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Attention and perceptual content

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1. Introduction

Intentionalism is the view according to which the phenomenal character of an experience supervenes on the content of this experience. There are many versions of intentionalism, but I will focus on intentionalism about specific sense modalities: the claim that the phenomenal character of our perceptual experiences supervenes on the content of these perceptual experiences.[1]

There has been a recent flood of counter-examples against intentionalism, which all, in one way or another, have to do with attention. They all have the same structure: two perceptual experiences have the same content, but they have different phenomenal character because our attention is different in the two cases. As David Chalmers says, 'the most plausible potential cases of phenomenally distinct visual experiences with the same representational content involve differences in attention' (Chalmers 2004: 161). The claim is that as in these examples two perceptual experiences have the same content and yet they have different phenomenal character, intentionalism is false: the phenomenal character of perceptual experiences does not supervene on the content of this experience.

I argue that these alleged counter-examples presuppose an implausible concept of attention; therefore they do not jeopardize intentionalism. But even if one is not interested in the intricate debates surrounding intentionalism, the role attention plays in these examples is extremely important, as it helps us to clarify how we should (and how we should not) think about perceptual content.

2. Attention and intentionalism

Here are three counter-examples to intentionalism:

(a) You are looking at two red pinpoints against a black background. First experience: you are attending to the one on the left. Second experience: you are attending to the one on the right. The two experiences are phenomenally different, but, arguably, they have the same content. (Chalmers 2004: 161 – note that Chalmers considers this example

1 I will assume throughout the article that perceptual experiences have content. I will talk mainly about vision but everything I say can be generalized to other sense modalities.

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very tentatively. Speaks (forthcoming) gives a more thorough analysis of a similar, but slightly more complicated example).[2]

(b) You are looking at a 3×3 grid of squares against a white background. First experience: the corner and the centre squares appear prominent. Second experience: the remaining four squares appear prominent. The two experiences are phenomenally different, but, arguably, they have the same content. (Nickel 2007: 284 – it is only on p. 289 that he considers the difference between the two experiences to be a difference in attention.)

(c) You are looking at a square. First experience: you are attending to the bisectors of the sides. Second experience: you are attending to the bisectors of the angles of the shape. The two experiences are phenomenally different (in the first case, we see the figure as a square; in the second, we see it as a diamond), but, arguably, they have the same content. (The example comes from Ernst Mach, but its most influential contemporary discussion is in Peacocke 1992; see also Macpherson 2006: §7.)

All of these examples ask us to compare two experiences that are phenomenally different but have the same content. I will not question the assumption that these two experiences are phenomenally different. But whether they have the same content clearly depends on what we mean by perceptual content. And, as one of the critics of intentionalism explicitly acknowledges, we should be 'suspicious of an unalloyed appeal to intentions about such semi-technical notions as representational content' (Nickel 2007: 295).

What assumptions do we have to make about perceptual content in order to use these examples to argue against intentionalism? One important and salient such assumption is that the perceptual content of an agent can be specified without reference to this agent's attention – this follows from the structure of the examples of two phenomenally distinct perceptual experiences with the same representational content but with a difference in attention.[3] My aim is to question this assumption and argue that one's perceptual content cannot be specified without reference to one's attention.

3. *How to think about perceptual content*

Here is a very simple, and not particularly controversial, way of thinking about perceptual content. Our perceptual apparatus attributes various properties to various parts of the perceived scene. Perceptual content is the sum

2 Speaks's example is a symmetrical image of a long horizontal line that crosses four shorter vertical lines at equal distances.

3 This assumption is explicitly endorsed even by those who aim to explain away some of these counter-examples in the name of intentionalism (see, e.g., Speaks forthcoming: 7–8).

total of the properties attributed to the perceived scene. The question is what kind of properties are being attributed to the perceived scene.

An old and respectable way of characterizing the relation between properties is the determinable–determinate relation (Funkhouser 2006; Johnston 1921). To use a classic example, being red is determinate of being coloured, but determinable of being scarlet. Without giving a full analysis of the determinable–determinate relation, some of the most important features of this relation need to be pointed out. It is an irreflexive, asymmetric and transitive relation between properties. There are many ways of being red and being scarlet is one of these: for something to be scarlet is for it to be red, in a specific way. If something is red, it also has to be of a certain specific shade of red: there is no such thing as being red *simpliciter*.

The determinable–determinate relation is a relative one: the same property, for example, being red, can be the determinate of the determinable being coloured, but the determinable of the determinate being scarlet. Thus, the determinable–determinate relation gives us hierarchical ordering of properties in a given property-space. Properties with no further determinates, if there are any, are known as super-determinates.

Some of the properties we perceptually attribute to the perceived scene are determinates or even super-determinates. Some others, on the other hand, are determinable properties. One lesson vision science teaches us is that our peripheral vision is only capable of attributing extremely determinable properties. But even some of the properties we perceptually attribute to the objects that are in our fovea can be determinable.

And this is where the role of attention becomes clear. Attention makes the attended property more determinate. If I am attending to the colour of my office telephone, I attribute very determinate (arguably super-determinate) properties to it. If, as it is more often the case, I am not attending to the colour of my office telephone, I attribute only determinable properties to it (of, say, being light-coloured or maybe just being coloured).

It is worth noting that even if we only attribute determinable properties to a part of the perceived scene perceptually, it is still possible to attribute determinate properties to it non-perceptually. Even if I only attribute the property of being light-coloured to my office telephone perceptually (say, because it is in the periphery of my visual field), I may still remember its determinate (or even super-determinate) colour from the time when I ordered it; hence, I can still attribute a more determinate colour to it non-perceptually.

This way of thinking about perceptual content individuates perceptual content very finely. There is no guarantee that the same agent looking at the very same apple from the same angle in the same lighting conditions would have the same perceptual content, as the agent may be attending to different properties of the apple. I will argue in the last section that this is a desirable consequence of a plausible account of perceptual content.

If we accept this way of thinking about perceptual content, then the alleged counter-examples to intentionalism can easily be explained away. In the case of (a), the red pinpoint you are attending to and the red pinpoint you are not attending to will be represented differently: you perceptually attribute determinate properties to the one you are attending to and determinable properties to the one you are not attending to. Hence, the two experiences (of the right and the left one of the two red pinpoints against a black background) will have different content.

A similar argument can be given in the case of (b): when the corner and the centre squares of the 3×3 grid of squares appear prominent, these squares are represented as having more determinate properties than the remaining four squares and vice versa. Thus, the experience where the corner and the centre squares appear prominent and the experience where the remaining four squares appear prominent have very different content.

One worry about both of these responses is the following. The figures we are looking at in (a) and (b) are very simple. How is it then possible that we can represent them differently? As Jeff Speaks says (about a version of (a)), 'given the simplicity of the figure, it does not seem plausible to claim that one experience represents a given portion of the lines with more detail or determinacy' (Speaks forthcoming: 5).

My response is that we can perceptually represent even a single red pinpoint against a black background in a number of ways. We can attribute a super-determinate colour property of a specific shade of red to it. Or we can attribute a much more determinable property of, say, red, or dark red. We can represent its spatial location in a more determinate or a more determinable manner. And so on. Even the simplest figure has properties. And any property can be represented at various degrees of determinacy. But then representing a property as determinable and representing it as determinate yield different representational contents.

Case (c) is a bit more complicated. When you see the figure as a diamond and when you see it as a square, you are attending to different geometrical features of the same figure. In the former case, you are, supposedly, attending to what you take to be the defining features of diamonds. What these defining features may be is not entirely clear – Peacocke (following Stephen Palmer) claims that attending to the defining features of diamonds amounts to attending to the bisectors of the angles of the shape. Be that as it may, what is important for our purposes is not what exact properties one is attending to when one sees the figure as a diamond, but what properties of the figure one is *not* attending to, thus, what properties one represents perceptually as having only determinable properties. And in the case of seeing the figure as a diamond, we do not have to perceptually attribute super-determinate properties to the angles of the figure. More precisely, we do not have to perceptually attribute the property of being a right angle to the angles in order to see the figure as a diamond. If we see the figure as a square, on the other hand,

we must perceptually attribute a super-determinate property to the angles: we must represent them as right angles.

Now, so far, I have argued only for the claim that when seeing the figure as a square, we have to perceptually attribute a super-determinate property to its angles. But when seeing it as a diamond, we don't have to do so. But not having to do so does not imply not doing so. How can we conclude that seeing the figure as a diamond does not attribute determinate properties to its angle perceptually? An important finding of numerous visual search experiments is that we can attend to a very limited number of properties at any one time (see, e.g. Wolfe et al. 2000). When seeing the figure as a diamond, we need to attend to the defining features of diamonds, whatever they may be (angle bisector symmetry or the identity of the length of the sides). Thus, it is unlikely that we have enough perceptual capacity to attribute a super-determinate property to the angles. But if this is so, then there is an important representational difference between seeing the figure as a diamond and seeing it as a square: in the former case, we attribute determinable properties to the angles of the figure perceptually, whereas in the latter we attribute super-determinate properties to them.[4]

David Chalmers said that 'the most plausible potential cases of phenomenally distinct visual experiences with the same representational content involve differences in attention' (Chalmers 2004: 161). I aimed to show that if we think of perceptual content the way I outlined here, in these potential cases the representational content will also be different. Hence, they cannot be used to argue against intentionalism.

4. *How not to think about perceptual content*

The principal aim of this article is not to defend intentionalism from counter-examples, but to clarify how to think about and how not to think about perceptual content. We can take perceptual content to be pre- or post-attentive. The account I outlined in the last section took perceptual content to be through and through post-attentive: one's perceptual content is always sensitive to the allocation of one's attention: every change in one's attention brings about a change in the perceptual content. As a result, if the same agent is looking at the very same scene from the same angle in identical lighting conditions, the perceptual content may still be different. This concept of perceptual content is very fine grained.

4 It is important to distinguish this proposal from one that is discussed and rightly dismissed in Macpherson 2006: 105–6, according to which what would explain the phenomenal difference between the two cases is that in one (but not the other), 'the lines forming the angle are seen as close to the horizontal and vertical axes' (Macpherson 2006: 105). My proposal is neutral with regards to the orientation of the angles.

But this is not the only way of thinking about perceptual content. We can take perceptual content to be through and through pre-attentive: always insensitive to the allocation of one's attention. If we accepted this way of thinking about perceptual content, then when the same agent is looking at the very same scene from the same angle in identical lighting conditions, the perceptual content is guaranteed to be the same. This pre-attentive concept of perceptual content is quite coarse-grained.

There is also a third option: attention sometimes affects perceptual content, but sometimes it doesn't: certain small changes in attention do not correspond to changes in content but significant changes in attention do. Thus, we have three options:

(i) Attention always affects perceptual content.
(ii) Attention sometimes affects perceptual content, but sometimes it doesn't.
(iii) Attention never affects perceptual content.

The view I have been arguing for is (i). For those who want to deny (i), that is, the main claim of this article, (ii) seems to be the better bet as (iii) cannot properly explain the familiar phenomenon of 'inattentional blindness'.[5] Probably the most famous inattentional blindness experiment is the following (Simmons and Chabris 1999). We are shown a short video-clip of two teams of three, dressed in white and black, passing a ball around. We are asked to count how many times the white team passes the ball around. On first viewing, most of the observers come up with an answer to this not very interesting question. On second viewing, however, when there is no counting task to be completed, they notice that a man dressed in gorilla costume walks right in the middle of the passing game, makes funny gestures and then leaves. The gorilla spends nine seconds in the frame and most viewers do not notice it when attending to the passing of the ball.

Although the philosophical implications of inattentional blindness are far from clear (see Prinz forthcoming, for a summary), one thing seems uncontroversial. If we endorse (iii), then we cannot explain inattentional blindness as a perceptual phenomenon. If (iii) is correct, then our perceptual content during the two viewings must be the same. But then how can we explain that we do see the gorilla on second viewing, but we don't see it on first viewing? We can of course deny that we failed to see the gorilla on first viewing (maybe saying that we saw it but forgot it immediately, see Wolfe 1999), but taking this escape route would amount to denying that inattentional blindness is a perceptual phenomenon.

Thus, the experiential blindness findings may persuade us to reject (iii). But what is important for us is that they do not help us to choose between (i) and (ii) – they seem to be consistent with both. But if the argument I presented in

5 The same argument applies to the phenomenon of 'inattentional blink'.

this paper is correct, then we have good reasons to reject both (ii) and (iii). I have argued that perceptual content is always affected by the allocation of one's attention. Perception attributes determinable and determinate properties to the perceived scene. Attention makes our perceptual attribution of properties more determinate. Hence, a change in our attention changes the determinacy of the properties attributed to the perceived scene. In other words, (i) is the correct view: perceptual content is always affected by the allocation of one's attention. And only endorsing (ii) or (iii) would lead to counterarguments against intentionalism.[6]

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