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Representationalism and Blindsight

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Abstract According to representationalism, phenomenal character supervenes on representational content. According to first-person reports, blindsighters have no phenomenal character in the scotoma, even though their abilities suggest that they have conscious visual representations in the scotoma. The traditional representationalist response is that the representations in the scotoma are either non-conscious or non-visual. Drawing on empirical work, I consider the interpretation that blindsighters are unable to represent—and thus lack the phenomenal character of—luminance in the scotoma. However, they maintain the capacity to represent other visible properties in the scotoma, and thus retain the luminance-lacking phenomenal character of these properties.

1 Background

Blindsight is a phenomenon whereby subjects affected by lesions in their visual cortex V1 report no phenomenal character in the resulting scotoma but are able to identify, verbally report on, and act on objects and properties in the scotoma.[1] This is shown by their behaviour in experimental trials. We can make two important distinctions between cases. The first pertains to the reporting of phenomenology. Weiskrantz influentially divided blindsight into Type I and Type II cases. All blindsighters can identify, report on, and act on objects in the scotoma successfully to a degree greater than chance and report no phenomenal character in the scotoma. Whilst still reporting that they have no phenomenal character in the scotoma, unlike Type I blindsighters who maintain that there is *nothing* in the scotoma, Type II blindsighters do report in rather vague terms that they know that something is happening there (but it must be stressed that they still

[1]See Weiskrantz 1986, 1996, 1997, Vision 1998, Kentridge and Heywood 1999, Holt 1999, and Brogaard 2011a, b for empirical overview and philosophical discussion. Although they can identify objects in the scotoma to a degree greater than chance, blindsighters' capacities are diminished in varying degrees of severity as compared to normal subjects.

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maintain a lack of phenomenal character). The second distinction pertains to action. While some blindsighters require prompting to report or act on the contents of the scotoma, others appear to be able to do so spontaneously just as normally sighted subjects do. We can call these two groups spontaneous actors and non-spontaneous actors. There appears to be no relation between Type I or Type II cases and being a spontaneous or non-spontaneous actor.[2] The physical explanation of the damage to the visual systems which leads to blindsight in general is still a matter of debate, as is the explanation of the retention of differing ranges of capacities. My subject here is not the details of these underlying physical explanations, but rather the philosophical implications of blindsight for philosophical theories of consciousness.

In this paper, I am concerned with how a representationalist can respond to blindsight. I will offer a novel response, namely that blindsighters do have phenomenal character in the scotoma. They do not report this because the phenomenal character in the scotoma is non-standard in such a fundamental way that they are unable to recognise it as phenomenal character: the phenomenal character in the scotoma does not involve luminance, and this lack of luminance renders the phenomenal character unrecognisable as such. This perhaps runs counter to some widely held theses about phenomenal character—that phenomenal character must be a certain way and/or that it must be recognisable as phenomenal character (e.g. Kripke 1980)—but I hope to make a convincing case for this below, and I ask the reader not to prejudge the argument in light of this.

According to representationalism, the phenomenal character of visual experience supervenes on the representational contents of visual experience. Blindsighters appear to satisfy the behavioural tests for having visual experiences with representational content in the scotoma—successfully acting and reporting on these contents—and yet they report that they have no visual phenomenal character in the scotoma. It seems reasonable on a representationalist model to accept that if one passes the right behavioural tests, then one has visual experiences with representational content. And it seems reasonable to accept that the subject themselves are best placed to know whether or not they have phenomenal character in the scotoma. This gives us prima facie evidence for the falsity of representationalism as the supervenience relation seems to fail in these cases.

The specific details of the differing theories representational theories need not be of concern here. What matters is the general reductive representationalist program. As noted, representationalists hold that the phenomenal character of visual experience supervenes on the representational content of visual experience. Reductive representationalists go further and hold that visual phenomenal character is to be identified with these representational contents. On this view, visual consciousness is visual representation: visual states are those which satisfy a specified functional role and have specified types of content.[3] Most representationalists are not just reductive representationalists about visual consciousness, but about consciousness in general. They hold that all phenomenal character is identical to representational content. This global representationalism is the conjunction of representationalism for each individual state.

[2] Danckert and Rossetti 2005 make a different distinction between types of blindsight in terms of the behaviour shown by subjects: action-blindsight, attention-blindsight, and agnosopsia. This classification does conflict with anything said in this paper.

[3] Influential examples include Harman 1990, Tye 1995, 2000, Dretske 1995, Lycan 1996.

Hence, if representationalism is false for one type of state, such as visual experience, then global representationalism is also false.

Phenomenists hold that the underlying supervenience relation does not hold and that representationalism is false. In a classic discussion, Block (1995) makes a now standard distinction between phenomenal consciousness and access consciousness. Roughly, for a state to be access conscious is for that state to have a representational content which is apt to be immediately used in reasoning and rational control of speech and action. Block does not give a non-circular characterisation of phenomenal character but indeed uses blindsight as an example of what is missing when there is no phenomenal character.[4] According to Block and other phenomenists, affected experiences in blindsight are not phenomenally conscious—do not have phenomenal character—because they lack qualia, monadic, purely sensational, non-representational elements of consciousness which do not supervene on representational content.[5] These purely phenomenal properties account for the phenomenal character of phenomenally conscious states and do not supervene on representational content. On this view, there is more to consciousness than representational states. On this view, representationalism accounts only for visual access consciousness, not visual phenomenal consciousness.

Blindsight is one of the central arguments for phenomenism, indeed it is an especially strong one, because it relies on empirical cases and not on conceptual speculation or arguments about metaphysical or conceptual possibility.

The standard representationalist response to blindsight is to argue that the state in the scotoma is not one upon which phenomenal character supervenes. The representational profiles of the states in the scotoma are not the representational profile of the states in the normal field. Thus, the representationalist can accept that there is a state with representational content in the scotoma, but argue that it is not a state of the right type for visual consciousness. According to the type of representational theory being defended, the state is either non-visual or non-conscious. As such, there is no supervening visual phenomenal character.

According to the alternative representationalist view of blindsight that I present for consideration in this paper, blindsight results in conscious but importantly non-standard visual states in the scotoma. With reference to the study in Morland et al. (1999), I extrapolate from this study of the blindsighter GY to argue for the possibility that blindsighters in general lack the capacity to represent luminance in the scotoma. This results in visual experiences which do not represent luminance and which thus lack the phenomenal character of luminance. The centrality of luminance to our conceptions of visual experience, consciousness, and phenomenal character explains why these experiences prompt the reaction that they do. It is very difficult to conceptually regiment such an experience as having phenomenal character. The lack of the phenomenal

[4] It must be noted that Block argues that blindsighters have neither access nor phenomenal consciousness in their scotomas, as they require prompting in order to report on the contents of the scotoma which means that the contents of their scotomas are not access conscious. He introduces the notion of a 'super blindsighter' who has functionally standard access consciousness but no phenomenal consciousness in the scotoma. Spontaneous actor blindsighters, however, would appear to fit this description.

[5] The modal formulation of representationalism with respect to this paper is that the supervenience relation between phenomenal character and content holds as a matter of empirical fact, or holds by empirical necessity. A stronger claim would be that the supervenience relation holds as a matter of conceptual or metaphysical necessity.

character of luminance more seriously compromises vision than does a lack of experience of hue, for example. However, lack of representation of luminance no more renders an experience unconscious, non-visual, or lacking in phenomenal character than does a lack of representation of any other visible property. This has a significant advantage over the traditional representationalist response. If we grant that conscious visual experiences are involved in the explanation of subjects' abilities to identify, report on, and act on objects and properties in their visual field, then the abilities of blindsighters to act and report on the contents of their scotomas gives us strong reason to hold that there are conscious visual experiences in the scotoma. It seems at the least awkward to deny this, and the possibility of a different representationalist response to these cases should therefore be of some interest.

In §2, I will outline the extant representationalist responses and compare these to the response presented in this paper before, in §3, setting it out in detail. I will deal with objections in §4.

2 The Extant Representationalist Responses

The extant representationalist responses to blindsight are that the affected state with the representational content is either non-visual or non-conscious and phenomenal character only supervenes on the contents of conscious visual states. These two arguments are given by first and higher-order representationalists respectively. The argument is that the affected state has representational content but does not have the functional properties required to render it either visual or conscious. There is an important difference between spontaneous and non-spontaneous actors here, as these subjects appear to differ significantly in respect of the functional properties of the affected states. Spontaneous actors pose a greater problem for the standard response than non-spontaneous actors as the representational profile of their affected states is evidently closer to the representational profile of normal visual states.

According to Tye's influential first-order representational theory of consciousness, for example,[6] a first-order representational state with representational content (of the right type) has to be correctly 'poised' for immediate integration into the subject's rational control of thought and action for it to be a visual state. It is open to such a representationalist to argue that as being correctly poised is a necessary condition for visual experience that is not met in cases of blindsight, the affected states are therefore not visual experiences, and so no visual phenomenal character supervenes upon them. Such a response may be more or less plausible in cases of non-spontaneous actors, but it must be seen to be at least a little shakier for spontaneous actors. In these cases, subjects can report and act spontaneously on the contents of the scotoma. Despite this, they insist that they lack phenomenal character in the scotoma, and they say, for example, that they are only guessing as to the contents of the scotoma. This does provide some minimal leeway here. We do not think that our experiential reports are mere guesses as to the contents of our visual field, and such a report may lead us to hold that although the blindsighter's affected state is poised in some way to affect rational

[6] I will take this to be representative of the first-order representationalism in general, although different first-order theories differ in the details.

control of speech and action, it is not poised in *quite* the right way to render it *visually* conscious. A worry about this response may be that it involves speech in the functional profile required for a state to be visually conscious. And this, understandably, will seem to some to be too strong a commitment.

The response presented in this paper seems at least to fit more easily with the evidence, with respect to spontaneous actors especially, than the standard first-order representationalist response. Furthermore, the response presented in this paper obviates the requirement to define exactly how the affected representation is not correctly poised. It is clearly poised in some way, especially with spontaneous actors. If the response is successful, it would remove this significant burden from first-order representationalists.

A proponent of a higher-order representational theory of consciousness will argue that the representation in the scotoma is not a conscious visual state, although it is an *unconscious* visual state, because it lacks the functional property of being the content of certain type of higher-order state, and having this property is a necessary condition for visual consciousness.[7] So, even if the state in the scotoma is apt to immediately impact on rational control of thought and action, the blindsighter is not aware of this state in the right way, where this is a necessary condition for visual consciousness. Whether or not one finds this response more convincing than the first-order representational response depends, on the most part, on whether or not one finds the higher-order theory of consciousness convincing. The higher-order theory inherits all the difficulties of the first-order theory in addition to the well-known problems that it faces itself. However, it must be noted that the higher-order theory does deal better with spontaneous actors than the first-order theory. The higher-order theory interprets this case as the affected state having the required representational profile to render it visual, and thus in at least a restricted sense, apt for immediate rational control of speech and action, but it fails to satisfy the extra condition necessary for the subject to be aware and thus conscious of this.

Detailed examination of the standard representationalist responses is not my concern in this paper, however one may very well feel that the higher-order theory does have a superior response to blindsight than the first-order theory. But even if this were so, and the higher-order theorist were not to feel themselves in need of a further option in responding to blindsight, it seems to me that the first-order representationalist would certainly benefit from having a different response at their disposal, especially with respect to spontaneous actors. A different, and perhaps better, response to blindsight than that which is currently available would strengthen first-order representationalism against both phenomenism and higher-order representationalism. A superior response to blindsight is often adduced as a strong point in favour of higher-order theories over first-order theories, and blindsight is a central argument for phenomenism.[8] Given the greater level of theoretical difficulties that higher-order representationalism faces compared to first-order representationalism, and the metaphysical problems inherent in phenomenism, perhaps some will welcome the alternative response to blindsight

[7] See, for example, Carruthers 2000, 2001, Lycan 1996.

[8] The explanation of blindsight presented in this paper is compatible with both first and higher-order representationalism, even though it is dialectically more useful to the first-order representationalist for these reasons.

presented here as at least the beginning of another argument in defence of first-order representationalism.

There is another extant response to blindsight which although not offered explicitly in defence of representationalism is compatible with it. A possible response is that blindsighters have what could said to be *marginal experiences* in the scotoma.[9] That is, the affected experiences are visual and conscious, but they are only marginally conscious. There is a way of reading the marginal-consciousness view which is different from the view of blindsight that presented here, although it is not incompatible. Crudely put, if we assign levels of consciousness in numerical terms, we may say that "normal" consciousness is scored at 10, but blindsight consciousness is only scored at 1. Blindsight is in this way like that very first drowsy moment of wakefulness after a deep sleep. The view that I am presenting here, though, is different. The affected experiences are conscious visual experiences which do not represent luminance and so do not have the phenomenal character of luminance. This does not imply that these experiences are marginally conscious in the way just outlined, but is not incompatible with this view. Indeed, a conjunction of the two may in the end be the best explanation. However, my goal here is not to make the case for the marginal-consciousness view.

In the study that I will draw on in this paper, Morland et al. (1999) found that when the luminance level of experimental stimuli in the scotoma is raised to a sufficient level, the subject of the study, the blindsighter GY, states that he becomes unsure as to whether or not there is phenomenal character in the scotoma. So, I will argue, when the level of luminance is below the threshold level, GY has the peculiar luminance-lacking experiences I will describe in detail below and is therefore unable to conceptually regiment these as experiences with phenomenal character. When the threshold is reached, however, GY comes to have experiences which are more like his normal experiences. At this point, he becomes more tentatively able to begin to conceptually regiment these experiences with respect to standard experiences which include representation and thus phenomenal character of luminance. Perhaps some blindsight experiences, for example those that GY has above the threshold level of luminance, are only minimally conscious in that there is some fleeting registering of luminance, and some flickering recognition of the resultant phenomenal character.

Dennett (1995) presents something of a similar view, or at least a view which can be sympathetically interpreted.[10] In response to Block (1995), Dennett argues that blindsighters can be interpreted as having representations with such minimal 'richness of content' that their 'degree of influence' on the subject's cognition and action is so low that the subject fails to register these as visual experiences in the way they do of normal experiences with greater richness of content and degree of influence. Dennett charges Block with mistaking the distinction between visual states with high richness of content, what Dennett calls 'phenomenologically impressive' visual states, and visual states with very low richness of content for a type-distinction between access and visual consciousness. According to Dennett, visual phenomenological impressiveness is not visual phenomenal consciousness, but merely visual access consciousness with a high level of richness and degree of influence.

[9] See Overgaard et al. 2008. See Brogaard 2011a for overview and discussion, and also the resulting exchange between Overgaard & Grunbaum 2011 and Brogaard 2012.
[10] See also Jackson 2003.

This has not been the most popular representationalist-friendly response. The interpretation that I argue for in this paper, though, is somewhat similar to Dennett's. I argue that the representationalist can hold that the representations in the scotoma are conscious visual representations, upon which supervenes visual phenomenal character, and the new gloss I am offering on this is that the experiences in the scotoma lack the representation and thus phenomenal character of luminance. One may put it that the central element to Dennett's notion of phenomenological impressiveness, at least with respect to vision, is the experience of luminance, and without this blindsighters do not recognise the affected phenomenal character as phenomenal character.[11]

I will now present this new response to blindsight in some detail in §3, before dealing with objections in §4.

3 Luminance and Vision

In formulating the new response to blindsight, I will extrapolate a general interpretation of blindsight from the empirical study in Morland et al. (1999) of the blindsighter GY, namely that what leads to the report of a lack of phenomenal character is that the effect of blindsight is that the subject is unable to perceive luminance in the scotoma. This does not compromise either the visual nature of the state, contra the standard first-order response, the conscious nature of the state, contra the standard higher-order response, nor the fact that the state has phenomenal character. It is, though, entirely understandable why someone would report a lack of phenomenal character. As I will discuss in some detail below, visual experience without luminance would be a strange state indeed.

Morland et al. (1999) conclude about a blindsighter, GY, that he lacks the capacity to perceive luminance in his scotoma. In addition, after successful completion of experimental trials they concluded that GY is in fact able to perceive hue, saturation, and other visible properties in the scotoma.[12] GY was able to match, as it is put in the terms of the study, the hue and saturation 'percepts' in his scotoma to those in his normal visual field. He achieved this by making 'the stimulus neither too red nor too green compared to the stimulus in the normal field' (p. 1189). When asked about how the colour in the scotoma compared to the colour in the normal field and how he was able to make the match he replied that 'nothing is the same; I just know I can do this match' (p. 1190). GY appeared to be able to perceive colours in matching and recognition tasks in the scotoma, even though he was worse at this than normal subjects. Morland et al. argue that 'there must be some equivalence of percepts of the chromaticity of the stimuli presented to the blind and normal hemifields' (p. 1194). They conclude that GY's performance was not indicative of a deficiency in such colour vision in the scotoma, other than that he performed merely less well at colour matching. What GY lacks in the scotoma is the *capacity to perceive luminance*. GY appeared to be making matching assessments even of *hue* across the fields directly on the basis of current

[11] As a comparison, think about an auditory version of blindsight, where a subject is aurally aware of, say, an event's distance but does not have an experience with the auditory phenomenal character of sound.

[12] See Alexander and Cowey 2010 for an updated study of GY. Their results differ, and there are complications it appears with respect to some of Morland et al.'s conclusions but these do not affect the argument in this paper as they do not conclude that GY can perceive luminance in the scotoma.

perception, but was making matching assessments of luminance indirectly on the basis of independent information such as previous experience (p. 1195). Morland et al. conclude their paper with the following interpretation.

> We also believe that our model illustrates the principal reason why GY claimed not to see visual stimuli of which he was aware. The only assumptions that need be made are that brightness [luminance] is the most fundamental of all visual attributes, and if a stimulus has no brightness it will not register as being visual. Our data have shown that GY does not possess a normal percept of brightness [luminance] for stimuli presented in his hemianopic field, and our scheme suggests that this renders him blind. As such, GY's visual abilities derived from his hemianopic field remain self-consistent, but as a whole are unrelated to normal vision. It is, therefore, unsurprising that GY does not claim that a visual stimulus presented to his blind field shares perceptual identity with one presented to the normal field (p. 1196).

This strikes me as potentially a deep, and neglected, point about blindsight, and also our conception of visual experience and phenomenal character. Indeed, it is surprising that it has not been taken up before in the philosophical literature.

In a subsequent study, Persuad and Lau (2008) gave GY, several 'definitions' from philosophical texts of the notion of 'qualia' (we can understand this as phenomenal character), including those from the Stanford Encyclopedia, Dennett (1991), and Jackson (1982). After confirming that he understood the notions ('Yes, I think so'), GY was then asked a series of questions. His responses included the following: 'yes' to whether there is phenomenal character in everyday experience in his normal field; 'no' to whether there is phenomenal character in everyday life in his scotoma; 'almost always' to whether there is phenomenal character in his normal field in experimental situations where he performs well; and 'only very rarely' to whether there is phenomenal character in his scotoma in experimental situations where he performs well. Strikingly, with respect to the last question, GY stated that this 'only happens on very easy trials, when the stimulus is very bright. Actually, I'm not sure if I really have [phenomenal character] then' (pp. 1047–1048). This gives a further measure of support to the view being presented here. When the stimulus is 'very bright', GY is unclear as to whether there really is a lack of phenomenal character in the scotoma. He is not unsure of this in other scenarios.

So, let us consider the consequences of this evidence that the physical explanation of blindsight experiences is a lack of the capacity to visually experience, i.e. represent, luminance in the scotoma. Other properties do not seem to be affected in the same extreme way, although they are in many if not all cases affected in some way. Consider now how you would react to an experience which did not represent luminance, but represented other visible properties, including hue and saturation. We have a useful contrast case to hand. Consider a subject who suffers from achromatopsia. This subject lacks the capacity to visually represent hue but still possesses the capacities to represent luminance and saturation, in addition to other non-colour properties. This subject therefore has experiences which lack the phenomenal character of hue. Achromatopsic subjects, however, not only have experiences with phenomenal character but they report that they do. A possible reason, I contend, for the difference in the case of

blindsight is that luminance is fundamental to the way that we naturally *conceive of* vision and, perhaps more importantly, visual phenomenal character.[13]

Morland et al. conclude that luminance is 'fundamental' for sight, and that should a subject's capacity for representation of luminance be eliminated then that that subject would be rendered blind. However, one might wish to be wary of putting matters in this way. Rather, we may put it that the representation of luminance is fundamental to what I will call standard visual experience in that representation of luminance plays a key role in making standard visual experience the way that it is; more so than, say, representation of shape or hue. When a subject loses the ability to perceive hue or shape, we would not be tempted to say that they are blind. We are so tempted in the case of luminance.

But one may wish to resist this conclusion that it is necessary for sight per se. The absence of perception of luminance seems not to eliminate in toto the ability to process information received through the eye regarding other visible properties. If blindsight experiences are the result of a lack of the capacity to visually represent luminance in the scotoma, then blindsight does differ, however, in a crucial way from proper blindness. Although the information about luminance is taken in through the eye along with the information about the other visible properties, unlike the information about the other visible properties, the information about luminance is not transmitted to visual consciousness. As a result, blindsighters find themselves in an extraordinary position. They have visual experiences of other visible properties, but not luminance. This differs from proper blindness, where no visual information is processed.[14]

Luminance is a measure of the intensity of light, and when the intensity of light is zero, when things are pitch black, we cannot see. We cannot see because no light enters our eyes, and so no information is processed about the visible scene. In cases of blindsight, though, information about luminance, along with hue, saturation and the other visible properties, is taken in through the eyes. However, due to lesions in V1, the information about the luminance is not delivered to visual consciousness. Thus, this scenario shares something with the scenario where a subject is in a pitch black room, namely that this subject has no experience of luminance. It differs from this scenario, though, in that information about visible properties other than luminance are delivered (albeit in a degraded way in many cases) to visual consciousness. Thus, the subject finds themselves in a situation that it is perhaps not unreasonable to say is rather like being able to see some properties of objects in a pitch black room. If blindsight is like

[13] GY was reporting specifically on visual phenomenal character, but based on Persuad and Lau 2008 we grant him an understanding of experiential phenomenal character per se. However, he surely understands what it is to have specifically visual phenomenal character—after all, he is comparing his normal and affected fields—and that it is a type of general phenomenal character. Thus, his report that he has no phenomenal character in the scotoma should be understood as a report that he has no phenomenal character in the scotoma because he has no visual phenomenal character in the scotoma—where this visual phenomenal character is the type of phenomenal character he has in his normal field and would therefore expect to have in his affected field. Further, we should be careful about any further interpretation of what GY's answers may mean, for example, with respect to the possibility that he conceives of his affected experiences as *amodal* because they lack visual phenomenal character. Theoretically, my analysis of the situation does not support this conclusion about affected experiences. They seem to me to still be visual, only they lack the representation and hence phenomenal character of luminance. But as I will argue presently, this does not mean that they are not visual or that they do not have visual phenomenology.

[14] Blind subjects do report some visual phenomena on occasion, but no phenomena that purport to be experiences of external objects, that they report to be instances of sight.

this, then it is no wonder that blindsighters report having no phenomenal character in the scotoma, and are generally at a loss about what to say about their affected experiences.

Can you imagine what it would be like to see, say, a red patch but not see any luminance associated with this patch? I cannot, and I cannot imagine how I would respond to this. What would you think? What would you say? Now, consider what someone who has not thought long and hard about the philosophical nuances involved with such notions as phenomenal character and visual consciousness would think and say.

I can, of course, imagine a red patch without any luminance but this is not to imagine seeing (experiencing) such a thing. Assuming this interpretation is correct, it is, as Morland et al. point out, unsurprising that GY claims to be blind in the scotoma. He is unable to experience and perceive luminance. As a result of this, the experiences in the scotoma diverge so radically from his experiences in the normal field that he is unable to conceptually regiment them as experiences and so reports that he is blind. But this is a point that pertains only to his (and our) ability to conceptually regiment his experiences, not to what is actually true of those experiences. And, importantly, he is not blind if this means that were he to be blind he could detect nothing in the scotoma. He can perceive properties in the scotoma as is shown by his performance in experimental trials.

Consider, now, the theoretical consequences of this conclusion for representationalism. According to representationalism, for a property *F* to be visually experienced is for it to be represented in the visual way. There are many ways to flesh out what this means. Generally, it means being represented non-conceptually and in a perceptual modality with a particular functional role. These details need not be of concern here as each way of fleshing out the notion of a property being represented in the visual way will be compatible with the argument being presented. When a property is represented in the visual way, the resulting experience of that property has a supervening phenomenal character. The reductive representationalist holds that the phenomenal character of the experience *simply is* the representation of the property in the visual way,[15] and I will assume here first-order reductive representationalism as it simplifies and clarifies exposition. However, the argument could be reformulated with respect to (higher-order and/or) non-reductive representationalism.[16] So, we have the following principle:

For a visual experience to have the phenomenal character *F* is for that experience to represent the property *F*.

This holds for all visible properties, and is no more or less true of any visible property compared to any other. *And this includes luminance*. Think, though, about how we conceive of vision and visual phenomenal character. I contend that matters are quite different in this respect. Luminance is more paradigmatically visual, it is more central to our instinctive, intuitive conception of what vision is and what visual phenomenal character *is like*, than other properties. This is so even though there is no theoretical difference between luminance and any other property in this respect.

As we have seen, however, there is a difference between luminance and hue in one important respect. The inability to perceive luminance results in quite

[15] See Dretske 2003 for a clear description of this.
[16] But see note 8.

different experiences—experiences which are in a way similar to, but of course not identical to, actual blindness—than the inability to perceive hue. Hue is not special in this respect, as all other visible properties are in the same boat. The special property is luminance – just what the blindsighter is unable to perceive. The reason for this is that luminance, as a measure of the intensity of light, is more fundamental to vision than other properties in standard cases, because in standard cases if there is no light then there is no visual information to be processed.

So, for all properties *F*, what it is for a visual experience to have phenomenal character of *F* is for the experience to represent *F* in the visual way. In blindsight, it appears that hue, saturation and other visible properties are represented in the visual way in affected experiences, but that luminance is not. It follows from this that according to representationalism these affected experiences have phenomenal character of these properties, even though they do not have the phenomenal character of luminance. Using *L*, *H*, and *S*, respectively to stand for luminance, hue, and saturation, and … as an ellipsis for the other visible properties a standard visual experience of an object *x* has the content <*x*, *L*, *H*, S, … > .[17] According to the analysis of blindsight that I am presenting here, the blindsight experience of *x* only has the content <*x*, *H*, *S*, … >. Luminance is not represented in the content, and the subject has an experience of *x* which registers its other visible properties, including hue and saturation, but not its luminance.[18] It therefore has the phenomenal character of *H*, S, and … . For the reasons pertaining to the sheer oddity of such an experience—recall my analogy to seeing in a darkened room—the blindsighter quite understandably does not report this. Nevertheless, these experiences do have phenomenal character on the philosophical understanding of this presented by the representational theory.[19]

Having set out this representationalist response to blindsight, let me now engage in some speculation about the differences between Type I and Type II blindsight. This, it must be stressed, is speculation, although it could in

[17] It does not bear on the argument that the content I have used for exposition here is a singular nonconceptual content.

[18] Thus, it would be incorrect to hold that I am arguing that the subject experiences objects to be luminance-lacking in the sense of this being an experienced negative property. There just is no property perceived, with achromatopsia being an instructive analogy: the achromatopsic subject just experiences no hue, not the negative property of *lacking hue*. There is an object experienced, *x*, and it is not experienced as having a property. This obviously happens in every experience; only in these experiences it is not such an important property as hue or, especially, luminance, that is not experienced.

[19] This phenomenon would present a greater level of disorientation, and would be more difficult to process and understand, than similar phenomena where it seems that some visual sensations can be engendered in circumstances without visual stimulus, such as the cross-modal effects demonstrated in Dieter et al. (2014). In our case, the phenomenon is pervasive, as opposed to being effected in laboratory conditions of which the subject is aware. Further, there is, or would be, something genuinely "odd" about such experiences in a stronger fashion than would apply to (most—recall the auditory counterpart of blindsight raised in note 11) other odd experiences, such as bizarre, formless hallucinations, splintered or kaleidoscopic visual experience or something of this kind. I ask the reader again to consider what it would be like to "see in a dark room" or hear without sound.

principle be tested. The response presented here seems to match rather well with a feature of Type II cases (GY included) which are precisely those cases with which representationalism has greater difficulty, namely that Type II blindsighters report that they know that something is going on in the scotoma but still report no phenomenal character. This view also can account for Type I cases, as nothing in the reports of Type I blindsighters contradicts it. Perhaps Type I blindsighters have even more difficulty recognising the affected phenomenal character because they have absolutely no experience of luminance whereas Type II blindsighters have minimal and infrequent marginal, borderline experiences of luminance. Think of being in a room with barely enough light for you to see, a scenario in which you are unsure if you really are seeing anything. Perhaps the difference between Type I and Type II blindsight is that Type II blindsighters have retained, or have recovered in the case of improvements in some subjects, some ability to represent luminance. It must be admitted, however, that the view presented here may not readily explain the difference between spontaneous and non-spontaneous actors. However, this need not necessarily be a major drawback to the view. Firstly, there seems to be no relation between Type I and Type II blindsight and spontaneous and non-spontaneous actors. So, given that the view presented here may explain the difference between Type I and Type II cases, one should not necessarily expect it also to explain this difference. The explanation of all of blindsight's effects will, presumably, involve a complex nexus of differing physical defects and malfunctionings, some of which may be present in some cases only, and others in all. Perhaps the view presented here explains only the reports of a lack of phenomenal character, but does not explain why some blindsighters are spontaneous actors and others not. This, however, would be some progress at least. And perhaps some relation between this view and the differing behaviours between spontaneous and non-spontaneous actors will reveal itself. Much is unclear about blindsight, but one thing at least is clear. The unifying feature is that all blindsighters report a lack of phenomenal character in the scotoma when experimental tests suggest that they are processing visual information in at least something very much like the standard way. What I have offered is an explanation as to why blindsighters report this which is compatible with the hypothesis that there are conscious visual experiences in the scotoma as is empirically suggested. Indeed, as the standard representationalist response has the greatest trouble with spontaneous actors, the view presented here has a significant advantage in these cases. Spontaneous actors seems to have experiences with the standard functional profile, which, recall, is what the standard first-order representationalist response denies. The view presented here can explain the behaviour and the reports, even though it does not explain why some blindsighters are non-spontaneous actors. However, the fact that it deals with the more difficult case for representationalists is perhaps a point in its favour. Indeed, one could hold that non-spontaneous actors suffer from luminance-lacking experiences and some further affliction which compromises the standard functional profile of those experiences. Again, this is mere speculation, and further work would be required. But hopefully pointing this out will be progress in itself. Having dealt with these speculative consequences of

the view, I will now answer in detail some of the philosophical challenges that may be raised against it.

4 Objections

The first objection to consider is that blindsighters regard themselves as blind. They have the ultimate authority regarding their own experiences, and I therefore cannot attribute phenomenal character to their affected experiences. GY, for example, has familiarised himself with the philosophical discussion of qualia (phenomenal character) and has stated that he has no phenomenal character in his scotoma (note again, however, the support that Persuad and Lau 2008 actually provides for the view presented here). However, I have given a plausible explanation of just why GY reports as he does. Blindsighters have experiences in their scotomas which deviate strongly from standard experiences; indeed, is it possible to imagine a more peculiar deviation? What is in question here is a philosophical point about whether or not blindsighters' affected experiences have phenomenal character. I have argued, with supporting empirical explanation, that they do on the definition given by the representationalist and have given an explanation as to why they would not report this. This is a combination of a technical, philosophical analysis of philosophical notions and how this analysis applies to the interpretation of reports from non-philosophically trained subjects. Indeed, philosophers themselves seem to have neglected to consider the view being presented here. It is therefore not implausible to argue that blindsighter reports are not the ultimate authority in this case.[20]

A related objection may arise now, namely that I am abusing the notion of phenomenal character. On this view, visual phenomenal character is only standard, luminance-involving, phenomenal character. The phenomenal character of a visual experience of red, for example, just is the phenomenal character of a visual experience of red under some level of luminance. It seems to me, though, that that this would be close to argument by stipulation. The notion of phenomenal character is a technical notion, not an everyday notion whose definition is fixed prior to philosophical argument. Further, consider again achromatopsia. The interpretation of blindsight that I am presenting here is that the lesions in V1 affect the transmission of information in the scotoma about luminance to the subject's visual consciousness, but not information about other visible properties. In cases of achromatopsia, the affected subjects do not have information regarding hue delivered to their visual consciousness but no one thinks that this could refute representationalism. Blindsight is *theoretically* no different, regardless of the difference in first-person reporting.

One may argue further in this respect that if there is no visual experience of luminance, then there is in some important, fundamental, subjective—and therefore phenomenal—way no visual experience at all. This would, again, be close to argument from stipulation. One may hold this because one may hold that if no luminance were to

[20] Let me stress that this is not intended to impugn in any way those blindsighters who have engaged in experimental trials. The philosophy here is *extremely* complex and nuanced.

be perceived, there could be no visual experience. But, as I argued above, this would be a mistake. It is correct that in blindsight no luminance is perceived, but not because the visual system fails to function as in proper blindness. Rather, the visual system merely malfunctions. These are two quite different states of affairs, and the malfunction in blindsight is again theoretically no different with respect to phenomenal character from the malfunction present in achromatopsia.[21]

An intuitively powerful objection to the idea that all that is missing from blindsight experience is luminance, and that other visible properties are perceived in the same was as they are in the normal field, is that if the interpretation of GY's case given above is correct, GY has experiences of, say, a particular hue of red in his scotoma which are exactly like yours and mine. The difference is that the phenomenal character of our experiences is luminance-involving and the phenomenal character of GY's experiences is luminance-lacking. Is this too difficult to accept? Despite the admitted boldness of this claim when one first considers it, I do not think so. What we take to be a standard experience of this hue of red is really experience of this hue of red under a level of luminance. In light of this, it does not seem to me a terrible bullet to bite to agree that in fact GY does have the same experience of the hue of red *qua* hue of red as you and I, but a different experience of red altogether from you and I. The hue that we experience is under some level of luminance.

Consider the complexity of colour experience. In achromatopsia, only luminance and saturation are experienced, and on the interpretation of blindsight presented above, only saturation and hue are experienced in the scotoma. Again, blindsight is theoretically no different to achromatopsia. One property rather than another is not perceived. And there seems to be no difficulty in accounting for the relation between the phenomenal character of achromatopsic experiences which represent luminance and saturation but not hue. Why should matters be different for hue and saturation without luminance? Indeed, this is true of the phenomenal character of all properties on the representational theory. Consider two experiences of different sized squares. In both experiences, it seems to me, the phenomenal character of squareness is exactly the same. What is different between the two cases is that the property of being square is represented in these experiences along with different sizes. But the phenomenal character of squareness remains intrinsically the same. We have no reason not to think that this generalises. That is, in general, visually representing F and G of x results in the same phenomenal character *qua* F as visually representing F and H of x. Recall that the

[21] In each case, the sub-personal representation of some property is not delivered to visual consciousness. And so the representational analysis of phenomenal character is not refuted by cases of blindsight any more than it is in achromatposia, as blindsight is also understood as a malfunctioning of visual processing which results in a property not being delivered to visual consciousness. What is at stake here is the viability of the representational analysis of phenomenal character in the face of cases of blindsight. A candidate explanation has been give as to why GY, and by tentative extrapolation, all blindsighters report no phenomenal character in their scotoma, even though they appear to pass the behavioural tests for having conscious visual experiences in the scotoma. This explanation is compatible with representationalism as commonly formulated, and with the observations in Morland et al. The argument presented may in the end be incorrect, but it is not *obviously incorrect on its face*, as for one thing the notions involved in the argument are, as discussed, notions of the utmost philosophical complexity. Nor is it question begging: the representational characterisation of phenomenal character presented is standard in the literature, and the interpretation of Morland et al. is not implausible. The resulting plausibility of this proposal, then, is why I say that simply to assert that either there is no visual experience or phenomenal character without visual representation of luminance is close to question begging; for it does not address, but merely asserts the falsity of, the presented argument.

phenomenal character of a property *F* on reductive representationalism simply is *F* being represented in the visual way, i.e. by featuring in a visual content < … >. What also goes into the content along with *F* does not affect this. The phenomenal character of a particular hue of red *qua* that hue is thus the same for you, I, and GY.[22]

5 Conclusion

According to the study in Morland et al. (1999), the blindsighter GY lacks the ability to perceive luminance in the scotoma. However, he retains the ability to perceive other visible properties. It is thus open to the representationalist to at least speculate about availing themselves of this result and generalise it as an explanation of all cases of blindsight. On this view, blindsighters do have conscious visual experiences in the scotoma, and these experiences also have supervening phenomenal character. Due to the lack of experience and therefore phenomenal character of luminance, the resultant experiences and their phenomenal character deviate so substantially from the norm that blindsighters are unable to recognise these as experiences with phenomenal character. This explains why blindsighters report no phenomenal character in the scotoma.[23]

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[22] Of course, it is entirely possible that a blindsighter who can perceive luminance in their scotoma but still displays identical behaviour to other blindsighters will be found. If so, then the argument in this paper will have to be withdrawn. However, until the appearance of such a subject, it hopefully at least stands as an interesting argument for further consideration.

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