* is in a red room, but just that *there is* a red room (here); not that the rooftops are down below *her*, but just

that they are *down below*; and so on. If the Minimal View is correct, then such a redescription is possible for every visual experience there can be. This paper will show, however, that there are cases where there is no phenomenologically adequate way to describe an experience without attributing to it a self-locating content.

To get things started, let us consider J.J. Gibson's discussion of a phenomenon that he terms "visual kinesthesis", in which certain invariants in the patterns of optical flow give rise to what he describes as a visual experience of self-motion:

> Student pilots see where they are going on the basis of this invariant and get better with practice. Drivers of cars see where they are going, if they pay attention. Viewers of a Cinerama screen see where they are going in the represented environment. … And all of them at the same time *see the layout of the environment through which they are going*. … The doctrine that vision is exteroceptive, that it obtains "external" information only, is simply false. Vision obtains information about *both* the environment *and* the self. (Gibson 1986: 183)

Though Gibson puts the point in different terms than ours, what he says here about the "interoceptive" character of visual perception clearly contradicts the Minimal View – for surely it is impossible visually to experience oneself as in motion without being able visually to experience one's spatial location as well, as Gibson essentially indicates:

> Vision, of course, is also *statesthetic*, if one wants to be precise about words, in that it picks up *nonmovement* of the body and its members. But since nonmovement is actually only a limiting case of movement, the term *kinesthesis* will do for both. The point is that a flowing and an arrested optic array specify respectively an observer in locomotion and an observer at rest, relative to a fixed environment. Motion and rest are in fact what an observer experiences with flow and nonflow of the array. (ibid.)

Thus according to Gibson, *what a person experiences* when his or her eyes are subjected to certain patterns of optic stimulation will include apparent changes and constancies in his or her own spatial location – and this of course is exactly the sort of claim that the Minimal View requires us to reject. According to the Minimal View, judgments of one's own movement or nonmovement, like judgments of one's location, must always go beyond the content of visual

experience itself: such experience can justify a person's judgment that he or she is moving or at rest, but not in virtue of any self-locating content of its own. The Minimal View thus requires that we give a different account of the contents of visual experience in the cases that Gibson describes.

We saw in Section 2 how defenders of the Minimal View attempt to meet this challenge when it comes to visual experiences whose contents are naturally characterized in terms of static spatial relationships between oneself and other things. In keeping with the minimizing strategy, a defender of the Minimal View will say that what is *really* represented in such experiences is only that certain things are (say) "to the right" or "to the left", and that the perceiver's location itself is not a part of the face value content of visual experience. But Gibson's cases are different than these: they are ones in which the spatial content of visual experience is changing, and this aspect of change over time has to be accounted for in any adequate visual phenomenology. As we will see, it is in the attempt to offer such an account that the Minimal View is undone.

3.1 A Simple Response

How can a proponent of the Minimal View redescribe Gibson's examples in a non-self-locating way? Simply extending the rudimentary minimizing strategy that we recalled just above would mean saying what a student pilot *really* sees in this case is not "where he is going" but rather that certain things are at one moment *far ahead*, then *a little closer*, then perhaps *above* or *beneath* or *to the right* or *the left*, and so on. In virtue of having such a series of perspectival but non-self-locating visual experiences, the pilot is able to steer his plane appropriately and keep knowledgeable track of his spatial position. Nevertheless he has no visual experience of that position, nor does he experience the things he sees as bearing any spatial relations to him.

But this account will be insufficient to explain the phenomenal contrast between pairs of experiences that are visually quite different from one another. To see this, consider Stephen Palmer's description of the visual illusion of vection, here induced by placing a subject inside a rotating drum (see Figure 1 below):

> … if you were seated inside a large, opaque, cylindrical drum with vertical stripes painted on it, … and if the drum were rotating, you would soon perceive the drum as stationary and yourself as spinning in the opposite direction inside it. This experience of self-

> rotation is so compelling that many people become dizzy and nauseous [*sic*], very much as they would if they were absolutely rotating. In fact, however, they are quite stationary; only the cylinder around them is moving. (Palmer 1999: 505)

For simplicity's sake, and to avoid begging any questions about its content, let's call the illusory experience that Palmer describes experience "***I***". A defender of the Minimal View must show that Palmer's description of ***I***, like Gibson's description of visual kinesthesis, includes elements that can be eliminated through a proper minimizing strategy: for according to the Minimal View it *cannot* be that you "perceive … *yourself* as spinning", at least so long as your body is out of view. But if we try to redescribe ***I*** along the lines proposed just above – thus claiming, say, that what is *really* visually experienced by the subject inside the drum is that a point on the cylinder that was first "to the right" and later "straight ahead" is now "to the left" – the consequent description is neutral between the illusory experience ***I*** and another experience, which we'll call experience "***V***", in which the cylinder's motion is veridically perceived for what it is: and as Palmer notes, before the onset of the vection illusion the subject inside the rotating cylinder will have a briefly veridical experience of exactly this sort. There are phenomenal differences between ***V*** and ***I*** that have to be accounted for, and the constraints of the Minimal View make it difficult to do this.

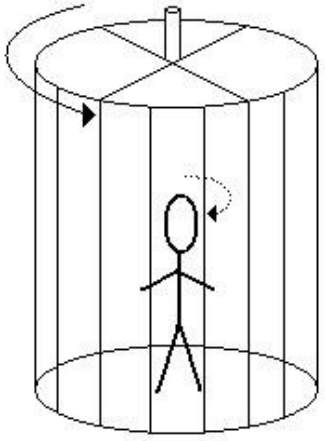


Figure 1: Visual illusion of self-motion (vection) induced by a rotating drum. The cylinder rotates counterclockwise (solid line), and a stationary observer placed inside it soon has an illusory visual experience that is naturally described as one of himself or herself as rotating clockwise (dotted line) and the drum as stationary. Based on Figure 10.3.2 from Palmer 1999: 505.

Significantly, and as Palmer notes, it would be wrong to think that the contrived nature of this particular setup, or the fact that experience ***I*** is illusory rather than veridical, means that it should be dismissed as somehow exceptional. Rather, illusions of vection simply bring into stark relief a very widespread phenomenon, which is an essential characteristic of our ability to perceive the world veridically:

> Consider driving a car as an example. Your eyes register a highly structured pattern of image motion, which you correct interpret as indicating that you are moving forward in a stationary world. But how do you know that the world isn't streaming past you while you remain stationary, as in a high-tech video arcade game? … As in classical induced motion, the visual system assumes that the larger, surrounding world is stationary and that the smaller enclosed object (namely, you) is moving within it. In the driving example, this assumption is correct, so it produces veridical perception of self-motion through the world. In the cylinder example, however, the same assumption is erroneous, so it produces an illusion of self-motion. (Palmer 1999: 505)

Again, however, a proponent of the Minimal View cannot endorse Palmer's descriptions of these experiences, and so must account for the difference between ***V*** and ***I*** in a way that does not credit either of them with self-locating contents. So what else is there for someone with this position to say?

The situation so far is summarized in the table below. The Minimal View entails that all there is to be said about the spatial contents of visual experience can be said in the terms of Campbell's monadic spatial predicates, i.e. terms like "to the right" and "to the left" as opposed to "to *my* right" and "to *my* left". In this respect, ***V*** and ***I*** do not differ at all – yet clearly they are experientially different. So far, the Minimal View fails our test of phenomenological adequacy.

	MONADIC CONTENT
V	Motion from the right to the left
I	Motion from the right to the left

Now, one further way that we could try to explain the difference between ***I*** and ***V*** within the constraints of the Minimal View is by noting that only after the onset of ***I*** does the *cylinder*

appear to be stationary, while in ***V*** the cylinder appears to move from right to left. Thus we can expand our table as follows:

	MONADIC CONTENT	CYLINDER
V	Motion from the right to the left	Appears to be moving
I	Motion from the right to the left	Appears to be at rest

This is certainly a difference between ***V*** and ***I***, but is it the only one? It seems not: for in addition to this difference there is an aspect of *apparent change* present in ***I*** that ***V*** does not possess. That is, in ***V*** the position of the cylinder appears to be changing, while nothing else is; and once ***I*** sets in the cylinder appears to be stationary, but now there is a *new* aspect of apparent motion, which was not there before. However, the monadic spatial contents of ***V*** and ***I*** are the same, so this new aspect of apparent motion cannot just be the world's leftward motion across the visual field, as this was already present in ***V***. It is this new appearance of motion in ***I*** that the perceiver describes by saying that not only does the cylinder now appear to be motionless, but also that *he or she* now appears to be spinning. The method of phenomenal contrast requires the Minimal View to explain this further qualitative difference between ***V*** and ***I***, and if this turns out not to be possible then the view will have to be rejected.

Here is another way to make this last point. In addition to ***V*** and ***I***, imagine a further experience ***S***, which is the one that the perceiver has before anything in the setup has started to move, and thus in which nothing at all appears to be in motion. The content of ***V*** differs from that of ***S*** in that it includes the motion of the cylinder, while in this respect ***S*** and ***I*** are entirely the same. Now assume for *reduction* that the Minimal View is true. It follows that ***V*** differs from ***I*** only insofar as ***V***'s content includes the apparent motion of the cylinder while in ***I*** the cylinder appears to be at rest. This entails that ***I*** differs from ***S*** only by including the appearance of leftward motion. Yet ***V*** includes this appearance as well: it "overlaps", as it were, with the appearance in ***V*** of the motion of the cylinder. This means that on our hypothesis, ***I*** does not differ from ***S*** in a way that it does not also differ from ***V***: there is no experience of motion in ***I*** that is absent from ***V***. Yet this conclusion runs afoul of the phenomenology. So the Minimal View must be rejected.

	MONADIC CONTENT	CYLINDER
S	Unchanging	Appears to be at rest
V	Motion from the right to the left	Appears to be moving
I	Motion from the right to the left	Appears to be at rest

To sum up, then: whether or not the egocentric spatial contents of *unchanging* visual experiences can be described adequately in the terms provided by the Minimal View, the phenomenon of vection suggests that there are visual experiences not susceptible to such an analysis. To defend the Minimal View, we have to find a way to characterize these experiences adequately without attributing to any of them explicitly first-personal contents involving the apparently changing (or unchanging) location of the self. In the remainder of this section I will consider three more attempts to do this, arguing against each of them in turn.

3.2 A Non-Visual Difference?

A first way to defend the Minimal View against the objection raised in section 3.1 would be to argue that the difference we have isolated between experiences ***V*** and ***I*** – *viz.*, the "aspect of change" that is present in ***I*** but missing from both ***V*** and ***S*** – is not a difference in the genuinely *visual* dimension of experience.[3] As an initial way to motivate this idea, note that ***V*** and ***I*** are products of identical patterns of optic flow, which might make us think that things should be *visually* the same whether the perceiver is moving in one direction or the things around him or her are all moving in the opposite one. Thus, the thinking goes, it must be in some non-visual modality – like kinesthesia, and perhaps also feelings of nausea and dizziness – that any experiential differences between ***V*** and ***I*** will reside.

But this reply runs up against a number of basic intuitions about what it takes for an aspect of experience to count as visual. For example, when you look at a visually ambiguous figure like the Necker cube and its appearance undergoes a shift of aspect from having one apparently protruding side to having another, it is clear that despite the sameness of visual "input" your *visual* experience changes in character: perhaps you are also inclined to reach and

[3] I am grateful to Sascha Fink, Sherri Roush, and an anonymous referee for pressing me to take this concern more seriously.

grasp the figure differently or form different judgments about it, but these differences seem to be a *product* of the fact that there is a change in how the figure appears in visual experience.[4] Or again, in a much-cited experiment Shinsuke Shimojo and colleagues showed that an auditory stimulus that "blinks" off and then on again can make a visually unchanging stimulus appear to offset and onset (Shams, Kamitani, and Shimojo 2002). Phenomena like these show that what makes an aspect of experience count as visual is not whether it arises directly from optic stimulation, but rather whether it is an aspect of how things *look* (in some strict sense).[6] And it is just such a change in the look of things that subjects in Palmer's experiment describe.

This may not, however, be enough to satisfy a defender of the Minimal View. For it certainly seems as if differences in kinesthetic sensations and feelings of nausea and dizziness are *among* the respects in which experiences like ***I*** differ from ones like ***V***: so what reason is there to think that there are any differences in visual appearance in addition to these? The answer is that in illusions of vection a person's experience has a particular sort of *cross-modal unity*: unlike a case where, say, a person visually appears to be unmoving while his or her voice seems to retreat into the distance, in an illusion of vection there is no such discordance among the

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[4] Two points here, with thanks to anonymous referees for raising each of them. First, I am not saying that the phenomenon of the shifting Necker cube cannot be accounted for within the Minimal View: of course it can. But this phenomenon does illustrate the possibility of differing visual experiences that arise from identical visual stimuli, and so blocks one inadequate response to the objection we are considering. Second, some philosophers hold that in addition to the change in visual aspect that accompanies the shift in the appearance of the Necker cube, there is also a respect in which the appearance of the figure appears to remain the same: that is, these philosophers think that the character of the experience does not admit a single, unambiguous description. (For such an analysis, see Merleau-Ponty 1962: 6.) And perhaps the same is true of the shift from ***V*** to ***I***: that is, perhaps there is a respect in which they are visually the same in addition to being visually different. How can we account for this possibility on the supposition that there is a single thing that I have called the "face value content" of the experience? In fact I don't think that my argument in this paper requires this supposition: that is, it seems possible to allow the existence of multiple contents (or levels of content) and define the Self-Location Thesis as the claim that *some* of them can be self-locating. One simple way to do this that would fit within the framework developed here would be to appeal to the existence of (either representational or non-representational) properties of visual experience that correspond to the positions of things in the field of view: the idea would be that it is in respect of *these* properties that pairs of experiences like ***V*** and ***I***, and the different appearances of the Necker cube, are visually the same, while it is in respect of some "three-dimensional" content that they differ. (Note that this would not require holding that the aspects of experience corresponding to visual field position are *always* part of how things look; perhaps they turn up only when we adopt a certain introspective or painterly attitude.) For more on this idea, though in a different context, see section 3.3 below.

[6] Many complexities arise here; for a discussion of some of them see O'Callaghan (2008). Significantly, Gibson seems not to have recognized this; he thought that for an aspect of experience to count as genuinely visual, it must have been the consequence of information available in the ambient optic array. For a discussion of visual kinesthesis that rests on this assumption, see Lishman and Lee (1973).

various ways that things appear to one to be.[7] Rather, what makes an illusion of vection so compelling is precisely that, in the absence of any significant perceptual input[8] suggesting a lack of change in one's position, *everything* in one's experience suggests that the surrounding world is stable while one's own body is in motion: if things did not appear this way to vision as well, then the illusion would be much less vivid than it is. So it does not seem reasonable to explain the difference between ***V*** and ***I*** just in terms of non-visual factors.

3.3 A Purely Phenomenal Difference?

If it is agreed that the aspect of apparent motion in an experience like ***I*** that is missing from an experience like ***V*** is at least partly visual, and that the Minimal View cannot account for this difference in the ways surveyed in section 3.1, then one option for a defender of the Minimal View is to deny that the respective qualitative *characters* of ***V*** and ***I*** have to be explained entirely in terms of their representational *contents*. If we go this route, then it is possible to concede the presence of "an aspect of change" in ***I*** that is absent from ***V*** without identifying this with a visually experienced change in the position of anything in particular: instead, it can be identified with a purely qualitative aspect of the experience itself.

In motivating such a response, the most natural place to look is to Peacocke's *Sense and Content*, where he argues as follows for the existence of non-representational aspects of visual experience:

> Suppose you are standing on a road which stretches from you in a straight line to the horizon. There are two trees at the roadside, one a hundred yards from you, the other two hundred. Your experience represents these objects as being of the same physical height and other dimensions … Yet there is also some sense in which the nearer tree occupies more of your visual field than the more distant tree. This is as much a feature of your experience itself as its representing the trees as being the same height. … It is a feature

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[7] Indeed, it seems to be a guiding principle of our perceptual systems that appearances in different modalities are integrated with one another, as e.g. in the McGurk effect. Thus Lackner (1977) found that illusions of self-motion could be produced by a rotating sound field, though *not* in conditions where one's lack of motion was visually evident. Similarly, Riecke et al. (2009) found that auditory illusions of self-motion are enhanced by corresponding vibro-tactile cutes.

[8] Or top-down factors: here see Riecke et al. (2005).

> which makes [Irving] Rock say that the greater size of the retinal image of the nearer tree is not without some reflection in consciousness, and may be what earlier writers such as Ward meant when they wrote of differences in extensity. It presents an initial challenge to the Adequacy Thesis [i.e., the view that we can characterize an experience adequately simply by giving its content], since no veridical experience can represent one tree as larger than another and also as the same size as the other. … (Peacocke 1983: 12)

According to Peacocke, the visual experience of a faraway tree differs from that of a nearby tree of the same size in ways that go beyond any differences between those experiences' respective contents: that the one tree appears to be farther away than the other is *part* of what makes them different, but there is a further experiential difference that outstrips this difference in content, and is determined by the spaces that things take up in the visual field. It follows, he says, that there are aspects of visual experience that go beyond the way it represents the world as being. This account is controversial, suppose that visual experience does have purely qualitative aspects of the sort Peacocke identifies here: will this concession be enough to save the Minimal View?

Following Peacocke's lead, a defender of the Minimal View would respond to our objection along the following lines: "You have insisted that the only way to explain the aspect of change found in ***I*** but not in ***V*** is to say that only in ***I*** does the subject have a visual experience of *his or her* motion in an otherwise stationary environment. But this argument overlooks the fact that visual experience has purely qualitative features that go beyond the ways it represents things to be, a feature corresponding to the places of objects in the subject's visual field: thus in the illusory experience ***I*** there is, in addition to the apparent motionlessness of the surrounding environment, also the leftward visual field movement of the lines inside the cylinder. This is the feature of experience that makes Irving Rock say that despite the visual experience of objects' constant positions across movements of the perceiver, 'this angular motion [of objects with respect to a frame of reference defined by the subject's eyes] is in some sense perceived because we are aware that objects are changing their location in the field of view' (Rock 1983: 257). And it is only this qualitative feature that you are identifying when you note the visually apparent change in ***I***; we need not treat this experiential change as a case of changing experiential contents."

So the defender of the Minimal View now argues that the aspect of change in ***I*** that is missing from ***V*** is not a change in the visually apparent location of the perceiver, but rather a

purely qualitative difference deriving from the changing positions of things in the visual field. But as soon as we state the response in this way, it becomes clear that it does not advance the Minimal View even one step beyond the position we already rejected: for these allegedly "purely qualitative" changes in the character of visual experience are, *just like* the changing positions of things identified by Campbell's monadic spatial predicates, clearly shared by ***V*** and ***I*** alike. In *each* of these experiences the environing objects are changing their positions in the subject's field of view, and so according to a theory that postulates a purely qualitative dimension of experience of the sort in question *both* experiences will therefore involve corresponding experiences of leftward motion across the phenomenal visual field. Since this characteristic is had in common by the two experiences, it cannot be used to explain the aspect of change in ***I*** that is missing from ***V***. Allowing the possibility of divergences between character and content does no harm to our case against the Minimal View.

3.4 Some Other Difference in Content?

This seems to be enough to show that we cannot account for the experiential distinctiveness of illusions of vection without allowing that they involve a change in the apparent position of *something*, but might it be possible to defend the Minimal View by holding that that "something" whose movement we experience in ***I*** is something other than the perceiver him or herself? This would count as a version of the Minimal View insofar as it eschews the use of explicitly first-personal language in stating the face value contents of visual experience, and so treats the relationship between, say, an illusion of vection and the judgment that I am moving as one of representational independence: for if the illusion does not represent my motion *as* my motion, then the visual experience and the visually-based judgment will have significantly different face value contents. But the challenge for this version of the Minimal View is to specify what, if they are not self-locating, the relevant contents of visual experience could be.

To see the force of this challenge, consider a response to it that would obviously be inadequate, namely that part of the content of ***I*** is that *someone* (or: *something*) is moving, while this "someone" does not appear to be moving in ***V***. Denoting the difference between these experiences in this way clearly respects the constraints of the Minimal View, but it simply pushes the problem back a step: for example, the veridical experience of an otherwise stationary environment in which a person *other than* oneself is moving is also a case in which "someone"

appears to be moving, and so we need then to explain how the illusion of vection is visually different from an experience of *this* sort. An adequate defense of the Minimal View will require describing ***I*** in a way that accounts for its experiential distinctiveness – i.e. the way in which the sort of visual experience that usually accompanies one's own movement is phenomenally different from that of the motion of an "outer" object – without using explicitly first-personal language in saying where that distinctiveness lies.

Given this challenge, a strategy that can seem more promising is to say that in ***I*** it is *this person*, or perhaps *this body*, that appears to be in motion in an otherwise stationary environment. The idea here would be that the perceptual demonstrative "*this*" marks the experiential distinctiveness of the person (or body) that visually appears to move, thus explaining how such an experience differs from one where the thing in apparent motion is simply an object somewhere in the field of view. But the seeming promise of this proposal evaporates when we push it a bit further: for of course the experience of a moving object in the surrounding world can equally well be described by using perceptual demonstratives to refer to that individual, and even if the demonstratives are being put to different uses in the respective cases (i.e., in that they are referring both to different individuals and – perhaps more importantly – to individuals occupying different locations in perceiver-relative space) that difference is not exhibited, as it were, simply by citing demonstrative contents in this very generic way. Again, what is needed is an aspect of visual experience that is non-self-locating but nevertheless proprietary, in the right sort of way, to the thing that occupies the perceiver's location.

One last way for advocates of the Minimal View to try to address this demand would be to characterize the contents of visual experience partly in terms of the apparent location of something like *the origin of the visual reference frame*, or perhaps just *the point of view* itself.[9] On this account, what subjects in Palmer's experiment wish to describe as experiences of *themselves* as moving are better treated as experiences of the apparent motion or rest of what Husserl (1989: 166) calls the "*zero point*" of the egocentric spatial orientations. Just as Vashti

[9] Another variant might propose that it is not *I*, but rather *the subject of experience* whose location is experienced in these cases, but the objections that follow would apply with equal or greater force to such a suggestion. Tom Avery, who argued for a version of the Minimal View in his 2009, has proposed in discussion that the relevant content of an illusion of vection might be that "*here* is moving", but of course it is precisely the content of the spatial indexical "here" that changes in a case of self-motion in a way that makes a sentence like "Here is moving" simply nonsensical.

comes to believe, in a representationally independent way, that the room is little used because of the evident dust, so my judgment that I am, say, in motion is based on a visual experience that does not possess that particular content, but rather manifests the changing position of something whose location in "visual space" is essentially the same as my own. Strictly speaking, the contents of an experience like ***I*** have nothing to say about the spatial properties of the perceiver, but they do involve the apparent motion of the visual point of view, together with constant locations and changing egocentric positions of the visible objects that surround it.

But can we really use concepts like those of visual reference frames or points of view in describing the contents of ordinary episodes of visual awareness? The problem here is that perception is a way of experiencing how things are *in the world*, whereas reference frames, points of view, and "zero points" instead pertain strictly to the nature of *experience*: they can be useful in psychological or phenomenological analysis, but such analyses regard them not as among the contents of experiences but rather as aspects of their distinctive modes of presentation. Defending the Minimal View in this way would require supposing that visual experience represents not just the structure of the world but also the structure of visual experience itself: we must think that the point of view, or the origin point of the reference frame, is made manifest in visual experience *as* such a point, as opposed to a location occupied by a particular worldly thing, albeit one with a distinctive role in the experiencing subject's life. And this would be a bitter pill to swallow. We cannot do justice to our phenomenological intuitions if we insist, with the Minimal View, that self-locating judgments are always drawn only by inference from visual experiences whose face value contents are entirely non-self-locating. Instead, things are as the Self-Location Thesis would have it: reports of apparent self-motion can correspond to aspects of visual experiences every bit as basic to their contents as the apparent motion or rest of the things one has in view.

4 Self and World

The argument of this paper notwithstanding, the reader may not be able to shake the sense that the Self-Location Thesis simply *cannot* be correct, as the idea of perceptual self-location is just too mysterious, especially as applied to cases when one's own body is literally

out of view. In this last section I want to diagnose this puzzlement, and relate the Self-Location Thesis to some broader questions about the nature of spatial representation.

To the idea that, as Perry puts it, one's own location cannot figure in the content of visual experience when one's body lies outside the field of view and so "no component of my visual experience is a perception of me", we should note that the possibility at stake here is not altogether different from a range of "amodal perception" phenomena that are quite common characteristics of visual experience.[10] For example, vision seems to represent opaque three-dimensional objects *as having non-facing sides*, and partially occluded objects (like a cat seen through a picket fence, say) *as continuous*, even though these aspects of the objects are entirely hidden from view. Similarly, the world itself is visually represented as extending beyond the bit of it that is seen at any moment; it does not appear to be bounded. Of course there is a *sense* in which, in cases like these, there is "no component of my visual experience" that is a perception of the items in question, and it is possible to bring this fact to one's attention by adopting a particular sort of introspective attitude. But as Gibson notes, what one ordinarily perceives is not so limited: it is rather "an environment that surrounds one, that is everywhere equally clear, that is in-the-round or solid, and that is all-of-a-piece" (1986: 195).[11] Visually representing one's body even when it is entirely out of view may reside at the far end of a spectrum of amodal completion phenomena, but that does not mean it is impossible; and moreover one's body usually *is* partly seen, and can always be brought into view more fully simply by redirecting one's gaze.[12]

I suspect, though, that the real source of the apparent mysteriousness of the Self-Location Thesis rests in a common, and often unexamined, way of conceiving the various modes of spatial representation, according to which the very nature of perception bars it from representing the

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[10] Importantly, by calling this aspect of perception "amodal" I do not mean that it is not a part of some sensory modality (here, vision). Rather, the purpose is to distinguish perceptual completion phenomena that involve experiential "filling-in" (such as the Kanisza square, where we tend to "hallucinate" the unperceived contours of an object) from those where the missing parts of an object are experienced *simply* in their absence. (Thanks to an anonymous referee for leading me to clarify this point.) For a careful analysis of this distinction, see section 2 of Briscoe (2011).

[11] For a recent defense of Gibson's claim that amodal completion phenomena are properly *perceptual*, see Briscoe (2011).

[12] For the suggestion that this sort of possibility is characteristic of amodal completion in general, see Noë (2005).

perceiving subject as located in objective space. This is the kind of conception that Jean Piaget seems to be endorsing when he writes that the universe of a young child is "centered on a self, ignorant of itself", and that it is only thanks to "the functioning of intelligence" that one's conception of the universe ever comes to contain "the personal body aware of its displacements in the unlimited series of permanent solids which have movements independent of the subject" (1954: 235, 245). For Piaget, there is a sense in which the egocentric condition of the early infant is never fully overcome: he holds that "the purely perceptual point of view is always completely egocentric" (Piaget and Inhelder 1967: 193), and thus that it is only in conceptual thought that the world is represented as independent of oneself, or oneself as something located in it. On this quasi-Kantian[13] way of thinking, the idea that perception itself, as opposed to *thought about* the perceived world, could be self-locating is simply incoherent.

Piaget's day has come and gone, but there is something in his conception that continues to exert a pull on us. For example, in introducing a volume on spatial representation, Naomi Eilan, Rosaleen McCarthy, and Bill Brewer (1993: 3) highlight the importance to self-consciousness of "*[t]hinking* of oneself from the outside, as one object among others" (emphasis added); and they flesh out the concept of an objective spatial world as follows:

> By 'the world out there', the external world, we also mean the world as it is independently of our interaction and engagement with it: it is what is 'there anyway'. The idea that we have such a conception of the world is sometimes expressed in the claim that we have a conception of the world as it is from no particular point of view, and that our conception of the world is, in this sense, objective. (ibid.: 2)

If *this* is what it means to represent the world as mind-independent and the self as an "object among others", then there is no question that visual experience does not do these things: for it is in the very nature of vision to be perspectival. But there is no reason to assume that there cannot be a middle ground between a world represented in these ways and a world "centered on a self, ignorant of itself" – as if the only way to characterize the spatial content of perception, or for that

[13] It is only *quasi*-Kantian, because Kant himself seems to have denied the existence of any "purely perceptual" – that is, concept-free – level of experience.

matter any other mode of spatial representation, were to choose one of these two options.[14] Indeed, the simple fact of the perceptual constancies – i.e., the fact that the world does not appear to move whenever we do – already shows that perception is not "completely egocentric" in the way that Piaget seems to have assumed. What is there, then, to prevent the possibility that perception may also be able to represent not just the stability of the world but also the location of the self?

Of course there is a sense in which the perceived self cannot be represented just as *any old* "object among others" – or rather, insofar as it is represented in this way the perceived self will not be represented *as the self*, at all. (Think of unknowingly catching sight of yourself in a mirror, or of your arm in a tangled nest of limbs.) But it follows from the argument of this paper that just as thinking of oneself as "I" can be a way of conceiving of oneself objectively even though still "from a point of view", our perception of the world, and thereby of ourselves, can remain perspectival without simply collapsing into the self-blind world of the Piagetian infant.

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[14] I do not mean to imply that Eilan, McCarthy, or Brewer assume this.

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