be realized. Whatever gets access to phenomenal awareness (to P-consciousness as described by Block) is represented within this temporal window of approximately 3 seconds. Thus, mental activity is segmented in time characterized by the succession of logistically independent integration intervals, each interval implementing S. Successive intervals are connected with each other on the basis of asemantic nexus, that is, by what is represented within each S. If one needs a verbal marker, the term "consciousness" could refer to the sequence of logistically independent but semantically dependent states, but this would be only a way of speaking.

The next question is: What gets access to S and what are the mechanisms that control this access? To approach this problem it is useful to ask two questions: (1) What is the potential repertoire of mental phenomena that might get access to S? and (2) What could be the functional use of S? In an attempt to develop a taxonomy of subjective phenomena (Pöppel 1989), it has been argued that four distinct domains of subjective phenomena define the content of S. For each of these domains a modular representation is suggested by neuropsychological and neuroanatomical evidence. These domains comprise in everyday language perceptions, memories, evaluations, and volitions (resulting in actions). Particular functions from each of these domains may get access to S (P-consciousness), and particular neuronal algorithms control this access. Without the operation of such a control mechanism, S may be "blind," that is, specific percepts, memories, emotional evaluations, or intentional acts may not get access to S.

The phenomenon of residual vision or blindsight (Pöppel et al. 1973) can be interpreted within this framework. The access mechanism to S has been disrupted because of a specific lesion; through an experimental trick it is still possible to demonstrate residual visual capacities, but they cannot reach those neuronal processes that set up S. Similarly, other subjective phenomena may be available in principle, but because of deficiencies in the access mechanisms (A-consciousness according to Block) they are absent. The dissociation of emotional evaluation and perceptual registration often observed in schizophrenic patients is another case in point, that is, the emotional evaluations do not get access to S. Another demonstration would be the tip-of-the-tongue phenomenon; the speaker knows that he knows something, but his knowledge cannot reach S, because the access is disrupted.

What could be the functional use of S, if any? An answer to this question could lead to those mechanisms controlling access. I believe that S plays a basic role in communication (Pöppel 1988). The selection pressure for S was such that individual states could be made available to others. To have functional communication, one needs a temporal framework with interindividual constancy. S is, thus, the expression of a logistical solution by the brain to ensure interactions by communication, the latter only being possible because of an interindividual temporal match of S.

Phenomenal consciousness and what it's like

David M. Rosenthal

Ph.D. Program in Philosophy and Concentration in Cognitive Science, City University of New York, Graduate School, New York, NY 10036-8099.
drosenth@broadway.gc.cuny.edu

Abstract: Even if A-consciousness and P-consciousness were conceptually distinct, it is no fallacy for researchers relying on a suitable theory to infer one from the other. But P-consciousness conceptually implies A-consciousness – unless one or the other is mere ersatz consciousness. And we can best explain mental states' being conscious, in any intuitively natural sense, by appeal to higher-order thoughts.

1. Conceptual versus empirical connections. Block (1995a) concedes that it's hard to come by actual cases of P-conscious states that are not A-conscious, or A-conscious states that are not P-conscious. Indeed, it's "plausible," he says, that "A-consciousness and P-consciousness are almost always present or absent together." Still, he insists, the two "differ conceptually." He concludes that even if "P-consciousness and A-consciousness . . . amount to much the same thing empirically" (p. 242), it's fallacious to infer facts about the one from facts about the other.

Few inferences rest solely on conceptual connections, however, especially in scientific investigations; typically they also rely on theoretical and empirical assumptions. So even if Block is right that A- and P-consciousness are conceptually distinct, theorists who regard them as empirically connected in suitable ways may reasonably infer one from the other. Thus Block's concession that Schacter's alleged conflation of P-consciousness with A-consciousness doesn't "cause any real problem in Schacter's theorizing" (p. 237).

Block's seventeenth century Florentine experimenters got incompatible results from measuring "degree of heat" in two distinct ways, because heat and temperature diverge empirically. If the results had coincided empirically, inferring one from the other would have been warranted despite their differing conceptually; it is the actual conflicting results that show that heat and temperature differ. Block offers nothing parallel for A- and P-consciousness; the divergences he considers between them are all science fiction or highly speculative. Conflating the two, Block thinks, closes off possibilities for theorizing; but if the two coincide, those possibilities are dead ends.

2. The pretheoretic tie. Indeed, there is, *pace* Block, a robust *pretheoretic* tie between P- and A-consciousness. Block sees all P-conscious states as having a characteristic kind of content – call it phenomenal content. And he holds, conversely, that every state with such content is P-conscious. So perhaps Block's P-conscious states are just states that have phenomenal content. Armstrong (1995) and Lycan (1995) adopt this reading, which Block (1995a) sometimes encourages by talking interchangeably of P-consciousness and a state's having P-content.

But being P-conscious is distinct from having content. What P-conscious states all have in common is that they are conscious; they differ in respect of content. Phenomenal content consists of the properties we use to sort P-conscious states into types. And states may exhibit these very content properties without in any *intuitive* way being conscious states, for example, in subliminal perception. We fix the extensions of terms for these properties by way of the conscious cases, but those terms apply equally to nonconscious states.

Since states with phenomenal content are not all conscious, if "P-consciousness" means simply having such content, P-consciousness can occur without A-consciousness – indeed, without consciousness of *any* sort. But P-consciousness would then be mere ersatz consciousness. So Block must mean more by P-consciousness, and he does: A state is P-conscious if there is something it's like to be in that state. This helps, since whenever there is something it's like to be in a state, that state is, intuitively, a conscious state.[1]

What it's like be in a state depends partly on its distinguishing content properties. What it's like to be in pain, for example, depends on properties in virtue of which pains are all alike but differ from other states, whether conscious or not. But if one is in no way conscious *of* these properties, there can be nothing it's *like for a subject* to be in that state. Phenomenal content can occur without being conscious, but what it's like to be in a state with such content cannot.

This explains why it is so hard to find convincing cases of P-conscious states that aren't A-conscious.[2] A state is A-conscious if it is poised for use as a premise in reasoning, or for the rational control of action or speech. That is because these things involve one's having access to the state in question; intuitively, A-consciousness is having access to one's own states – that is, one's being conscious *of* those states. Much in Block's discussion relies on this pretheoretic notion of A-consciousness, rather than the official connection with inference and the control of speech and action.

Some states we are conscious of are not conscious; I may think I am in a state because of a theory or what another person says. But when one is conscious of a state in a way that *seems* to one immediate, that state is, intuitively, a conscious state. (Being able to guess successfully makes the blindsighter conscious of visual states, but because this access is not intuitively immediate, we don't count the states as conscious.)

A state cannot be P-conscious unless one is conscious *of* it, and that means being A-conscious of it. So P-consciousness always involves A-consciousness. This is neither an empirical discovery, for example, about interactions between the two phenomena nor a theoretical hypothesis. It is part of how we think, pretheoretically, about consciousness. Perhaps A-conscious states occur that are not P-conscious, but P-conscious states are always A-conscious.

3. A-consciousness and higher-order thoughts. Block would resist construing A-consciousness in terms of one's being conscious of a state. His official account of A-consciousness allows for P-conscious states that are not A-conscious, that is, P-conscious states not poised for use as premises in reasoning nor for the rational control of action and speech.

But no intuitive notion of consciousness corresponds to this official account. Even if a state is poised for such use – indeed, even if it is actually so used – it is not intuitively a conscious state if the subject is not conscious of it. Indeed, though the intentional states our speech acts express are always conscious,[3] many nonconscious thoughts rationally influence what we say, and how. And many provide premises in nonconscious reasoning leading to nonconscious conclusions, which in turn may rationally influence our actions. Since states that control speech, action, and inference needn't in any intuitive way be conscious, these roles define no intuitive notion of a state's being conscious. Block finds in common sense a "notion of access" corresponding to A-consciousness (1995, p. 277), but common sense has no corresponding notion of *consciousness.* At best, Block's official account is a theoretical proposal about what it is for certain states to be conscious.[4]

But higher-order thoughts (HOTs) explain more successfully our pretheoretic notion of a mental state's being conscious.[5] Having a thought about something is one way of being conscious of it; so I am conscious of whatever states I have thoughts about. When those thoughts rely on no *conscious* inference, my being conscious of those states seems to me unmediated; so we count those states as conscious.[6] Indeed, such HOTs would result in conscious states' being suitably poised in respect of speech, action, and reasoning, even though being thus poised cannot itself secure consciousness for a state.

Block's monitoring consciousness is introspective consciousness, and so outstrips the ordinary way states are conscious. A state is introspectively conscious if it is conscious and, in addition, one is conscious of being conscious of it; thus Block's (1995) identification of monitoring consciousness with attention. Block is surely right that monitoring in this sense need not figure in either P- or A-consciousness.

But it distorts things to see HOTs in terms of monitoring consciousness. If a state is accompanied by a HOT that is itself conscious, one is introspectively conscious of the state. But HOTs, like other intentional states, need not be conscious; when they are not, the target states are conscious, but not introspectively so. Block notes (p. 234) that monitoring consciousness is somewhat intellectualized; that's because in the HOTs those cases are conscious, whereas the HOTs that accompany nonintrospectively conscious states are not.

That is why, as Block (1995) objects, some commentators simply assumed that A- and P-consciousness involve monitoring. We need not be in any way conscious of A-conscious states, on Block's official account, nor of P-conscious states if they are simply states with phenomenal content.[7] So more is needed for A- or P-consciousness to be genuine forms of consciousness. Although we are conscious of our conscious states, we normally are not conscious that we are. So monitoring, as Block construes it, is too strong; nonconscious HOTs are just right.

Conscious states are mental states we are conscious of *as mental.* When I am conscious, apparently without mediation, of my veins throbbing, I am conscious of two things: states of my veins, and a certain bodily sensation. Being conscious of the sensation as such results in its being conscious, but being conscious of the veins, as such, results in no conscious state. That is why, as Block notes (1995), HOTs about states of one's liver (as such) don't result in conscious liver states.[8]

NOTES

1. As Kitcher (1995) notes; though she also assumes, wrongly as I argue below, that this involves monitoring consciousness in Block's sense.

2. Many of Block's ostensible cases of P-consciousness without A-consciousness are really just cases of diminished or indistinct A-consciousness. Thus he speculates that the Sperling (1960) experiment may exhibit P-consciousness of all the letters jointly without A-consciousness of all of them jointly. But even in Block's own experience as a subject, there was something it's like to experience all the letters jointly; so he had access to his experience of all the letters together, and that access rationally controlled his verbal report of his own P-consciousness. Other results, such as the Lackner and Garrett (1973) dichotic listening experiment, also seem only to exhibit diminished A-consciousness, rather than none at all.

3. See Rosenthal (1990).

4. Being poised is being disposed in a certain way. So, on Block's official account, A-consciousness is a dispositional property (as he concedes [1995]) corresponding to access in the sense of being able to get at something. But the pretheoretic property of consciousness involves the nondispositional property of *actually accessing* one's states. Some dispositional properties coincide with one's consciously accessing one's mental states; for example, conscious states are reportable and introspectible. Still, a state's being conscious is not itself a dispositional property.

5. Rosenthal (1986); (1990); (1993); and elsewhere.

6. What matters is seeming unmediated to the subject. The HOT's causal history figures only to ensure that, not for its own sake, as Block supposes (1995).

7. Block sees it as beyond dispute that dogs, for example, have phenomenal states without thoughts; that's right in this weak sense of "phenomenal state." But dogs do have thoughts, and may well have unsophisticated HOTs. And it is question begging just to assert without evidence that HOTs are not needed for their states to be conscious. In any case, Block concedes that P- and A-consciousness may fall off together in lower species (Block 1995).

8. But *pace* Block (1995), HOTs may well result in repressed states becoming P-conscious; after all, suitable HOTs intuitively seem to help in "getting in touch with one's feelings."

On widening the explanatory gap

A. H. C. van der Heijden,[a] P. T. W. Hudson,[b] and A. G. Kurvink

Department of Experimental and Theoretical Psychology, Leiden University, 2300 RB Leiden, The Netherlands.

[a]heijden@rulfsw.leidenuniv.nl; www.rulfsw.leidenuniv.nl;
[b]hudson@rulfsw.leidenuniv.nl

Abstract: The explanatory gap refers to the lack of concepts for understanding "how it is that . . . a state of consciousness comes about as a result of irritating nervous tissue." By assuming that there are colours in the outside world, Block needlessly widens this gap and Lycan and Kitcher simply fail to see the gap. When such assumptions are abandoned, an unnecessary and incomprehensible constraint disappears. It then becomes clear that the brain can use its own neural language for representing aspects of the outside world. While this may not close the gap, it becomes clearer where we need new concepts.

Block (1995t) acknowledges that he cannot define phenomenal consciousness in any remotely noncircular way: "really all one can do is *point* to the phenomenon. . . . Nonetheless it is important to point properly" (p. 230). Block then points via "synonyms" "what makes a state phenomenally conscious is that there is something 'it is like' (Nagel 1974) to be in that state" (p. 228) and via "examples" "we have P-conscious states when we see, hear, smell, taste, and have pains" (p. 230).