

illusory to think that subjects *necessarily* have veridical knowledge of it. Indeed, our model predicts that, if a single letter of the Sperling array was replaced by another letter or even a digit prior to the focused attention stage, subjects might not notice it and still maintain that they “see all the letters” – a clear illusion. This substitution paradigm would lead to many testable predictions. For instance, a subpart of area V4 should have veridical information about the symbol’s identity, which could be decoded by fMRI (see Haynes & Rees 2006; Williams et al. 2007) – but this spot should be (temporarily) functionally disconnected from frontal decision areas, and its information should not be used in subject’s reports.

Many other paradigms and neuropsychological syndromes (Naccache 2006a) that are not discussed by Block indicate that reports of a rich phenomenality cannot be taken at face value (though we agree with Block that they still have to be explained in all of their details). In the “moving window” paradigm, for instance, where a computerized display is changed in synchrony with eye movements, viewers claim that they see a normal page of text even when all parafoveal information is replaced by strings of X’s (Rayner & Bertera 1979). Similarly, we all have the illusion of seeing a world in full color although color-sensitive cones are absent in the periphery of our retina. Such illusions suggest to us that building a theory of consciousness based on intuitions of phenomenality without reportability may be building on sand.

## Phenomenal consciousness lite: No thanks!

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**Abstract:** The target article appeals to recent empirical data to support the idea that there is more to phenomenality than is available to access consciousness. However, this claim is based on an unwarranted assumption, namely, that some kind of cortical processing must be phenomenal. The article also considerably weakens Block’s original distinction between a truly nonfunctional phenomenal consciousness and a functional access consciousness. The new form of phenomenal consciousness seems to be a poor-man’s cognitive access.

A central piece of the argument presented in the target article is Ned Block’s claim that “phenomenal consciousness overflows cognitive accessibility” (target article Abstract). Block’s main motivation for this claim is his intuition, shared by most of us, that we see much more than we can report. The feeling is particularly clear when an image is flashed before us, and we feel we have seen “everything in it,” yet generally will be unable to report more than 3 to 5 elements from the scene (the classic Sperling “whole report” paradigm).

The trouble is that an explanation for this feeling of being able to see more than we report might lie in the fact that the early stages of the visual system possess a certain degree of neural persistence. This neural persistence or “icon” might not itself be phenomenally conscious. Instead, it might, for a short while, be available for access by higher cortical mechanisms. Our impression of seeing “everything” might therefore derive not from actual phenomenality of the icon, but from the immediate availability for access of information in this persistent subcortical icon.

This is where Block musters new evidence from the recent experiments of Landman et al. (2003) and Sligte et al (2008). These experiments, contrary to the original Sperling experiments

(Sperling 1960), show that the neural persistence that seems to be involved in giving us the impression of seeing everything can sometimes be of considerably longer duration than previously measured. Information about the orientation of eight rectangles, for example, can sometimes be recovered as long as one second after stimulus extinction. This long persistence suggests that the information cannot be subcortical but must be of cortical origin, and Block concludes that for this reason it is likely to be phenomenal.

So Block’s argument contains this critical step: the step consisting in assuming that if something provides an impression of detail, and its substrate is cortical, then it is likely to be phenomenal. This makes sense to Block because he starts from an a priori assumption that consciousness is a “natural kind” and has some kind of “neural signature.” Converging evidence, he says, suggests that if certain neural conditions are met (e.g., being cortical rather than subcortical), then visual information in the brain becomes conscious.

However, the neural signature hypothesis is merely speculative. It could indeed turn out that there is neural commonality in every case of consciousness, but why should one start out with this assumption? Moreover, even if it were the case that an identifiable neural signature for consciousness existed, what would its significance be? Block himself suggests it would leave us still struggling with a “hard problem” of consciousness, showing that this neural signature would give us little insight into phenomenal consciousness.

Leaving aside the criticism of Block’s use of recent empirical data in defense of his hypothesis, we are surprised at another aspect of his argument.

Block once had a program of disproving philosophical functionalism. There were two kinds of consciousness: phenomenal consciousness and access consciousness. Phenomenal consciousness was pure and *nonfunctional*. Block thought the existence of phenomenal consciousness (for which he adduced empirical and theoretical material) proved there was more to consciousness than the functional (Block 1995b).

The problem, critics quickly pointed out, was that something purely nonfunctional, something that has no effects, and in principle can have no effects, is not only undiscoverable (any observation would be an effect), but epiphenomenal as well: it cannot even have any effects on the phenomenology of the subject in whose consciousness it is present. Nevertheless, if the goal of showing the plausibility of a nonfunctional phenomenal consciousness were attainable, this would be an important result.

But in the target article the opposition between the realm of the phenomenal and the realm of access is diluted. Today’s version of phenomenal consciousness is no longer completely access-resistant. After all, Block musters evidence for its existence by noting that people report that they think they have seen everything in the scene even though they cannot always report all the details. So this is a report, just not a full report. Furthermore he claims further evidence by saying that they *can* report the details if cued early enough. This is also a report!

Thus, instead of the original strong opposition between functional access consciousness and nonfunctional phenomenal consciousness, there now seems actually to be a tight link between this new (avowedly less-than-) cognitive access, and phenomenal consciousness. Indeed, nothing in the present target article indicates phenomenal consciousness cannot be interpreted as a weaker variant of access consciousness. Importantly, and further encouraging this interpretation, phenomenal consciousness also no longer gets identified with the qualitative, often called “what-it-is-like” aspects of consciousness.

If phenomenal consciousness is no longer sharply distinguished from access consciousness, a significant issue on the Scientific Explanation of Consciousness is transformed into a rather minor quibble about the scope of the access subjects have to visual information in psychological experiments! Deciding whether subjects can describe four or eight masked items after a certain number of milliseconds is perhaps an important

project in psychology and neuroscience, but resolving the question does not seem like a big advance on the mind/body problem.

## Reuniting (scene) phenomenology with (scene) access

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**Abstract:** Block shows that we can consciously see a scene without being able to identify all the individual items in it. But in itself this fails to drive a wedge between phenomenology and access. Once we distinguish scene phenomenology from item phenomenology, the link between phenomenology and access is restored.

Block describes how in Sperling's (1960) classic study subjects were briefly shown three rows of four alphanumeric characters. The subjects reported seeing the array, but when asked to identify the characters could only name four or five. Block invokes this study and an impressive number of further considerations to argue that "phenomenology overflows accessibility" (sect. 9) – you can be consciously aware of the alphanumeric array even though you cannot cognitively access the individual characters.

I agree that there is one sense in which this is true. But I'm not sure that it supports Block's larger program of distinguishing "phenomenal consciousness" from "access consciousness."

Suppose we distinguish "scene phenomenology" from "item phenomenology." In relation to the Sperling display, you have the former once you are phenomenally conscious of a 3×4 array, whereas you have the latter if you are phenomenally conscious of the individual characters. Now focus on scene phenomenology: Block's arguments seem to me to leave it quite open that scene phenomenology may constitutively require some kind of access. After all, his arguments depend crucially on the fact that normal subjects report that they are visually aware of an alphanumeric array – this is his basic reason for saying that there is more in phenomenology than the four or five characters they can name. At first pass, this certainly suggests that scene phenomenology requires at least "scene access" in some sense that allows normal subjects to report that they are aware of an array, even if they cannot identify all the characters.

No doubt Block would urge that scene phenomenology does not require even scene access. He maintains that the patient G.K. is sometimes consciously aware of a face even though G.K. denies seeing any such thing. Block also suggests that there can be phenomenology in Fodorian modules whose encapsulation presumably precludes cognitive access of any kind. Still, while Block makes these claims, it is not clear to me that he offers any arguments for scene phenomenology without scene access. Rather, his arguments all concern the possibility of scene phenomenology without item access, which is rather different. He shows that I can see the alphanumeric array without being able to report all the characters, but not that I can see it without even knowing that I am seeing an array. (Nor is it entirely clear to me that Block is consistent in urging the possibility of scene phenomenology without scene access. Consider what he says in section 11 against the suggestion that a state is conscious if it is broadly cognitively accessible in the sense that it can be "amplified if attended to." Block's objection is that this would let in some "uncontroversially unconscious" states. But what makes a state "uncontroversially unconscious" if it is

not that subjects tell us so? Once we allow that a state can be conscious even though normal subjects systematically deny this, then I'm not sure there will be any uncontroversially unconscious states.)

Having got this far, we might well wonder whether Block really does anything at all to separate phenomenology and access. He shows that we can have scene phenomenology without item access, but not that we can have scene phenomenology without scene access, or item phenomenology without item access.

Block argues that we need to let phenomenology without access explain the kind of data displayed in the Sperling experiment: in such cases we have phenomenology (in the back of the head) without cognitive access (in the front). But, for all he says, an equally good explanation would be that we have scene phenomenology/access (in the front of the head) without item phenomenology/access (which would also be in the front).

Does it make sense to posit scene phenomenology without item phenomenology? Can we be conscious of the array without being conscious of the individual characters? I don't see why not. If visual perception involved something like physical photographs in the brain, maybe this would be impossible. You can't photograph an array of characters without photographing the individual characters. But if conscious seeing is always seeing as – always a matter of bringing back-of-the-brain activity under stored patterns – then I don't see why you can't consciously recognize something as an array without consciously recognizing the individual characters.

I have been suggesting that Block's arguments fail to drive a wedge between phenomenology and access. However, this is not because I am a "metaphysical correlationist," as Block suggests in his section 7. I don't think that there is any principled reason for insisting that consciousness must be tied to access. The passage that Block cites (from Papineau 2002, p. 187; see target article, sect. 7, para. 2) is my characterization of the "standard methodology" of consciousness research, not my own view. As is made clear in the later sections of the chapter from which Block quotes me, I am quite open to the possibility that there may be "hidden" conscious states of just the kind Block is interested in – states with phenomenology but to which the subject lacks cognitive access. Still, although I am open to this possibility, I don't think that Block's target article mounts an effective empirical case for such states, for the reasons given earlier.

In my book (Papineau 2002), I conjectured that this issue will always be incapable of resolution, and suggested that this is because the very concept of phenomenal consciousness is too indeterminate to allow serious empirical investigation of its boundaries. But now I am not so sure. Block's richly textured use of the empirical data may not amount to a conclusive case for phenomenology without access, but it certainly teaches us a great deal about both. It also makes me less pessimistic about the possibility that further empirical data may cast even more light on the boundaries of phenomenal consciousness.

## Accessed, accessible, and inaccessible: Where to draw the phenomenal line

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**Abstract:** One can distinguish among perceptual states that have been accessed by working memory, states that are accessible, and states that are inaccessible. Block compellingly argues that phenomenology outstrips access but wrongly implies that phenomenology outstrips