

Perceptual transparency and Perceptual Constancy

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Abstract

A central topic in discussions concerning qualia concerns their purported transparency. According to transparency theorists, an experience is transparent in the sense that the subject having the experience is aware of nothing but the intended object of the experience. In this paper this notion is criticized for failing to account for the dynamical aspects of perception. A key assumption in the paper is that perceptual content has a certain temporal depth in the sense that each act of perception can present an object as extended in time and that objects can be perceived as persisting through time. An object that is seen as persisting through time is often seen as constant and unchanging, even though the presentation of it is changing. In this paper it is argued that in order to account for these cases of perceptual constancy, we must distinguish between the awareness of having perceived that an object has a property at a certain point in time, and perceptually intending that it has that property at that point in time. Consequently, we must in at least some instances be aware of something more than the object of the experience. But precisely this distinction is rejected by the transparency theory.

1 Introduction

One of the most discussed problems in the philosophy of mind during the last decades concerns the phenomenal character of perceptual experiences. One influential solution among intentionalists has been to deny that the phenomenal character of an experience is anything over and above the features we perceptually attribute to an object. According to this theory, perceptual content is transparent. The only things we are aware of in perception are the object of the perception and its purported features.

This is a paper about the claim that perception is transparent. I shall argue to the contrary that perception is opaque, not in the sense that we are not directly aware of the objects of perception, but in the sense that we are in some non-intentional sense of the word aware of at least some features of perceptual content. In the next section I introduce and present the notion of perceptual transparency.

In section three I go on to argue that if we introduce a temporal dimension to perceptual content, it becomes very natural to assume that we can be aware of the perceptual content changing, even though the object of perception is perceived to be constant. But this is a distinction the transparency theorist cannot make. For the transparency theorist will either have to claim that we are only aware of the object of perception, or that that the intentional content is identical to the intentional object.

The only natural way to block the argument is to claim that perceptual constancy is not a feature of perceptual content, but rather a feature of perceptual judgments. The merits of this claim are assessed in section four. It is argued that this account is untenable. And in the fifth section an alternative account of perceptual content is spelled out, namely one which can

handle the relevant cases. On this account at least some features of perceptual content are opaque.

2 The Transparency of Perception

The idea that perception is transparent has been defended by certain philosophers subscribing to perceptual intentionalism. Intentionalism is the view that an act of perception is constituted by a certain intentional content, and that this content represents worldly objects in certain ways. The most important defenders of transparency from an intentionalist point of view are probably Gilbert Harman (1990) and Michael Tye (Tye 1992, 1995, 2000, 2002, 2003, 2010).

It is however important to point out that intentionalism as such does not entail transparency. Several prominent intentionalists (Searle 1983, Smith 1986, Smith 1989, Smith 2002, Recanati 2007, Crane 2003, Siewert 2004) explicitly deny that acts of perception are transparent. They hold to the contrary that whereas we intend worldly objects, we are in some non-intentional way aware of sensory features of our experience. They do however differ as to the ‘what’ and ‘how’ of this awareness. According to one line of thought (defended for example by Smith 1986), we must distinguish between the intentional content (or mode of presentation) and the inner awareness of an experience. The inner awareness is what makes the experience conscious. But it is not a second order intentional act directed upon the first experience. Rather, it is a self-reflexive feature of the experience itself. When perceiving a mind-external object of perception, we have an intentional awareness of the object of perception, but we are also conscious of the experience itself. This consciousness is a function of the (non-intentional) inner awareness of the experience itself.

On the account I will criticize in the present paper, perceptions are transparent if perceivers are only aware of the object of perception and its properties. There is no separate awareness of features of the experience, which are not features of the object of perception. Here is Gilbert Harman expressing the idea in an influential paper: ‘Look at a tree and try to turn your attention to intrinsic features of your visual experience. I predict you will find that the only features there to turn your attention to will be features of the presented tree, including relational features of the tree ‘from here.’ (Harman 1990:39)

Tye often makes a similar claim. Here is a representative quote:

When you turn your gaze inward and try to focus your attention on intrinsic features of these experiences, why do you always seem to end up attending to what the experiences are *of*? [---]. Now try to become aware of your experience itself, inside you, apart from its objects. Try to focus your attention on some intrinsic feature of the experience that distinguishes it from other experiences, something other than what it is an experience *of*. The task seems impossible: one’s awareness seems always to slip through the experience to the redness and shininess, *as instantiated together externally*. In turning one’s mind inward to attend to the experience, one seems to end up scrutinizing *external* features or properties. (Tye 1995:135f)

So Tye and Harman both claim that in perception, one is only aware of the object of perception. There is no separate awareness of the experience itself or any of its properties.

Let us express this by formulating the Transparency Thesis (TT);

(TT) A perceiver having a visual experience is only aware of the object of perception and its properties. There is no intentional or non-intentional awareness of the experience itself or of content *qua* content.

The transparency thesis is consistent with us being aware of the external objects of perception through the perceptual content. But it rules out that we are aware of the content *qua* content. It also rules out that there is any other experiential feature of the act of perception of which we are aware, but where this feature is not a purported feature of the object of perception.

At this point it is important to point out that some transparency theorists, notably Tye (1995:136), also make the claim that perceivers are aware of the intentional content of a perceptual experience. This claim might seem to contradict the quote from Tye above, and it might also seem as if this claim means that Tye would not, after all, subscribe to (TT).¹

Tye however can make this claim² and still subscribe to (TT) because he is a Russellian with respect to intentional content (cf Tye 1995:99). So on Tye's account, the intentional object and its properties feature as constituents of the intentional content. Tye is, to be sure, not alone in having this combination of commitments. Kriegel (2009) also combines a commitment to (TT) and Russellian content with claims to the effect that perceivers are aware of the intentional content in addition to the intentional object. We can say that on Tye's and Kriegel's account, a perceiver is aware of the intentional content *qua intentional object*. But she is not aware of the *content qua content*.³

Russellian accounts of transparency must be kept separate from Fregean accounts of transparency. According to Fregeans, the intentional content is distinct from the intentional object. So unlike Russellians, Fregeans subscribing to (TT) cannot claim that there is any awareness of intentional content. For if a Fregean makes this claim, she would have to claim that the perceiver is after all aware of something over and above the object of the experience.

In order to emphasize that (TT) precludes the Fregean, but not the Russellian, from holding that there is an awareness of the intentional content in a perceptual experience, I have used the phrase 'content qua content'. This phrase is intended to be read in the sense that (TT) is consistent with an awareness of Russellian content, but not of Fregean content. In order to simplify things, I shall unless otherwise explicitly stated reserve the term 'content' for Fregean content.

It is important to distinguish (TT) from the theory that the phenomenal character of a perceptual experience supervenes on the intentional content of the said experience. The transparency thesis entails the supervenience thesis, but is not entailed by it. The supervenience thesis is neutral with respect to whether there is an inner awareness of the perceptual content, which is distinct from the awareness of the intentional object.

In this paper I shall argue that (TT) is inconsistent with various cases where we experience a change in perceptual content, but do not perceive a change in the object perceived. My argument is a version of a kind of argument that has been directed against the transparency theory before. Both A. D. Smith (Smith 2008) and Ned Block (Block 2010) has presented cases where the perceptual experience is changing in some way, without the perception thereby presenting any change in the world.

In Smith's case the topic is unclear perceptions – or blurry perceptions as Smith calls them. Smith argues that blurry perceptions must be distinguished from fuzzy perceptual objects, viz. objects which are represented as having unclear boundaries. A blurry perception need not entail a perception of the object as being fuzzy in any way. Consequently, when a sequence of perceptions goes from blurry to being clear, the phenomenal character of the experience would change, but we would not perceive a change in the object intended. 'Blurriness is not a

¹ This objection was brought to my attention by an anonymous referee.

² Tye has recently (Tye 2007, 2009) abandoned claims to the effect that the phenomenal character can be explained in terms of an awareness of intentional content. On his present account the phenomenal character of a perception is identical with the properties of the perceptual object. His account is thus still consistent with (TT).

³ Cf Almäng 2012 for a critique of Russellian theories of content.

way that things in the world themselves seem to be. It is, however, a feature of experience of which we are usually aware when it is there. The Transparency Thesis is therefore false.’ (Smith 2008:201)

Block’s argument has a similar structure. He discusses a case where a change of attention leads to a change of the phenomenal character of the perception, without there being anything that is perceived to change. Block concludes “that it is a mistake to treat the change in phenomenology wrought by the change in attention as equivalent in its effect on phenomenology of a change in contrast in the world.” (Block 2010:54) So in Block’s case the change of attention generates a change in the phenomenal character of the experience, but it does not generate a perception of any change in the world.

Michael Tye for example (Tye 2010) has replied that these cases involves a change in content and so does not threaten transparency. For if the content is changing, then (TT) predicts a change in phenomenology. Perhaps Tye is right in claiming that these cases can be explained simply by the fact that they involve a change in content. I will not discuss that issue here. My aim in this paper is rather to argue that (TT) is inconsistent with a situation where the perceiver is aware of a change in content, without intending the object as changing.

3 Change and constancy in time-consciousness

I will assume that perceptual content has a certain temporal depth. This means that it is not only the case that the stream of consciousness is constituted by a sequence of perceptions. Each act of perception can also present the perceiver with a sequence of events or with processes and states that are temporally extended. Following an old tradition dating back to William James, I will call the temporal depth of an act of perception the specious present.

If perceptions have a specious present, the object of perception can be presented as persisting for a short period of time. Here is William James in a classical formulation of the notion of specious present:

In short, the practically cognized present is no knife-edge, but a saddle-back, with a certain breadth of its own on which we sit perched, and from which we look in two directions into time. The unit of composition of our perception of time is a duration, with a bow and a stern, as it were – a rearward- and a forward looking end. It is only as parts of this *duration-block* that the relation of *succession* of one end to the other is perceived. (James 1950, p 609f.)

Whereas it is not entirely uncontroversial that perceptions have a temporal depth, most philosophers studying time-consciousness has endorsed some version of it.⁴ In this paper I will simply assume that it is true.

If perceptions have a specious present, acts of perception can be dynamic in the sense that in a single act of perception processes can be perceived as evolving, events as succeeding each other and objects as undergoing a certain change. In the auditory case for example, a single act of perception can present a sequence of tones. So when we hear “do-re-mi”, the tone “mi”

⁴ The doctrine seems for example to be denied by Phillips 2008. But most philosophers studying time-consciousness have endorsed the doctrine, cf Dainton 2000, Husserl 1966a, Meinong 1899, Grush 2008 and Miller 2004. Importantly in this context, the doctrine has also been endorsed by Michael Tye (Tye 2003:88ff)

is presented as following the tones “do-re”. In the case of perception of movement, the object is in a single act presented as moving along a certain trajectory in space.

If we assume that perceptions have a certain temporal depth, it is natural to distinguish between experiential time-consciousness on the one hand, and perceptual time-consciousness on the other hand. Let us say that perceptual time-consciousness consists of our intentional awareness of the objects of perception as they are presented in the specious present. Experiential time-consciousness on the other hand consists in our inner awareness of our own stream of consciousness in the specious present. Thus, somewhat crudely put, experiential time-consciousness consists in an awareness of a sequence of perceptual experiences. Perceptual time-consciousness on the other hand consists in an awareness of a perceptual object persisting in time.

If (TT) is denied, perceptual time-consciousness will consequently differ from experiential time-consciousness. The former will only consist in an awareness of mind-external perceptual objects. The latter on the other hand will consist in an awareness of the perceptual experiences had by the perceiver during the specious present. But if (TT) is upheld, experiential time-consciousness will be identical with perceptual time-consciousness. For then our only access to our perceptions in the specious present will be our awareness of the objects presented in the specious present.

I now wish to suggest that certain features of the perceptual constancies strongly indicate that experiential time-consciousness is not reducible to perceptual time-consciousness. On my account an object is perceived as constant in a specious present when it is (in some way) perceptually present throughout that specious present, and is perceptually presented as unchanging through that sequence. My conception of the perceptual constancies consequently deviates from the standard conception. According to the standard conception of the constancies, an object is normally conceived of as perceptually constant if some feature of the object is held to be identical at two different points in time even though the sensory stimuli of the successive perceptions differs. (Cf Burge 2010:ch 9) So, for example, a ball might be seen as having the same colour at two different points in time, even though it is illuminated in radically different ways at the two points in time. And the ball might be perceived as having the same size at two different points in time, even though it is first presented as being far away and later as being close to the perceiver.

Whereas my conception of the perceptual constancies entails the standard conception, it is not entailed by it. For on my account, the perceptual constancies can be operative even in cases where *different* properties are attributed to the perceptual object at different times. In these cases, two different properties are attributed to the object at two different times, yet the object is still not perceived as having changed. I have two examples of this kind of property-constancy. My third case of perceptual constancy is a bit different since it involves perceptually intending that an object persists, even when it is not visually discriminated.

The first case is *shape-constancy*. Consider the case of perceiving an object that is rotating in front of you. In this case you continuously perceive new aspects of its spatial form. Let us assume that the object is somehow irregular in its spatial shape – like, for example, an asteroid. In such a case the spatial shape you perceive at each point in time in the specious present will be incomplete. You do not normally perceive the complete shape at any single point in time since you can only see it from a certain perspective, and that means that various sides of it will not be perceived at that point in time. And since the object is rotating, you will continuously perceive different parts of the same shape.⁵

⁵ For an argument to the effect that appearances of shapes can change even as the shape is perceived as constant, see Siewert (2006). My present argument is a bit stronger, for on my conception the shape is perceived as constant, even as you see different parts of it.

The perception of shapes seems unique in that we can be presented with parts of a property. When we perceive an object rotating, we will consequently see different parts at different times in the specious present. These will frequently be qualitatively different, but they will not be mutually excluding each other in the sense that the fact that the shape possesses one part precludes the fact that the shape possesses another part.

The second kind of constancy I have in mind has been referred to by David Woodruff Smith as a case of ‘perceptual explosion’. (Smith 1979, cf Almäng 2013b) This case is characterised by an experience of an illusion. Smith (1979) asks us to consider the example of Smith the tourist visiting a wax cabinet. As he approaches a bobby in order to ask him a few questions, Smith the tourist suddenly realizes that it is not a bobby that he is addressing, but rather a wax-figure that looks like a bobby. The object he sees explodes. But in this case the perceiver does not see the object *change* from a bobby to a figure of wax. It is rather that the earlier perception is in a sense repudiated. (Smith 1979:239ff) Perceptual explosions it is to be noted are operative not only with respect to perceptions of kinds, but also with respect to perceptions of spatial positions and various properties such as colour and shape.

In both the perceptual explosions and the case of shape constancy the perceptual content is changing in a way that it is also changing when the object is perceived as changing. In shape-constancy, different parts of a shape are seen in the specious present. But this is also what happens when the object is perceived as changing. The difference between shape constancy and perception of shape-change is consequently *not* that qualitatively different parts of a shape are successively presented in the specious present. For this can as we have seen occur also when the shape is perceived as constant. The difference must be found elsewhere.

Perceptual explosions are similar in this respect. A perceptual explosion may consist of first seeing an object as red and subsequently as green, but without perceiving it as changing. But first seeing an object as red and subsequently as green is also what would characterise a perception of the object changing from red to green. Nevertheless, there is a crucial difference between perceptual explosions and perceptions of change. But the difference cannot be that in the latter case different and incompatible properties are successively represented. For this characterises the explosions as well. Hence, we must look elsewhere for the difference.

The third case of constancy is one which does not necessarily involve any kind of change in the property attributed to the object of perception. Consider various cases of apparent motion, such as the phi-phenomenon. The phi-phenomenon was originally discovered by experimental psychologists in the late 19th century (Kolers 1972 ch 2-3 has a good overview) when studying perception of succession. They noted that if two distinct flashes were lighted at different places and with a certain temporal interval in an otherwise dark room, the perceiver could under certain circumstances perceive the first light as moving through dark space to the place of the second light.

It is important to note three things about this phenomenon. The first point to note is that the two flashes are clearly perceptually separable *events* for the perceiver. So the perceiver clearly first perceives one flash at one point in space, and then later perceives the second flash at a later point in space. Secondly, the perceiver does not perceive the lights as two different lights. Rather, the perceiver perceives them as the same light, albeit flashing twice at different points in time and space. Thirdly, during the interval between the flashes, no flash at all is perceived. But even though the room is perceived as dark, the light is nevertheless perceived as moving from its first point in space to the second point in space. As Paul Kolers puts it, the light ‘appears to move through physically empty space from the first position to the second.’ (Kolers 1972:8f) So in this case, the light seems to be both perceived and not to be perceived.

It is important to point out that this phenomenon is different than the case of apparent movement where we cannot discriminate between two flashes and where the object is seen as being constantly enlightened and moving, even though it is not. In the latter case, there are

two distinct flashes and a period of darkness in between. But these flashes are not perceivable events and it looks to the perceiver as though the object is continually enlightened and moving. The slightly paradoxical nature of our case is lacking in this kind of illusion.

The third case does not necessarily involve a kind of property constancy. But it involves a kind of *persistence constancy*. The object is seen as persisting throughout the specious present, even though it in another sense of the word does not seem to be visually presented throughout the specious present. Even though the object is perceptually intended throughout the specious present, it does not seem to be visually discriminated.

In all of our three cases the content is changing in the specious present. Yet there is nevertheless a certain constancy in the perception. In the first two cases a property is held to be constant. In the third case it is the persistence and movement of an object that is held to be constant. A *first* requirement for a theory which attempts to explain these phenomena is that it should explain how the perception of the object can change in the way it does, without there being a perception of change. In the cases above we are clearly aware of the content changing even though the object is perceived as constant. A *second* requirement is that the theory should explain why the perception is veridical if the object has the same property (in our first two cases) or persists (in our last case) throughout the specious present.

If these requirements are correct, it is difficult to see how perceptual transparency can be a tenable theory. Let us take a look at perceptual explosions in order to see the problem for the transparency theorist. A similar story could be told about the other constancies, but the details would differ. A perceptual explosion is characterised by in some sense a repudiation of what has just been perceived. For example, you may perceptually represent an object as red, only to suddenly realize that it was green all the time.

What is going on in this case? First of all, it seems uncontroversial to assume that there is a perception of the object as red which is followed by a perception of the object as green. This can be described by the following schema:

Time	Perceptual content
T ₁ .	The object is red
T ₂ .	The object is green

This schema describes the perceptual experience at t_1 followed by the perceptual experience at t_2 . Let us also assume that t_{1-2} spans a specious present. This simple model is however not sufficient in order to explain the case at hand. For this schema is applicable not only in cases of perceptual constancy, but also in the case of a perception of change.⁶

The natural way to construe the difference between perceptual explosions and perceptions of change is, I would like to suggest, that in the former case, but not in the latter, the content presenting the object at t_1 is repudiated after the act of perception occurring at t_1 . But in order to make sense of any such repudiation, we have to assume that the perceptual experience occurring at t_2 can present not only the state of the object at t_2 , but also the state of the object at t_1 . In other words, we need to assume that momentary perceptual experiences can represent temporally extended states and processes.⁷

⁶ Of course, it might be argued that there is no perceptual difference between perceptions of change and constancy, the difference is rather a difference in judgment. The content is the same, but sometimes we judge that a change has occurred and sometimes we judge that the object has a constant nature. Since I shall attempt to refute that objection in the next section, I shall for the moment assume that it is untenable.

⁷ This is obviously a very contested point in the literature on time-consciousness. Dainton 2000 argues for example that this is not the case. Husserl 1966 and in his footsteps Miller 1984 argues that this is how perception actually works. Miller 1984 coins his and Husserl's position for the Principle of Simultaneous Awareness (PSA),

If this is correct, we end up with the following schema for the perceptual experience occurring at t_2 :

Time	Perceptual content
T_1 .	The object is green
T_2 .	The object is green

It is important to bear in mind that this schema is quite consistent with the first schema. The first schema referred to two temporally separated *perceptual experiences*. But the sequence of times referred to in this schema, refers not to a sequence of perceptual experiences, but to a presented sequence of *states of the object* of perception within a single perceptual experience. And this presentation occurs at t_2 . So this schema represents the fact that our perceiver at t_2 represents the object as being green throughout t_{1-2} .

But the second schema seems to miss something important. For the second schema cannot explain our awareness of something changing. It is crucial to a description of this case that the perceptions are changing and that we are aware of this change. But neither the first nor the second schema can give us this awareness. The first schema merely states that there is a change in the perceptions, but not that we are aware of them. The second schema merely explains why the object is seen as constant. But what characterises not only the explosion, but also the cases of shape constancy and persistency constancy described above, is precisely that there is an awareness of something that changes even though there is no perception of anything changing.

The problem for the transparency theorist is that she can only allow an awareness of the object of perception. But in the case at hand, this does not seem to be enough. If the transparency theorist argued that the perceptual experience at t_2 presented the object as being red at t_1 and green at t_2 , she would as we have seen fail to account for the constancy. If she argued that the only awareness was the awareness characterising the second schema, there would be no awareness of change.

What is needed in order to explain the peculiar combination of an awareness of change and an awareness of the object as constant, is something that the transparency theorist cannot allow, namely that there is an *inner awareness of a change in the experience*, which is combined with a presentation of the object as being constant. In order to solve the puzzle we need to return to the distinction between experiential time-consciousness and perceptual time-consciousness. We recall that for the transparency theorist the experiential time-consciousness must be identical with the perceptual time-consciousness. But if we study perceptual explosions, we see that this is not the case. For in order to be aware of the experience as changing, while the object is constant, the experiential time-consciousness must be different from the perceptual time-consciousness. The former makes us aware of something that is changing; the latter makes us aware of something that is constant.

Our initial perception of the object as red at t_1 , is retained (or retended to use the Husserlian term) in the perception occurring at t_2 . But the object is not at the perception occurring at t_2 , intended to have been red at t_1 . Rather, the object is intended to have been green at t_1 . The experience succeeding the explosion is retained as the experience we are aware of having had at t_1 . But it is simultaneously repudiated. So whereas we are aware of having perceived the object as red at t_1 , we now perceive it to have been green at t_1 .

that is, the principle according to which a perceiver can simultaneously (i.e. at a single point in time) be aware of a temporally extended state or process. If the present line of argument is correct, the perceptual constancies can only be explained within the framework of PSA.

The situation could be explained by the following schema:

Time	Inner awareness	Perceptual content
T ₁ .	The object is red	The object is green
T ₂ .	The object is green	The object is green

Here, the times refer once again to the perception occurring at t_2 . So in the perception at t_2 , we have an inner awareness of having perceived the object as red at t_1 and green at t_2 . But we nevertheless *intend* the object to have been green throughout the specious present.

Now, if these descriptions are correct, what we are aware of having perceived differs from what we perceptually intend. Our awareness of the object of perception is distinct from our awareness of what we have perceived. Perceptual time-consciousness is different from experiential time-consciousness. So it is not possible for the transparency theorist to account for the requirements needed in order to explain the constancies.

There is however an obvious objection here. And that is to claim that the difference between perceptions of change and constancy does not lie at the level of perceptual content, but rather at the level of judgments. So the difference between perceptions of change and perceptual constancies is that in the former case we judge that the object has changed and in the latter case we judge that it has remained constant. And in the case of persistence constancy, we judge that the object has persisted throughout the specious present. So next we will have to assess the plausibility of that claim.

4 A difference in judgment?

The claim that we judge but not perceive that an object is constant or that it changes encounters an immediate and very natural objection: it would make perceptual content very shallow. Is it not really the case that we can perceive objects persisting or changing? But even if this objection is voided, the proposal encounters other problems. In order to see this, let us first examine our two cases of property-constancy.

The claim that perceptions of change and constancy with respect to properties can be explained by recourse to judgments encounters the problem that these features are seemingly cognitively impenetrable. One can see an object as constant with respect to a certain property, even though it is judged to change. And it also possible to perceive an object as changing with respect to a certain property, even though it is judged to be constant. But if this is true, change and constancy are cognitively impenetrable. And so we cannot explain our cases by recourse to judgments.

Consider first the case of perceiving an object as constant, even though it is judged to be changing. One much discussed example of this phenomenon in recent decades concern the so called phenomenal sorites problem.⁸ Consider the case of perceiving an object that is very slowly changing its shape. The change is continuous but so slow that if you look at the object, you will not see the object change in the period covered by the specious present. If you continuously look at the object, you will however after a certain period of time judge that the object has changed its shape..

⁸ For discussion, see for example Williamson 1994, Philips 2011, Raffman 2012

If you only look at the object for a very short period of time, you will consequently not perceive that the object is changing. The object will perceptually appear to have a constant shape. Yet you may nevertheless judge that the object is changing. But this indicates that perceptual constancy is not imposed on the perception from a judgment. For in this case we judge that the object is changing, yet perceive it as constant. So a judgment to the effect that the object is constant is clearly not *necessary* in order to perceive it as constant. And a judgment to the effect that it is *changing*, is not sufficient in order to perceive it as changing. But this also indicates that change is a feature of perceptual content.

A similar argument can be devised with respect to perceptions of change and judgments of constancy. Consider for example various cases of illusions where a stationary and two-dimensional image is seen as three-dimensional with moving waves and / or a generally unstable surface. (Cf Wade 1977, Kitaoka 2006) In these cases it is quite clear that most observers will perceive a change in the shape of the object. But it is also clear that most observers will judge that the object has a constant shape. But then even though the object is judged to be constant, it is not perceived to be constant. It is perceived to be changing. So a judgment to the effect that the object is changing is clearly not *necessary* in order to perceive it as changing. And a judgment to the effect that it is constant, is not *sufficient* in order to perceive it as constant.

If this is correct, it is neither necessary nor sufficient to judge that an object has a constant nature in order for the property-constancies to be at work. And it is neither necessary nor sufficient to judge that an object is changing in order to perceive it as changing. Change and constancy with respect to properties appear to be genuine features of perceptual content.

The appeal to perceptual judgments is even more problematic when it comes to apparent movement. In this case a spot of light is perceived as moving between two points in space. Yet it is not necessarily judged to be moving. Most subjects exposed to the phi-phenomenon are aware that the change of position is an illusion. They are presented with two different spots of light which flash at different points in time. Yet it nevertheless looks to them as though the first light moves to the position of the second light during the interval, even though the light in the interval is not perceived as flashing.

There is however an even stranger dimension to the case of apparent motion. It is not only the case that during certain circumstances we perceive the object as moving through empty space even though we perceive no flash. If the two lights have different colours, we perceive the light change colour halfway between the flashes! So in this case, halfway between the flashes, we do not visually discriminate any flash. Even so the light is perceived as changing colour. (Kolers and von Grünau (1976, and cf Tye 2003:90)

The cognitive impenetrability characterising the case of apparent movement clearly illustrates the problem of analysing the phenomenon in terms of judgment. During the interval between the flashes, the perceiver is only presented with darkness. Yet nevertheless she apparently intends that the object is moving from one spot to the next. But this intention of an object persisting by moving through darkness, without the object being sensorily discriminated from its surroundings, cannot be explained by recourse to judgments. For we judge precisely the opposite: viz. that it is two different objects we are presented with, and that no object is moving in the darkness during the interval between the flashes.

If this analysis is correct, it does not seem to be possible to analyse our problematic cases in terms of perceptual judgments. So in order to present a theory which accounts for our requirements, we seem to be forced to conclude that the perceptions analysed have a kind of dual structure. Our awareness of the nature of our perceptions comes apart from the way the objects of our perceptions are presented. Whereas we intend the object to have a certain feature at a certain point in time, we are aware of having intended it in some different way at that point in time. The next section presents an account of how that is possible.

5 Phenomenal Character and Perceptual Intentionality

If my account so far is correct, transparency-theories cannot account for our problematic cases of perceptual constancies. A generic transparency theorist cannot distinguish between an awareness of how an object was perceived at a point in time, and perceptually intending that the object was thus and so at the same point in time. But our cases show that we must make this distinction.

In order to account for the constancies we need to realise that there are non-sensory aspects of perceptual intentionality and that these help to account for perceptual intentionality.⁹ In order to explicate this dimension of perceptual intentionality, I would like to use some notions that are central in Edmund Husserl's account of perceptual intentionality. I am however unsure as to what extent Husserl would agree with me in the use I will make of them; to the best of my knowledge Husserl never used them in precisely the way I will.

A central claim in Husserl's account of perceptual intentionality is that perception is perspectival. When we perceive a three-dimensional object, the object in its entirety is in one sense of the word never visually perceived. More specifically, it is only certain sides of the object which are sensorily present in the perception. Yet it is nevertheless the case that the object is presented as a complete object. Here is Walter Hopp presenting Husserl's view:

As I perceive the table from here, I can see some of its parts and sides, while others are hidden from view. I am conscious not just of the seen parts of the table, but of the unseen parts as well, but emptily and indeterminately. The table gives itself as something that there is more of, that could be explored more fully, that would manifest itself differently from different points of view. (Hopp 2011:55)

So whereas it is true that some parts of the object are hidden from view, they are nevertheless *cointended* in the act of perception.

In order to account for this phenomenon, Husserl argued that there are two distinct kinds of content in the act of perception, intuitively 'full' content and 'empty' content.¹⁰ When perceiving an object, the visible side of the object is given in intuitive fullness. The visible side of the object is called the 'abschattung' or 'adumbration' of the object. Since we perceive the object as being three-dimensional, the other sides of the object are nevertheless given in empty partial intentions constituting the complete intentional content of the act of perception. These empty intentions are said to constitute the horizon of the object perceived. Empty intentions are thus sometimes said to constitute the 'horizontal' intentionality of the act of perception. (Cf Husserl 1966b:3ff)

If Husserl's account is correct, there are consequently non-sensory aspects of each act of perception. It is not merely the adumbration of the object which is intended, but rather the complete object. It is worth emphasizing that the empty intentions are partial intentions. They

⁹ Cf A.D. Smith's discussion of the phi-phenomenon and amodal perception. He considers them instructive in distinguishing between sensations and perceptions. Smith 2002:161ff.

¹⁰ For an analysis of these and co-related notions, see for example Hopp 2011:54ff, Smith and McIntyre 1982: ch 5 and Mulligan 1995. My own account emphasizes with in particular Hopp that empty intentions are part of the perceptual content and not beliefs. This is not to deny that there are other interpretations and that Husserl in his long discussions of perceptual horizons assigns beliefs and judgments to do other kinds of important theoretical work.

are not distinct intentional acts, or even possible intentional acts. They are interwoven with the full intentions in order to constitute the *complete* intentional content of the act of perception. The complete content of an act of perception is here conceived of as the way the object is intended in the act of perception. Some features of it will be contributed by the full content and some features by the empty content.

It is important to note that the distinction between full and empty content is not a distinction that can be made by the transparency theorist. For according to the transparency theorist, a perceiver is only aware of the object of perception and its properties. And this is what explains the phenomenal character of the perception. But if this is correct, it would not matter to the phenomenal character whether a part of content was given in full mode or in empty content. Full and empty content can however have the same intentional features. But they differ with respect to their phenomenal features. But this distinction is precluded by (TT).

Now, if Husserl’s account is correct, it gives us useful tools in order to explain the perceptual constancies. In order to see this, let us assume that the perceptual constancies are characterised by the fact that the full content can present an object as having different properties throughout the specious present, whereas the complete content presents the object as having identical properties throughout the sequence. The reason for this being that the full content is *supplemented* by the empty content.

Consider first the case of shape-constancy. Let us assume that we perceive an object that is rotating such that initially we see it as having shape-part *a*, and at the end of the specious present it has shape-part *b*. Let us also assume for the sake of simplicity that there is no part of the shape which is seen in the specious present, which is not also a part of *a* or *b*. The situation would then look something like this:

Time	Full content	Empty Content	Complete content
T ₁ .	The object is <i>a</i>	The object is <i>b</i>	The object is <i>a</i> and <i>b</i>
T ₂ .	The object is <i>b</i>	The object is <i>a</i>	The object is <i>a</i> and <i>b</i> .

In this example we assume (somewhat counterintuitively) for the sake of simplicity that the object has only one side not seen initially and that this side is visible at the second point in time. In these cases, the empty intention extrapolates from the full content to cover different points in time.

It is important to note here that the time referred to is the time *as presented in a single act of perception*. If perceptual content has a certain temporal depth, in the sense that it can present us with temporally extended states and processes, it becomes natural to distinguish between the temporal properties of the act itself, and the temporal properties of the perceived world as presented in perceptual content. The perceptual act *itself* would occur at *t*₂. But the act *represents* the state of the object at *both* *t*₁ and *t*₂.

Since the act occurs at *t*₂, it is possible for the empty content to be retroactively modified. Hence, the empty content representing the state of the object at *t*₁ in the act of perception occurring at *t*₁, need not have been identical with the empty content representing the state of the object at *t*₁ in the act of perception occurring at *t*₂. Presumably this was not the case, since the empty content representing the object at *t*₁ is an extrapolation from the empty content representing the state of the object at *t*₂.

With respect to perceptual explosions our account would look something like this

Time	Full content	Empty Content	Complete content
T ₁ .	The object is red	The object is blue	The object is blue

T₂. The object is blue - The object is blue

It is to be noted that in all these cases it is the full content that we are aware of having perceived. Yet it is the complete content that is the way we intend the object as being at a certain point in time. So in the case of the perceptual explosions we have a perception of the object as being blue throughout the specious present, but we also have an inner awareness of having initially perceived it as red and subsequently as blue. This is accounted for by the change in the full content.

Let us finally take a look at the coloured phi-phenomenon. Let us assume that the specious present here spans four units of time. The perceptual content would then look something like this:

Time	Full content	Empty Content	Complete content
T ₁ .	The spot is red at p ₁	-	The spot is red at p ₁
T ₂ .	-	The spot is red at p ₂	The spot is red at p ₂
T ₃ .	-	The spot is green at p ₃	The spot is green at p ₃
T ₄ .	The spot is green at p ₄	-	The spot is green at p ₄

In the above schema p_x refers to spatial positions. So in this case we are only aware of having seen the objects at two points in time. Yet we are nevertheless perceptually intending it as continuously moving through a trajectory. Once again we can see that the empty content is derived from the full content, but the derivation is slightly different than in the other two cases.¹¹

It is to be noted that the use I have made of the empty intentions differ from Husserl's account at one crucial point. Husserl held the empty intentions to be less determinate than the full intentions. In the case of co-intending the rear side of the object for example, the empty intention may not be more specific than indicating that the object has a rear side. While I agree that this is generally the case, it does not seem to be the case in the constancies. Husserl might well have agreed with this. At one point he claims that when perceiving an object, the rear side of the object is presented in a more determinate way than usual if the object has been perceived before. (Husserl 1966b:9ff)

According to the theory outlined here, full content must be content that we are in some sense aware of qua content. For, as we have seen, it can be retained for a short period of time in consciousness even though it is no longer determining the complete content. But since it is the complete content which determines how the object is represented, our awareness of the full content must be something other than the awareness of the object of perception.

I have somewhat tentatively described full content as sensory content. The reason is that full content seems associated with a certain kind of sensory experience. When intending that an object is red in the full mode, one normally has a certain experience which is lacking when one is intending that the object is red in the empty mode. When perceiving that an object is rotating, it is only one side that seems sensorily present, even though the other sides may be empty intended.

A decent case can however be made that empty content is transparent. We seem to be aware of nothing but the object when having an empty intention. It is certainly available for cognition, but we can only know about empty intentions through our presentation of the

¹¹ I discuss the implications of this for time consciousness more fully in Almäng 2013a. Here I wish to concentrate on the relationship between phenomenal character and intentional content.

object as being constant in the cases where the content of perception seems to change yet without presenting the object as changing.

Yet I would nevertheless not wish to claim that empty intentions are irrelevant to the overall phenomenal character of the act of perception. Presumably it matters to the phenomenal character of the perception if it contains empty intentions or not. If it did not, two acts with the same phenomenal character could have different empty intentions. But that seems highly implausible. So the phenomenal character of the perception cannot be identical to the full intentional content of the perception.

If my argument is correct, the phenomenal character of the perceptual experience is not reducible to or identical with the full content of the experience. If it were, the empty content would be irrelevant to the phenomenal character of the experience. But the phenomenal character of the perceptual experience cannot be said to be identical to or even supervene upon the complete content of the experience either. For if that were the case, it would not matter which parts of the complete content were a function of the full content, and which parts were a function of the empty content. But this clearly does matter.

I would instead like to finish this paper by all too briefly suggesting that the relationship between intentional content and phenomenal character is one where the phenomenal character of the perception grounds or determines the intentional content of the said act. If that is so, it is in virtue of the phenomenal character that the act has its intentional content. But it is important to note that the phenomenal character grounds the complete content and the full content. So when seeing an object rotating, the phenomenal character of the experience grounds the complete content of the experience. This content represents the entire shape of the object throughout the specious present. In addition, the phenomenal character grounds our awareness of having perceived only one side of the object at each point in time of the specious present.

On this account, the full content is sensorily present. This is the kind of content we are aware of qua content. Empty content is however sensorily absent. It is not a kind of content which we are aware of qua content. Yet it is nevertheless grounded in the overall phenomenal character of the experience. It is to be noted that the suggested relationship is one of metaphysical determination, not of causal determination. I am not suggesting that we first have a phenomenal state and that this is somehow interpreted or made sense of by content. The phenomenal character of the perception is not separable from the intentional content of the perception. On the present conception the facts of the phenomenal character of the perception determine the facts of the intentional content of the perception.

Perhaps it might here be objected that I am invoking an unexplained distinction between sensorily states and phenomenal character. But the distinction need not be controversial. I conceive of the sensorily states corresponding to the full content as constituent parts of the overall phenomenal character of the experience. But the phenomenal character is not identical with its parts. The whole phenomenal character can have properties, which are not properties of its constituent sensory parts. And it is in virtue of these properties, that the complete content can differ from the full content. A full defense of this claim however will have to be the topic for another paper.

7 Conclusions

I have argued that there is a specific kind of perceptual constancy where we experience a change in content without perceiving an object change. In order to account for this phenomenon, we need to treat it as a case where we distinguish between being aware of perceiving that the object is thus and so at a certain point in time, and perceiving that the

object is thus and so at that point in time. In some cases characteristic of the perceptual constancies, what we are aware having perceived at a point in time, is not identical to how the object is intended to be at that point in time. But this contradicts the very heart of the transparency theory. So acts of perception cannot be transparent in the sense required by the transparency theorist. There is in perception an awareness of features of the perceptual experience, which is not an awareness of the intended object of perception.

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