

Husserl on Perceptual Constancy

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Abstract: In philosophy, perceptual constancy refers to the puzzling phenomenon of the perception of properties of objects despite our changing experience of those properties. Husserl developed a sophisticated description of perceptual constancy. In this paper I sketch Husserl's approach, which focuses on the suggestion that perception is partly constituted by the continuous interplay of intention and fulfilment. Unlike many contemporary theories, this framework gives us a way to understand the relationship between different appearances of the same object. I will show how Husserl's work connects with contemporary theories which emphasize perceptual constancy from particular perspectives. These theories include appeals to perspectival properties and Cohen's counterfactual theory. Also, I show how Husserl's account shares important themes with Kelly's recent interpretation of Merleau-Ponty on perceptual constancy.

1. Introduction

Husserl suggested that we see properties through the way appearances either fulfil or disappoint our implicit anticipations. In what follows, I hope to make this suggestion clear, and make the case that this framework has much to offer contemporary research on perceptual constancy. One point I will make is that Husserl's framework shows how we have a unified perception of an object across multiple appearances. This feature marks a considerable advantage over many contemporary theories. Roughly, contemporary theorists tend either to emphasize the way the world appears from particular perspectives (section 4), or to emphasize the perception of perspective-independent facts (section 5). Another main theme here is that Husserl goes far in accommodating the concerns which motivate both of these contemporary approaches.

There is an ambiguity in the term 'perceptual constancy' that should be cleared up before anything. In empirical psychology, perceptual constancy happens when a property is represented to remain static despite variation in the stimulus. The variation in the stimulus is described in the terms of natural science, such as variation in wavelength of light (Goldstein 2002: 206), or variation in the acoustic signal

(Goldstein 2002: 417). This empirical psychological sense of perceptual constancy has also been adopted in the philosophical literature, by Michael Tye, for example (2000: 147). To be clear, perceptual constancy in empirical psychology refers to a representation of a property remaining constant despite variation in the physical stimulus. It is not this empirical sense of perceptual constancy that will be our topic.

There is another (related) sense of perceptual constancy that has been explored in recent philosophical literature. In this philosophical, or *a priori*, sense of perceptual constancy, we experience a property to remain constant even though our experience of that object undergoes variation. It is this *a priori* sense of perceptual constancy that will concern us, as it did Husserl.¹

The way a wall looks changes with one's position and because of shading, but we perceive the wall to be uniformly colored. The shape and size of objects in one's visual field changes, but the shape and size of the objects themselves do not change, nor are they perceived to change. The symphony sounds better from some seats than others, but that is not because we perceive the sounds made by the instruments to suddenly change as we move from seat to seat. All of these examples illustrate *a priori* perceptual constancy: we perceive properties to remain static through variations in our experience of those properties.

Here is a well-known passage in which Husserl describes *a priori* perceptual constancy:

Here it is enough to point to the readily grasped distinction between the red of this sphere, objectively seen as uniform, and the indubitable, even necessary adumbration (*Abschattung*) of subjective color sensations in the perception itself – a distinction repeated in relation to *all* kinds of objective properties and their corresponding complexes of sensations. (LU V §2 Findlay trans, modified)¹

Husserl is concerned with the way we see static properties² despite variation in our experiences of those properties. As I will show, this same theme has been discussed in a good deal of recent philosophical literature.

¹ I will use 'LU' to indicate Husserl's *Logische Untersuchungen* (Logical Investigations) and will refer to his other works using the Husserliana numbering.

In what follows, I will first explain why perceptual constancy is so philosophically puzzling (2). In the next part of the paper (3) I will offer Husserl's general solution. Here I will show how Husserl gives us the framework for understanding how we unify different appearances of the same object. Next I will situate Husserl's solution among contemporary theories which explain perceptual constancy by emphasizing particular perspectives (4). In contrast to these approaches, Sean Kelly has developed an account of constancy which emphasizes that we are continuously shifting perspective in order to gain an optimal view on things. In the last part of the paper (5) I will discuss the relationship between Husserl's theory and Kelly's appropriation of Merleau-Ponty.

2. The puzzle of constancy

Perceptual constancy leaves us with a puzzle. Say we look at sphere that is uniformly red. (The puzzle generalizes to other properties, but let us focus on color.) We can notice shadows and highlights – perspectival variations in color – across the surface, but we also see that the sphere is uniformly red. Do we see the perspectival variations or do we see the uniform redness?

Some emphasize the perspectival variations over the uniform redness; they give a privileged role to the way things look from a particular perspective. (By particular perspective, I mean one point of view including viewing conditions such as lighting.) Sense-datum theorists and phenomenologists offer extreme versions of this approach. On this extreme version, there is no sense in which we see the uniform color of the object; instead, the uniform color is merely inferred from seeing the variant in color from a single perspective. In the contemporary literature, David Chalmers mentions, but does not advocate, something similar in what he calls the 'simple view' of color constancy (2006: 85). Without making the extreme suggestion that we do not see the uniform color, Alva Noë, Susanna Schellenberg and Jonathan Cohen all advocate a moderate view on color constancy which still gives some priority to particular perspectives. For Noë, the perspectival variations are 'perceptually basic' (2004: 81)³ and for Schellenberg, representations of the uniform color are "epistemically dependent" on representations of the perspectival variations (2008: 75-81). For Cohen, we see uniform color by making implicit counterfactual judgments about how the object would appear under different lighting conditions (2008). For all three, the

perspectival variations are somehow more important or prior to perception of the uniform color.

In contrast to views which privilege the perspectival color variations, there are views which downplay the importance of particular perspectives.⁴ I will focus on one such view. This view is Sean Kelly's reading of Merleau-Ponty on perceptual constancy. Kelly suggests that we perceive the uniform redness of the sphere and describes particular perspectives in normative terms (2004). For Kelly, the way objects appear from single perspectives can be explained in terms of the deviation from the optimal viewing conditions on those objects.

The challenge, as I see it, is that we need to accommodate two conflicting intuitions. First, we see and normally attend to the static properties, such as uniform color and static shape. As the same time, though, the particular perspectival variations seem to play some kind of role in how we see these static properties – it is not as if the variations are invisible. Many philosophers, such as Noë and Schellenberg, offer theories which accommodate the fact that we see particular perspectival variations. Kelly, on the other hand, offers a nice way to accommodate the fact that we are normally concerned with the static properties of objects. There is a strong intuition that we see perspectival variations, on one hand, and there is also a strong intuition that we see normal factual properties, on the other. As I will show, Husserl offers a way to accommodate both intuitions. Towards accommodating both intuitions, Noë suggests 'When you look at the wall, you see its uniform color *in* its evident variation in color across its surface' (2004: 166). In his *Ideas I*, Husserl made a remarkably similar claim: 'The same color appears "in" continuous manifolds of color *adumbrations*' (§41). What does it mean to see the uniform color 'in' variations of color? Noë has not yet developed an answer, but Husserl has a fairly sophisticated answer to this question.

3. Perception as the continuous interplay of intention and fulfilment

In this section I will describe how Husserl makes use of the structure of intention and fulfilment in his account of perceptual constancy. Then I will further illustrate Husserl's theory by showing how it can explain the unification of various appearances.

3.1. Intention and fulfilment

In his first *Logical Investigation*, Husserl makes a distinction between intention and fulfilment (§§9&10).⁵ He continued to make philosophical use of this distinction throughout his writings. In the context in which it was first introduced, Husserl uses the distinction to offer a theory of the meanings of signs and language. What is important for our purpose is that he later applied the distinction to his analysis of perceptual constancy.

On the relationship between intention and fulfilment, Husserl suggests that it is something we all have experienced, and gives us examples. Linguistic intentions (names) can be fulfilled when objects named become present to us in perception (LU I §9). Other types of intentions that can be fulfilled include expectations, hopes, fears, and wishes (LU V§29, VI§10). The intentions at play in perceptual constancy are slightly different than the types of intentions just mentioned. Husserl is clear that perceptual intentions are not necessarily expectations in the way that we expect particular states of affairs to obtain. Rather, the kind of intentions at work in perception can be compared to the way in which we implicitly intend the pattern of a rug to continue where the rug is hidden by a piece of furniture (LU VI §10). Perceptual intentions are indeterminate (Hua XI §§1&2), usually implicit (LU VI §10), and it is difficult to say how they relate to propositional content (LU VI §§4&5).

Husserl describes perception by making a crucial distinction between partial intentions and total intentions. Partial intentions are correlated with adumbrations of objects, with the way objects appear from particular perspectives.⁶ Total intentions are correlated with the entire object or with perspective-independent properties of the object. Importantly, partial intentions are always *fused* together to form a total intention.⁷ For Husserl, this claim means that partial intentions are non-independent parts of the total intention; they are incapable of existing except as parts of a total intention.⁸ The fusion also means that the partial intentions cannot be separated from one another, but rather flow into one another without distinction (LU III §§8&9). New partial intentions are continuously stirred up (*erregen*) as other partial intentions are fulfilled (LU VI §10). Perception is a process constituted by the continuous synthesis of partial intention and fulfilment (Hua XI §§1-4, 16, Hua XVI §32).⁹

To return to the example of the red sphere, the variations in color – the highlights and shadows – fulfil our partial intention of the way the red sphere appears from our perspective. This intention is partial for two reasons. First, it is partial because it always implies other partial intentions, which may or may not become fulfilled. The way the color variation appears as I look at the sphere stirs up partial intentions about the way the color variation will appear if I rotate the sphere a few degrees, for instance. The second reason why the intention is partial is because it is always a part of a total intention which is correlated with properties of the entire object. The total intention of the uniform redness is never adequately fulfilled because we can never see the sphere from all possible perspectives. Still, the fulfilment of the total intention can increase as more and more partial intentions are fulfilled (LU VI §§16&24).

The fulfilling acts of perception are somehow enabled by sensations, but the details of this relationship remain controversial (see Hopp 2008 for some of the complications). In the case of the red sphere, the sensations are various color sensations which play a necessary role in the fulfilment of partial intentions. Importantly, the color sensations are not themselves the objects of intentions (LU V §14). Instead, the color sensations acquire their own intentional content which enables them to participate in an act of fulfilment.¹⁰

The structure of intention and fulfilment allows Husserl to illustrate his claim that we see the same color in the continuous manifold of color adumbrations. Partial intentions are fulfilled by acts enabled by color sensations. The color sensations play a role in fulfilling a partial intention which is always a part of a total intention. The partial intention is correlated with the perspectival color appearance, and the total intention is correlated with the uniform color of the sphere. Thus, we see the same red in the variations because the variations correlate with fulfilled partial intentions which are fused together with unfulfilled partial intentions to constitute the total intention whose objective correlate is the uniform redness. As our perspective changes, we encounter new adumbrations of the object, which leads to further fulfilments and the stirring up of new partial intentions. Note that this description is not ad hoc; for Husserl, perception *always* involves the continuous interplay of intention and fulfilment.

Also, I should be clear that Husserl does not seem committed to intentions being fulfilled by movement, or by implicit knowledge of sensorimotor contingencies. This fact distinguishes Husserl from recent sensorimotor theories of perception (O'Regan and Noë 2001, Noë 2004). Husserl often emphasizes how movement is crucial for perception, but partial intentions are not essentially connected to the sensorimotor domain.¹¹ One could say that perception for Husserl is constituted by the ongoing activity of anticipatory partial intentions, but this activity is not *necessarily* linked to motor activity. For instance, Husserl often uses the example of anticipating the development of a melody (LU VI §10, Hua X §7), which presumably is not a kind of sensorimotor anticipation.

3.2. The unification problem

At this point one could object that Husserl's account posits more than is necessary to explain perceptual constancy. This kind of objection has recently been made by Schellenberg and Robert Briscoe against Noë's sensorimotor account of perceptual constancy, but it can be adapted to Husserl. Both Noë and Husserl are committed to the importance of implicit anticipation of how appearances change with movement.¹² This kind of objection depends on there being an alternative account with the same explanatory power but less theoretical machinery. I do not know of one: the alternative proposed by Schellenberg cannot account for the wide range of constancy phenomena that Husserl can. I will illustrate this point by quickly describing her alternative and then giving an example of shape constancy that Husserl can handle, but Schellenberg cannot.

Both Noë and Husserl are committed to what Schellenberg calls the *variation thesis*, which is that 'experience of the intrinsic spatial properties of objects requires practical knowledge of the different ways objects look given different viewpoints on the object' (Schellenberg 2007: 606&607). She then claims that the *variation thesis* faces the *unification problem*, which is the problem of how different viewpoints are 'integrated into the perception of an object' (609&610). In order to avoid this problem, Schellenberg suggests that we need to have only one encounter with an object in order to see its 3D (or, as she puts it, intrinsic) shape. The main requirement for 3D shape perception is that "objects are perceived as *perceivable* from points of view other than

one's own" (614).¹³ She suggests that 'perception of intrinsic spatial properties does not depend on subjects having two encounters with an object (either past or present). *Just one encounter is required*' (2007: 618, my emphasis). Thus, Schellenberg holds that we can avoid the *unification problem* by avoiding commitment to multiple views for shape perception. We just need one encounter with an object in order to see its 3D shape.

Briscoe (2008) comes to a similar conclusion in a critique of Noë. The important difference between Briscoe and Schellenberg is that, for Briscoe, we need only one encounter with an object to see merely its *facing* or *visible* 3D shape, which is 'the orientation in depth of an object's visible, i.e. non-occluded, surfaces' (2008: 461). Schellenberg seems to hold that one view is sufficient for the perception of an object's 3D shape – hidden sides and all. Briscoe, in contrast, only explains how we perceive *visible* 3D shape, a property inspired by Marr's 2.5D sketch. Briscoe does not address the mechanisms involved in perceiving the full 3D shapes of objects – hidden sides and all. Instead, he cites empirical evidence that we perceive the contours of the visible surface of an object in part by using cues such as highlights, occlusion, shading, and binocular disparity (Briscoe 2008: 472). All of these cues are available from a single look or perspective on an object. Thus, it is not necessary, Briscoe suggests, to require multiple perspectives or implicit anticipation to see *facing* 3D surfaces.

Notice the limited perceptual abilities accounted for by Schellenberg and Briscoe. Schellenberg explains our ability to perceive what she calls intrinsic properties, such as 3D shape. Briscoe explains our ability to perceive *visible* 3D shape. Neither account addresses what Schellenberg calls the *unification problem*; neither account tells us how we see the same object, or the same property, in or through different perspectival variations. In both accounts, vision is analysed in terms of a single, static snapshot of the world, while avoiding mention of the continuous movement of the eyes and body.¹⁴ Once we start to pay attention to the fact that visual perception normally involves continuous self-generated movement (Hua XVI, Hurley 1998, Noë 2004, Findlay and Gilchrist 2003), it becomes natural to ask how we *unify* the different perspectives we continuously take on the world. It becomes natural to address the *unification problem*.¹⁵

Schellenberg and Briscoe's silence on the *unification problem* is troublesome because, as Husserl puts it, 'it may be that a "single glance" is not good enough' (LU VI §47). Say we are playing a high stakes game with a set of dominos in which the pips are carved into the face of each domino. Thus, the 3D shape of each domino fully determines its value in the game. Say I deal you a domino face down. You have a single perceptual encounter with it, but still do not know its value. If you have perceived its 3D shape, you would know its value. Since you do not know its value, you have not perceived its 3D shape from that single encounter. In order to see the shape, and therefore the value, of this face-down domino, you must turn it over. In turning the domino, you generate the *unification problem*, which is 'the question of how the appearances are integrated into the perception of an object' (Schellenberg 2007: 609&610). It should be clear that you are *able* to integrate the appearances of the face-down domino with the appearances of the face of the domino. It should also be clear that this integration is crucial for you to perceive that the domino you see face-down is the same domino you see face-up.

This is a case of shape constancy. You perceive the shape of the domino to remain constant through perspectival variations of it. This example is meant to show that an explanation of some cases of perceptual constancy requires a solution to the *unification problem*.¹⁶ Schellenberg emphasizes that she gives no account of the *unification problem*, but what about Briscoe? Briscoe discusses two abilities involved with shape perception. First, we are able to represent the facing 3D surface of an object. Second, we have some object recognition abilities. The first ability does not enable the unification of different facing surfaces; it only explains how we extract the shape of a single facing surface. The second ability, object recognition, does not help because recognizing the object as a domino does not suffice for seeing the shape details, and thus the value, of the domino. Indeed, the vision science on which Briscoe heavily relies has generally ignored the *unification problem*, instead concentrating on the construction of a representation from a single static retinal image (Marr 1983, Nakayama 1999). Only recently can one see a version of the *unification problem* becoming a more central question in vision science (Findlay and Gilchrist 2003: chapter 9, Wexler 2005, Melcher and Colby 2008).¹⁷

Neither Schellenberg's single look account nor the two abilities discussed by Briscoe can explain a range of cases of perceptual constancy. They cannot explain cases where we need to integrate different views on an object. These cases pose a problem for anyone who subscribes to a kind of snapshot conception of perception, where each appearance is independent of other appearances. It is not clear how two independent appearances could be unified in synthesis. Husserl, on the other hand, maintained that appearances always already occur within a network of anticipated future appearances. Synthesis is possible because future appearances can match (fulfil) what is anticipated from present appearances. Here is the Husserlian account of the unification of appearances applied to the domino example.

The total intention is directed towards the full 3D shape of the domino. This total intention is constituted by the fusion (*Verschmelzung*) of partial intentions (LU III §9, LU VI §10). Some partial intentions are fulfilled by one's current perspective on the domino. As you turn the domino, new partial intentions become stirred up as *previous intentions become fulfilled*. It is this *synthesis* of fulfilment and intention which gives the framework for solving the *unification problem*. To put it differently, appearances can become unified because all appearances always involve the anticipation of other appearances. When those anticipations are fulfilled, we have unification through synthesis. Indeed, Husserl goes so far as to name the unity of synthesis as the primary form (*Urform*) of consciousness (Hua I §17).

Here I have only given a bare sketch of the Husserlian framework for understanding perceptual constancy; important questions remain (Hopp 2008). Although this framework posits more than some other available options, it also has the power to explain more. In particular, Husserl gave us a general framework for treating what Schellenberg has called the *unification problem*. In contrast, contemporary theories have largely avoided this problem.

4. Similarities with contemporary philosophy of perception

Here it may be best to illustrate Husserl's theory further by connecting it with other themes in contemporary work. In a very rough sense, all of the theories considered in this section place an emphasis on the particular perspective from which we see objects. First I will contrast Husserl's view with what I will call *inferentialist*

accounts of perceptual constancy (4.1.). Then I will explain why Husserl would reject the way in which contemporary philosophers understand perspectival variations as representations of perspectival properties (4.2.). Finally I will compare and contrast Husserl's theory with Cohen's counterfactual account of perceptual constancy (4.3.).

4.1. Inferentialists

Of those who give a special role to perspectival variations, the most extreme position can be found in sense-datum theories, phenomenalism and in what Chalmers has called the 'simple' view of perceptual constancy (2006: 85).¹⁸ For these *inferentialist* views, we only experience the perspectival variations and then we infer or judge the non-perspectival properties of objects. Consider Russell, for instance, 'But the "real" shape is not what we see; it is something inferred from what we see' (1912/1978: 3).

There may be some similarity between Husserl and inferentialist theories since both agree that perspectival variations provide *evidence* for our representations of objective properties. Despite this similarity, there are two major differences between Husserl and these theories. First of all, the object of perception for Husserl is the object in the world. For inferentialist theories, the object of perception is a perspectival variation.¹⁹ Secondly, Husserl does not leave any role in perception for making an inference or a judgment. The following passage illustrates these two points:

The unity of perception comes as a straightforward unity, as an *unmediated fusion of partial intentions, without the addition of new act intentions*. It may be that a "single glance" is not good enough; we may look at the thing from all sides in a *continuous perceptual series*, probing it with our senses. But each single percept in this series is already a percept of the thing. Whether I look at this book from above or below, from inside or outside, I always see this book. (LU VI §47, modified Findlay trans., emphasis in original, also see LU V §11a)

Clearly, Husserl would not accept the sense-datum position that we infer the perceptual presence of objects. We see objects in virtue of the fusion of partial intentions. This fusion is not another act of inference added on to the partial intentions; the partial intentions are always fused into a total intention. To put it slightly differently, the sensuous fulfilment *always* occurs along with unfulfilled partial intentions.²⁰

4.2. Perspectival properties

What about more moderate contemporary theories which give a privileged role to particular perspectives? For instance, Schellenberg (2008) has argued that representations of ‘intrinsic’ properties such as color and shape, are epistemically dependent upon representations of ‘situation-dependent’ properties such as perspectival variations in color. Similarly, Noë has suggested that perspectival properties are ‘perceptually basic’ (2004: 81). Both Schellenberg and Noë would deny that we make any inferences, and I do not think that either is committed to the claim that we always *attend* to perspectival variations (Noë 2004: 167, Schellenberg 2008: 78). Still, both give a special role to the perspectival variations.

For Husserl, the perspectival variations also have a privileged role. The variations play a role in fulfilling partial intentions, and those partial intentions fuse together into a total intention. In this sense, Husserl’s theory shares some crucial features with both Noë and Schellenberg. But there is a crucial difference between Husserl’s role for variations, on one hand, and Noë’s and Schellenberg’s role, on the other. For the latter, as well as for many contemporary philosophers, we experience the particular perspectives by representing mind-independent but perspective-dependent properties.²¹ Husserl stands apart from Schellenberg, Noë, and a good number of other contemporary philosophers because he does not posit any kind of perspectival property of which we are aware. What we see from a perspective is constituted by a fulfilled partial intention which is always a part of a web of unfulfilled intentions, all of which fuse together to form a total intention. Perceived objects, and properties of these objects, are correlated with total intentions. Partial intentions are correlated with parts of the object, but, importantly, are not correlated with a perspectival property.

There are some conceptual and empirical worries about whether or not we actually represent perspectival properties (Madary, under review). As far as I know, Husserl makes no use of perspectival properties in his phenomenology. For Husserl, we perceive objects and objective properties only if we perceive them as possibly appearing in a variety of ways, from a variety of perspectives. Rather than treating the adumbrations of appearance as one type of property, and objective shape or color as another, Husserl identifies the possibility of showing up through adumbrations as a necessary condition for some property to be objective. Dan Zahavi explains:

. . . [Husserl] argued that something is given as an object only the moment it is experienced as being in possession of a sort of *transcendence*. It is only when we experience something as a unity within a multiplicity of adumbrations, or as an identity across differences, that is, as something that transcends its actual appearance or that can be intended as the same throughout a variety of experiential states, that we experience it as an object. (2005: 64)

The problem that Husserl would have with perspectival properties, I think, is that we cannot represent them ‘across a variety of experiential states.’ Since we only experience them from one particular perspective, they are not properties which transcend our experiences.

To put things back in somewhat familiar terms, the perspectival variations correlate with partial intentions which are always within a web of other partial intentions. The popular way to treat perspective these days is without the web of partial intentions: many contemporary philosophers treat particular perspectival variants as representations of objective perspectival properties. This move treats partial intentions as total intentions. The cost of doing this, of treating partial intentions as total, is that one loses the Husserlian tools for explaining how we see the uniform color *in* the color variations. For Husserl, we see the uniform color in the perspectival variations because the perspectival variations are always fused with a web of unfulfilled partial intentions. For supporters of perspectival properties, we represent the perspectival properties and we also represent the mundane non-perspectival properties. On this view, there is nothing – such as partial intentions – which can play the role of relating perspectival appearances with the representation of non-perspectival properties.

I am not suggesting that Husserl would deny that we can thematically attend to the way objects look from a static perspective. But I do think the way objects look from a perspective would not be a property seen in experience for Husserl. Perspectival variations would not count as properties themselves because, for Husserl, experienced properties remain the same through a variation in experiential states, but perspectival variations – by their very nature – do not.

It is also relevant to mention here that there have been some recent attacks on the notion that we see perspectival properties, attacks which are centered around the example of the tilted coin. Some fans of perspectival properties might say that we see the tilted coin both as an ellipse and as a flat disk.²² Some other philosophers deny that there is any sense in which the tilted coin appears elliptical.²³

The philosophers who deny that the tilted coin appears elliptical are denying that there is any sense in which we have a two-dimensional ellipse as an object of vision. (The idea that we see a two-dimensional ellipse is commonly attributed to Noë.) Husserl is not committed to us having a two-dimensional perspectival shape as an object of vision: he consistently claims that the objects of perception are the mundane objects in the world (LU V §2, addendum to §11 and §20, LU VI §47).²⁴ The way in which we perceive these objects, on the other hand, involves the ongoing interplay of intention and fulfilment. Thus, there is no sense in which the coin appears elliptical, if that means that we have an ellipse as an intentional object. Importantly, though, our perception of the coin is enabled by sensations which are distinct from the properties we see the object to have (LU V §2, §11a). Again, it remains controversial exactly how to interpret the roles of sensations in Husserl (Hopp 2008), but it is clear that Husserl would not agree with G. E. Moore's understanding of sensations as objects of perception.²⁵

4.3. Counterfactualism

With close attention to empirical results, Jonathan Cohen has put forth a counterfactual account of color constancy. On this view, one of the mechanisms for color constancy answers the following question:

Would region R_1 (presented under illumination I_1) share an apparent colour with region R_2 (presented under illumination I_2) if, contrary to fact, both regions were presented under the same illumination? (2008: 80)

The main idea is that we are able to judge two areas of a surface to be the same color, despite their appearing two different colors, because we compute how the regions would appear if presented under the same illumination. This theory can be categorized as a theory which places emphasis on particular perspectives because the counterfactuals focus on appearance, on how surfaces appear from possible viewing conditions.

Cohen's suggestion has much in common with Husserl's model. Both Husserl's unfulfilled partial intentions and Cohen's counterfactuals concern how things would appear if things were different. Also, both partial intentions and counterfactuals are crucial to the way in which we perceive the non-perspectival color of objects.

Still, there are differences. By discussing these differences I hope to clarify further the Husserlian account of constancy. One important difference is that Cohen's model posits that the computation of color constancy is performed by sub-personal mechanisms. The personal level judgment that the real colors of two parts of a surface are identical is the output of these sub-personal mechanisms. For Husserl, in contrast, it is not clear how to place his phenomenological descriptions within the personal/sub-personal distinction. On one hand, phenomenology must operate at the personal level because it involves *a priori* description of experience. On the other hand, the kinds of things described in phenomenology are not easily or readily accessed from first-person reflection; typically phenomenologists are not describing *obvious* features of experience.²⁶ It seems then, that Husserl's partial intentions and fulfilments are not sub-personal causal mechanisms, nor do they have the same personal level status as more familiar mental entities from philosophical discussion, such as desires or judgments. Further discussion of this tricky issue would deviate from the topic of this paper, so for now I can only mention this difference between Husserl and Cohen.

A second difference between Husserl's partial intentions and Cohen's counterfactuals is that the former can be fulfilled through action, while the latter are somewhat static and disembodied. Cohen distances his view from action-oriented theories of perception, despite noting possible similarities (2008: note 9). For Husserl, we implicitly anticipate how objects will appear as we change viewing conditions by moving about.²⁷ As mentioned in section 3, these implicit anticipations can be fulfilled. Despite Cohen's aversion to action-oriented accounts of color constancy, I think it would not take much work to interpret counterfactuals in terms of implicit anticipations that can be and actually are fulfilled through action. Indeed, it may be a natural complement to Cohen's theory. Besides judging how parts of surfaces would appear under particular conditions, we can also anticipate how they will appear given

current conditions and given the way continuous movements are changing those current conditions. Those anticipations can either be fulfilled or not.

In this part of the paper I have discussed similarities and differences between Husserl's theory and some themes from contemporary philosophy of perception. Now I will turn to Sean Kelly's recent work, which falls more directly within the phenomenological tradition.

5. The normativity of perspective in Merleau-Ponty

Sean Kelly has recently developed a reading of Merleau-Ponty according to which perceptual constancy is best understood in terms of optimal viewing conditions:

Even if it looks like the surface *is* the same color throughout, however, the pattern of shadows nevertheless affects the way that color *looks*. Merleau-Ponty's idea is that this effect is a normative one: *here* the color looks like it is not presented in the optimum way; *there* it looks better. (2004, emphasis in original)

This reading of Merleau-Ponty marks an original departure from the other theories I have mentioned here. The perspectival variations show up in perception as a deviation from the optimal viewing conditions for the object.

Rather than focus on Kelly's novel reading of Merleau-Ponty, I will make two related points. First, the shortcomings that Kelly attributes to Husserl are not exactly right. Second, the Husserlian position, correctly understood, shares advantages with, but avoids some shortcomings of, the position Kelly develops from Merleau-Ponty.

One theme I have been emphasizing is that, for Husserl, perception is a process constituted by the continuous interplay of intention and fulfilment. Kelly has investigated the following question about Husserl's work: what is the nature of the empty intentions correlated with the hidden sides of objects? To phrase the question in terms of a familiar example: when I see the uniformly red sphere 'in' color variations, in what way do I intend the uniform redness of the hidden side of the sphere? Kelly answers this question by first attributing to Husserl the notion that subjects have incorrigible knowledge of the qualities of their own mental states (2003: 122). He then suggests that this commitment constrains the way in which Husserl can conceive of empty perceptual intentions. In particular, Husserl must understand the

hidden sides of objects to be ‘*hypothesized but sensibly absent*’ (2003: 125, emphasis in original). For Kelly’s Husserl, the perception of the hidden sides of objects is more cognitive than perceptual:

On Husserl’s account . . . I *know* or *believe* or *hypothesize* or *expect* that the object has certain hidden features, but I do not properly speaking *see* it as such. (2004, emphasis in original)

The main idea, as I understand it, is that Husserl can only allow a particular kind of indeterminacy into experience due to the incorrigibility constraint. This constraint forces Husserl to maintain that all qualities of experience can be known completely and with certainty. Since indeterminate content cannot be known completely, we cannot actually have indeterminacy in perception. Instead, the only sense in which experience can be indeterminate is when the subject is not yet *cognitively* committed to one or another determinate perceptual content.

Kelly’s reading of Husserl can be challenged in several ways. First, the passages that Kelly cites do not commit Husserl to the view that qualities of experience can be known completely and certainly. The section Kelly mentions, §44 of *Ideas I*, emphasizes the essential difference between experiences and transcendent objects: the former are not given in adumbrations, and the latter are.²⁸ Importantly, from the fact that experiences are not adumbrated, it does not follow that all qualities of experience can be known completely and with certainty. Husserl is clear about this, ‘Also an experience is not, and never can be, fully perceived; it cannot be adequately grasped in its full unity’ (*Ideas I* §44, my trans.). Husserl makes the crucial distinction in this section between the being of transcendent objects, and the being of immanent experience. The context of this section of *Ideas I* does not warrant wide-ranging conclusions which constrain Husserl’s description of perceptual constancy.

Second, there are independent reasons for rejecting Kelly’s cognitivist reading of Husserl on perceptual constancy. This point can be made by mentioning Husserl’s positive account of perceptual constancy which I sketched above. In the positive account, Husserl does not describe the partial intentions of perception in the cognitive terms that Kelly chooses (hypotheses, beliefs, and so on). The sides of objects that are outside of view are correlated with partial intentions, and those partial intentions can be fulfilled with movement. New partial intentions are continuously stirred up as we

move. This positive account can be found in the early *Logical Investigations* (VI §10, for example), and it is revisited with little change throughout Husserl's work (Hua XVI, XI). Nowhere, as far as I know, does Husserl describe partial intentions in cognitive terms such as hypotheses, beliefs, or knowledge.²⁹ He is also careful to note that they are not usually expectations, either (LU VI §10).

Third, Husserl allows that there are many gradations between determinacy and indeterminacy for partial intentions. A partial intention of the hidden side of an object which I see for the first time is more indeterminate than the partial intention of the hidden side of an object with which I am very familiar (Hua XVI §18). It is not clear that Kelly's interpretation of indeterminacy as undecided cognition between determinate contents can accommodate this kind of gradation.

Kelly's claim that, for Husserl, we do not properly perceive the hidden sides of objects does have good textual support. In the 1907 *Thing and Space* lectures (Hua XVI), Husserl suggests that 'improperly appearing moments of the object are in no way presented (*dargestellt*)' (§18). This line should not be understood to mean that hidden sides are intended in cognition rather than perception, as Kelly suggests. Instead, within the context of the lectures, the above line can be understood as a reiteration of the more detailed claim from the preceding section:

The improperly appearing objective determinations are co-apprehended, but they are not 'sensibilized,' not presented (*dargestellt*) through what is sensible, i.e., through the material of sensation. It is evident that they are co-apprehended, for otherwise we would have not objects at all before our eyes, not even a side, since this can indeed be a side only through the object. (Hua XVI §17, Rojcewicz trans., also see Zahavi 1997)

Husserl is only claiming that the hidden sides of objects are not presented through sensations. We do not see the colors of the hidden sides of objects. It is almost an obvious point but Husserl needs to make it in order to contrast the way in which we do not see hidden sides (through color sensations) with the way in which we do see hidden sides (through empty partial intentions).

I have tried to give some reasons to resist Kelly's reading of Husserl on perceptual constancy. But what about normativity? Kelly's alternative to Husserl is his reading

of Merleau-Ponty according to which perspectival sensations are understood in terms of the deviation from optimal viewing conditions. Importantly, the normativity that Kelly finds in Merleau-Ponty can be originally found in Husserl.³⁰ In his lectures from 1907, Husserl discusses the way in which different perspectives on objects bring about better or worse degrees of “givenness” for the object. He also mentions how one’s interests can determine which perspective on an object will be best (Hua XVI §36). Continuing this theme, about a decade after these lectures, Husserl brings the affective motivational content of perception into focus. Here Husserl describes how perception involves a pull towards gaining a more optimal view of objects:

By affection we understand the allure given to consciousness, the peculiar pull that an object given to consciousness exercises on the ego; it is a pull that is relaxed when the ego turns toward it attentively, and progresses from here, striving toward self-giving intuition, disclosing more and more of the self of the object, thus, striving toward an acquisition of knowledge, toward a more precise view of the object.

(Hua XI §32, Steinbock trans.)

This description of the affective pull at work in perception looks very much like the normative interpretation Kelly gives Merleau-Ponty.³¹

So does Husserl’s position come out the same as the position Kelly describes? Not quite. Kelly’s Merleau-Ponty fits with Husserl’s later emphasis on optimal perceiving and affective force, but not his earlier framework, which includes the abstract structure of intention and fulfilment. Recent Husserl scholarship has focused on this relationship between Husserl’s earlier framework of static abstraction (static phenomenology), and his later emphasis on the temporally extended process of perception for particular situated perceivers (genetic phenomenology). Here is not the place to enter into a discussion of the relationship between static and genetic methods in Husserl (Steinbock 1995, Welton 2000). What is important in this context, though, is the fact that Husserl’s later writings on perception included *both* the static abstract structure of intention and fulfilment as well as the genetic description of the particular perceiver with goals, where views on objects can be more or less optimal (Hua XI §§33&34, also see the static framework still in use in the Cartesian Meditations, where genetic phenomenology is an explicit theme (Hua I §§17-19)).³²

Of course, a different question is whether it does any good to retain both the intention/fulfilment structure as well as the appeal to normativity. This difficult question cannot be treated adequately here, but I will quickly mention two concerns about using normativity alone to explain perceptual constancy.³³ First, and perhaps most importantly, it is not clear how the normative account can handle the distinction between the facing and the hidden parts of objects. There is a strong intuitive difference between the way in which we perceive the facing part of a sphere and the way in which we perceive the hidden part of the sphere. It is not clear how one can explain this difference in terms of optimal viewing conditions. Husserl's static phenomenology, on the other hand, offers a ready explanation: the appearance of the facing side of objects is understood in terms of fulfilment of partial intentions. The hidden sides of objects correlate with unfulfilled partial intentions. As I have tried to show above, this framework connects with some other approaches to perceptual constancy in the contemporary literature, including a possible solution to the *unification problem*. The appeal to optimal viewing conditions alone offers none of these benefits.

A second worry about the normative account alone is that it is not clear how constancy is explained when we are genuinely indifferent about our view on particular objects. It seems strong to claim that we *always* perceive objects in terms of optimal viewing conditions.³⁴

If it turns out that the normative theory of perceptual constancy is not sufficient to explain perceptual constancy, then we ought to retain, along with Husserl, *both* the static structure of intention/fulfilment as well as the genetic analysis of affective motivation.

Conclusion

I have discussed Husserl's account of perceptual constancy and its relationship to some themes in the contemporary literature. The challenge of perceptual constancy is that we are torn in two different directions by two intuitions. The first intuition is that we see objects from a perspective. Inferentialist, perspectival property, and counterfactual theories are motivated by this intuition. The second intuition is that we

are perceptually engaged with normal factual properties, not with perspectives. Kelly's Merleau-Ponty accommodates this intuition. Husserl offers us a way to accommodate both intuitions by understanding perception to be an ongoing process involving partial intentions and fulfilments of those intentions. This structure explains how we see the same object across multiple appearances (the *unification problem*) and it nicely handles the distinction between visible and hidden parts of objects. With this structure in place, Husserl is then able to incorporate the affective motivational content of perception, which is a central theme that Kelly finds in Merleau-Ponty.

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¹ For discussions which contrast both senses of perceptual constancy, see Thompson (2006: 81) and Cohen (2008: 65).

² The properties perceived need not remain static for the constancy phenomenon to occur, but I will focus on such cases for ease of exposition.

³ Noë does not fit easily into this group because a central theme in his work is the importance of action, of continuously gaining different perspectives, for perception. I include him here only because of his commitment to perspectival properties (section 4.2, Noë 2004: chapter 5). Among those in the contemporary literature, Noë's work comes closest to Husserl in many respects.

⁴ A. D. Smith (2000), Charles Siewert (1998, 2006), and Robert Briscoe (2008) all give a minimal role to perspectival variations, especially when contrasted with other contemporary theories. I will briefly discuss the issues they raise in section 4.2.

⁵ Husserl understood this distinction as an updated version of Kant's well-known distinction between concept and intuition (LU VI, introduction). In this light, Husserl's use of the distinction could make a novel contribution to the contemporary debate over non-conceptual content (Gunther 2003).

⁶ I am using Husserl's terminology from the *Logical Investigations* in which he describes the relationship between intentions and the objects of intentions as one of correlation (*Korrelat*) (LU VI §10, for example). This framework prefigures the correlation that Husserl later describes as obtaining between *noesis* and *noema* in transcendental phenomenology (Hua III). For the purposes of this essay, it would be best to avoid the controversy surrounding the way these terms should be understood (see Zahavi 2004 for a discussion). In contemporary terminology, it may be more natural to describe the relationship between intention and object as representational, rather than correlational, which is weaker. One reason I do not use 'representation' here is because Husserl uses *Repräsentation* in his own precise way in the *Logical Investigations* (LU VI §§25-27, for instance).

⁷ Husserl uses fusion (*Verschmelzung*) in a fairly technical sense inspired by Carl Stumpf, who supervised Husserl's *Habilitation* (Fisette 2009), and to whom the *Logical Investigations* is dedicated.

⁸ Non-independent parts are important for Husserlian phenomenology. See LU III and Smith and Mulligan (1982).

⁹ Sometimes this synthesis can break down, such as when intentions are disappointed, and not fulfilled. We are sometimes surprised. Husserl analyzes these cases in detail (LU VI §11, Hua XI §§5-9)

¹⁰ Especially in the earlier works, Husserl wrote as if sensations can be devoid of intentional content unless they are 'animated' (*beseelen*) through an interpretation (*Auffassung*) (Hua III §85). For a number of reasons, mostly having to do with Husserl's work on time consciousness (Hua X), the received interpretation of Husserl is that he ultimately rejects non-intentional sensations (Sokolowski 1964a, 1964b, Welton 1983, Gallagher 2003, Zahavi 2005).

¹¹ Motor movement is not an explicit theme in the discussion of partial intentions in the *Logical Investigations*, but Husserl later devotes a good deal of research to how motor movement figures into the structure of perception (for instance, Hua XVI §§32-35, §§44-47, Hua XI §§3&4).

¹² As just mentioned, Husserl is not committed to the anticipations necessarily being *sensorimotor*.

¹³ Interestingly, this claim reflects a theme explored by Husserl (Hua XIII) and developed by Dan Zahavi (1997, 2005: 167). The important difference is that this requirement is not *sufficient* for shape perception in Husserl as appears to be for Schellenberg.

¹⁴ Ignoring movement in visual perception is nothing new. In the philosophical literature, the well-known example of size constancy in a row of trees has been discussed only from a static perspective (Peacocke 1983, Tye 2000). In the vision science literature, David Marr's (1983) influential approach to vision did not address movement as a main theme.

¹⁵ Note that the *unification problem* is not a problem unique to Noë's theory of visual perception. Given the fact that we are able to perceive an object as the same object from different perspectives, it is a question for any theory of vision.

¹⁶ Of course, it does not require a solution to all variations on the problem. It does not require an account of things we cannot do perceptually, such as pick out that same domino from its face-down appearance in a pile of other face-down dominoes.

¹⁷ To be fair, Briscoe never claimed to explain 3D shape perception in the article of his that I have been discussing (2008). His discussion of these two abilities, visible 3D shape perception and volumetric object recognition, is meant to illustrate a purported confusion in Noë's work.

¹⁸ I should mention that Hume should probably be given credit as an early proponent of this kind of understanding of perception.

¹⁹ Of course, I am leaving out plenty of details on various ways the sense-datum theory and phenomenalism could be developed. Also see note 24.

²⁰ '*jene Wahrnehmung und jeder Wahrnehmungszusammenhang aus Komponenten aufbaut, die unter diesen beiden Gesichtspunkten Intention und (wirkliche oder mögliche) Erfüllung zu verstehen sind . . .*' (LU VI §10)

²¹ This kind of property has been called a perspectival property (Noë 2004), situation-dependent property (Schellenberg 2008), appearance property (Shoemaker 2006), and a property 'from here' (Harman 1991, Tye 2000).

²² Noë (2004) would say that the coin has an elliptical perspectival shape, Tye (2000) and Harman (1991) would say the coin looks elliptical 'from here.'

²³ In this camp I include A. D. Smith (2000), Charles Siewert (2006), and Robert Briscoe (2008). Also see Eric Schwitzgebel (2006).

²⁴ Of course, after taking the turn to *transcendental* phenomenology, Husserl would add qualifications to this claim.

²⁵ G.E. Moore favorably reviewed a book called *Empfindung und Denken (Sensation and Thought)* by August Messer (Moore 1910). Messer's book is heavily influenced by Husserl's account of perceptual constancy. Moore, in his review, misinterprets Messer as suggesting that sensations are objects of intentions, rather than as elements which enable us to perceive objects in the world. It is likely that his review of this book plays an important role in shaping his sense-data theory of perception. (See Künne 1990, Spiegelberg 1975, Milkov 2004, and Madary 2007, chapter 1.)

²⁶ Husserl has even claimed that some of his research could be called a phenomenology of the unconscious (Hua XI §33).

²⁷ See note 12.

²⁸ There is evidence that Husserl later changed his position on this issue (Welton 2000: 147).

²⁹ In §39 of Hua XVI, for instance, Husserl uses the English term 'belief' to describe a kind of intention which posits the existence of objects and which is founded upon perceptual appearances. The partial intentions of perception are not beliefs.

³⁰ For a recent discussion of the relationship between Husserl and Merleau-Ponty, see Zahavi (2002).

³¹ Also compare Steinbock's discussion of optimality in Husserl (1995: chapter 9).

³² A challenge to this traditional understanding comes from Anthony Steinbock, who has suggested, *pace* Derrida, that Husserl may have understood genetic phenomenology to challenge and surpass the structures found in static phenomenology. For instance, Steinbock points out how genetic phenomenology challenges Husserl's early treatment of sensations (as hyletic data) in his *Ideas I* (Steinbock 1995: 265, Soffer 1997). Still, even if *some* features of static phenomenology are challenged by later work, the relevant structure for our purposes seems to remain unscathed: the intention/fulfilment structure of perception from static phenomenology is still embraced by Husserl in the same lecture courses in which he engages in genetic phenomenology, in particular in the course materials from the early 1920's published as Hua XI. See Welton (2000) for a detailed discussion of the importance of these lectures for Husserl's larger project.

³³ For other criticisms of Kelly's account of perceptual constancy, see Noë (2004: 166&167) and Madary 2008.

³⁴ This worry probably applies to Husserl as well, who seems to have held that there is always optimality involved with perception (Steinbock 1995: 138 & 139).