

Empty Thoughts: An Explanatory Problem for Higher-Order Theories of Consciousness

word count: 2,420

Abstract

Block (2011) has recently argued that empty higher-order representations raise a problem for higher-order theories of consciousness. In response, Rosenthal, Lau, and Brown have defended the higher-order theory on empirical grounds. In this paper, I show that this empirically motivated defense is inadequate. In support of Block, I argue that if empty thoughts are possible, then the higher-order view cannot explain what makes some mental states conscious. I conclude that the higher-order view fails to deliver on its prime motivation: a naturalistic explanation of consciousness.

1. Introduction

One of the persisting problems in the philosophical discussion of consciousness is explaining what makes some mental states conscious. Higher-order theories of consciousness provide one explanation: a mental state is conscious if and only if there is an appropriately caused higher-order representation of that state. A recent challenge raised by Block (2011) motivated by the possibility of empty higher-order representations has reinvigorated discussion of the higher-order view. An *empty higher-order representation* represents some first-order state, when in fact there is no first-order state to serve as the object of that higher-order state. For brevity, I will call these *empty thoughts*. According to Block, the possibility of empty thoughts leads to an inconsistency in the higher-order theory of consciousness.

Block's argument has spurred a defense of higher-order theories on empirical grounds (Brown 2011; Lau & Rosenthal forthcoming; Lau & Brown forthcoming). In this paper, I argue that the empirical evidence presented in support of higher-order theories does not motivate a compelling response to Block's argument from empty thoughts. I provide two reasons for rejecting the empirically motivated counterarguments. First, there is an alternate interpretation of the empirical evidence on

which it does not provide a counterexample to Block's conclusion. Second, even if we accept the more problematic interpretation of the evidence, the higher-order theory runs aground of the very explanatory worry it was intended to solve. This explanatory problem shows that the higher-order theory of consciousness is insufficient. The higher-order view fails to deliver on its prime motivation: to provide a satisfying naturalistic explanation of consciousness.

2. HOTs and the Problem of Empty Thoughts

Cognitive Psychology provides strong evidence that many intentional mental states are not conscious. *Intentional mental states* are mental states which are about objects or events in the world – a paradigmatic example is a visual experience of a red flower. Higher-order theories of consciousness aim to explain what makes some intentional mental states conscious, and to do so in ordinary representationalist terms. In particular, according to *higher-order theories (HOTs) of consciousness*:

HOTs: A mental state is conscious if and only if that state is represented by a further mental state, caused non-inferentially.¹

The higher-order theory of consciousness has an intuitive ring: a mental state is conscious just if a subject is aware of that state in the right kind of way. The plausibility of this claim, however, rests on the sense of 'consciousness' intended. In this paper, I will be concerned with a version of the higher-order view that Block calls the *ambitious* higher-order perspective. On the ambitious variant of the higher-order view, HOTs states the necessary and sufficient conditions for a mental state to be phenomenally conscious, where there is “something it's like” to be in that state (Nagel 1974; Block 2005). Ambitious higher-order theories thus aim to explain phenomenal state consciousness in terms of

¹The clause stipulating that the higher-order mental state is caused non-inferentially rules out counterexamples on which a subject forms a higher-order representation about her mental state by, for example, observing her own behaviour or reading a brain scan (Rosenthal 2005).

awareness of that state (eg Rosenthal 2009). As Block points out, the challenge for the ambitious higher-order theorist is to explain how an unconscious first-order state combined with an unconscious higher-order state somehow yields a phenomenal conscious state. I will bracket discussion of the *modest* higher-order thesis, that the higher-order theory explains ones sense of 'consciousness', such as higher order consciousness or introspective consciousness, but leaves phenomenal consciousness unexplained.

Versions of the higher-order view differ in the nature of the higher-order representation of the first-order state. On some higher-order theories, the higher-order representation is a type of perceptual state (Armstrong 1997; Lycan 2004), whereas on others the higher-order representation is an assertoric thought (Rosenthal 2005; Weisberg 2010). What each of these variants shares is a commitment to the biconditional expressed by HOTs. Challenging that biconditional thus raises a problem for both variants of the higher-order view.

Block's argument attacks this common commitment of higher-order theories. Block argues that if empty thoughts are possible, then the sufficient condition and the necessary condition of the higher-order view turn out to be incompatible. The problem can be summarized briefly: To meet the sufficient condition, one must have a higher-order representation caused non-inferentially. But if the higher-order representation is empty, then there is no first-order mental state, so the necessary condition cannot be met. There is no first-order state which is represented by that higher-order state. An empty thought can meet the sufficient condition, without meeting the necessary condition of the higher-order view.

In Block's example, I have a higher-order representation to the effect that I am seeing something green at some time, t , but in fact I am not experiencing something green at t . Though there is a higher-order representation, there is no first-order mental state which it represents. The higher-order thought is empty. In the case of empty thoughts, Block points out, there is no first-order state which can be rendered conscious by the higher-order representation. As Block puts it, "there is only one higher order thought at t , and we can assume it is not self-referential. So there is no conscious episode at t after all"

(425).

This is a problem for higher-order theories of consciousness because having an appropriately caused higher-order representation of a first-order state suffices for consciousness of that first-order state. For example, Rosenthal has claimed that when a subject has an empty thought, that subject “ will still be subjectively aware of oneself as being in whatever state the HOT describes one as being in” (Rosenthal 2011, 432). According to Rosenthal, some empty higher-order thoughts are conscious, and the content of that conscious state is determined by whatever the higher-order state represents. Block's worry is that this claim conflicts with the necessary condition stipulated by the higher order view. When the higher-order representation is empty, there is no first-order representation to be rendered conscious. So, according to HOTs, there should be no conscious mental state at all.

3. Empirical Evidence for Empty Thoughts

In response to Block's argument, Lau & Rosenthal (forthcoming), Brown (2011), and Lau and Brown (forthcoming) have argued that there is empirical evidence that some empty higher-order thoughts are conscious. They deny Block's conclusion on empirical grounds, by showing that some higher-order representations are both empty and conscious. I will argue that the empirical evidence doesn't motivate a compelling response to Block's argument. One reason is that this line of response overlooks the fact that Block's main point is not to deny the possibility of conscious empty thoughts, but rather to show that accepting this possibility reveals an inconsistency within the higher-order view. In support of Block, I will present a new argument that emphasizes the explanatory inadequacy of the higher-order account of empty thoughts.

Though Brown, Lau and Rosenthal offer several empirical cases, I will focus on one of their strongest examples involving subjects with Charles Bonnett syndrome. Subjects with one form of Charles Bonnett syndrome have damage to the early visual processing regions of the brain (Ashwin &

Tsaloumas 2007). These early visual processing areas may be necessary for first-order visual representation. For example, visual perception of motion seems to require activity in visual area V1, which is projected to motor and visual processing areas and then fed back to V1. When there is damage in one or more of the regions in this feedback loop, subjects do not report visual experience of motion. This and similar evidence from the study of vision has led some researchers to think that feedback loops realized in early perceptual and motor processing are necessary for conscious visual experience (e.g. Lamme 2004). If this is right, then subjects with Charles Bonnett Syndrome should not have conscious visual experience, since they have extensive damage in the areas thought to be necessary for such experience.

The strange characteristic of Charles Bonnett syndrome, however, is that in spite of this damage to V1, subjects report vivid visual hallucinations of faces, persons, objects, and complex geometric patterns. Lau and Brown suggest that subjects with Charles Bonnett syndrome provide evidence for real-life conscious empty thoughts. They think that visual hallucination in the absence of activity in early perceptual areas provides an example of higher-order representation without first-order representation. Further, there is good reason to think that subjects with Charles Bonnett syndrome are in fact having conscious visual experience. Subjects are able to describe their visual hallucinations in detail and are otherwise cognitively normal. If Lau and Brown are correct, then subjects with Charles Bonnett syndrome provide an empirical refutation of Block's conclusion – an actual case of conscious empty thought. This would show that higher-order representation sometimes suffices for conscious visual experience, even if there is no first-order representation that is the object of that higher-order state. Block's conclusion, that “there is no conscious episode” at all, would be empirically false.

4. The Explanatory Problem

Charles Bonnett syndrome does indeed seem to show conscious visual experience in the

absence of early perceptual representation. However, there are three reasons why this empirical case does not motivate a convincing response to Block's argument.

The strongest reason is that even if Lau and Brown are correct that Charles Bonnett syndrome provides an example of a conscious empty thought, this does not address Block's worry that the necessary and sufficient conditions of the higher-order theory are incompatible. Block does not merely deny the possibility of conscious empty thoughts. Rather, he argues that the higher-order view at once predicts that empty thoughts will be conscious (because they meet the sufficient condition) and won't be conscious (because they fail to meet the necessary condition). His worry, then, is not that empty thoughts are impossible, but rather that the higher-order view cannot give a coherent account of them.

There is a more charitable reading of the empirically motivated counterargument. In response to Block, the proponent of HOTs might argue that the existence of some first-order state is not part of the necessary conditions for state-consciousness. The empirical cases show that it can't be. Instead, all that is required is that some higher-order state represents *as though* there were a first-order state.

The problem with this response is that it undermines the explanatory aim of higher-order theories of consciousness. One of the main virtues of the higher order theory of consciousness is that it explains how some first-order mental states are conscious. A first-order state is conscious just if it is the object of a higher-order state, caused non-inferentially. Now we discover that there are some cases in which there is a higher-order state, with no first-order state – empty thoughts. And some empty thoughts are conscious. How could a higher-order theory explain how this mental state is conscious?

It can't be that the first-order mental state is rendered conscious by the higher-order state, since there is no first-order state. So, if any state is conscious, it must be the empty higher-order state. But now we seem to be right back at the explanatory starting point. Some empty higher-order states are conscious. But what makes them conscious? It is not that they're represented by some further, third-order state. After all, subjects with Charles Bonnett syndrome are not conscious of being conscious of a hallucinatory visual experience; they're conscious of the hallucinatory visual experience itself. The

higher order theorist is left with the same mystery which motivated her view in the first place. She is left without an explanation of what makes some empty thoughts conscious. This is the very problem that confronts a first-order theory of consciousness, and which the higher-order theory set out to explain. Empty thoughts show that this problem recurs.

A third problem with the example of Charles Bonnett syndrome is that it is unclear whether it is actually a case of conscious empty thought. Higher-cognitive and higher-order states are not synonymous. Showing that a subject lacks critical brain activity for early visual processing does not show that she lacks the ability to form first-order representations, since she could still make first-order judgements or hold first-order beliefs about objects in the world. For example, my judgement that my coffee cup is red is a first-order mental state. It is about the coffee cup and its color. Sometimes a judgement is based on perceptual experience, as when I judge that the cup is red by looking. But the judgement is not *about* my perceptual mental state – it is about the cup. I could also judge that the cup is red if someone were to tell me so, or if I remember that it's red. Many first-order higher-cognitive states do not depend critically on early perceptual processing.

If we allow that some higher-cognitive states like judging, believing, or remembering are conscious mental states, then we have an alternative way of explaining the symptoms of Charles Bonnett Syndrome. Rather than posit empty thoughts, we could say that subjects have conscious higher-cognitive states. They judge that there's a face in front of them, but the judgement is not a higher-order judgement about their first-order perceptual state mental state. It is a first-order judgement about the external world and the face they claim to see, including its visual properties and location. There may be something it's like to judge that there's a face before me. If this is right, then the example of Charles Bonnett syndrome doesn't raise a counterexample to Block's conclusion. It is not an example of an empty higher-order thought. Rather, it is an example of a mistaken first-order judgement about the world.

Distinguishing between higher-cognitive states and higher-order states opens up a new way of

interpreting one of the strongest empirical examples for empty higher-order thoughts. On this new interpretation, the empirical evidence does not present a counterexample to the conclusion of Block's argument from empty thoughts. However, even if we accept the more problematic interpretation of Charles Bonnett syndrome, the higher-order theory of consciousness nevertheless runs aground of the very explanatory problem it was supposed to solve. As I have argued, the higher order view cannot explain what makes some empty thoughts conscious. Regardless of which interpretation of the evidence we favor, the case of Charles Bonnett syndrome does not motivate a compelling defense of the higher-order theory of consciousness.

4. Conclusion

In this paper, I have argued that the possibility of conscious empty thoughts shows that the higher-order view cannot do the explanatory work it set out to achieve. Higher-order theories of consciousness cannot provide an account of some conscious mental states. Rather, the higher-order view encounters the same explanatory problems as the first-order view at the level of empty thoughts. If we are after a satisfying explanation of phenomenal consciousness, these arguments show that the higher-order theory does not provide.

References

- Armstrong (1997). "What is consciousness?" *Proceedings of the Russellian Society*. 3: 65—76
- Ashwin & Tsaloumas (2007) "Complex visual hallucinations (Charles Bonnet syndrome) in the hemianopic visual field following occipital infarction" *J Neurol Sci*. Dec 15; 263(1-2):184-6. Epub 2007 Jun 22.
- Block (2011) "The higher order approach to consciousness is defunct" *Analysis*. 71:3. 419—431.
- Block (2005) "Two Neural Correlates of Consciousness." *Trends in Cognitive Sciences*. 9:2 46—52.
- Brown (2011) "The myth of phenomenological overflow." *Consciousness and Cognition*. In press.
- Brown & Lau (forthcoming) "The Emperor's New Phenomenology? Empirical support for empty higher-order representations."
- Lamme (2004) "Separate Neural Definitions of Visual Consciousness and Visual Attention: A Case for

- Phenomenal Awareness.” *Neural Networks* 17: 861—872.
- Lau & Rosenthal (forthcoming) “Empirical support for Higher-Order Theories of Conscious Awareness.”
- Lycan (2004). The Superiority of HOP to HOT. In *Higher-Order Theories of Consciousness*. ed. Gennaro. Amsterdam: John Benjamins.
- Nagel (1974) “What is it like to be a bat?” *The Philosophical Review*. 83:4 435—450.
- Rosenthal (2011) Exaggerated Reports: reply to Block. *Analysis*. 71:3 431—437.
- Rosenthal (2009) Higher Order Theories of Consciousness. In *Oxford handbook of the Philosophy of Mind*. Eds. B. McLaughlin and A. Beckerman. Oxford: Clarendon Press.
- Rosenthal (2005). *Consciousness and Mind*. Oxford: Oxford University Press.
- Rosenthal (1997) A Theory of Consciousness. In *The Nature of Consciousness: Philosophical Debates*. Eds N. Block, O. Flanagan and G. Guezeldere, Cambridge: MIT Press.
- Weisberg (2010) “Misrepresenting Consciousness.” in *Philosophical Studies*.