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How many kinds of consciousness?

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Abstract

Ned Block's influential distinction between phenomenal and access consciousness has become a staple of current discussions of consciousness. It is not often noted, however, that his distinction tacitly embodies unargued theoretical assumptions that favor some theoretical treatments at the expense of others. This is equally so for his less widely discussed distinction between phenomenal consciousness and what he calls reflexive consciousness. I argue that the distinction between phenomenal and access consciousness, as Block draws it, is untenable. Though mental states that have qualitative character plainly differ from those with no mental qualities, a mental state's being conscious is the same property for both kinds of mental state. For one thing, as Block describes access consciousness, that notion does not pick out any property that we intuitively count as a mental state's being conscious. But the deeper problem is that Block's notion of phenomenal consciousness, or phenomenality, is ambiguous as between two very different mental properties. The failure to distinguish these results in the begging of important theoretical questions. Once the two kinds of phenomenality have been distinguished, the way is clear to explain qualitative consciousness by appeal to a model such as the higher-order-thought hypothesis.

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In important work over the last 10 or so years, Ned Block has forcefully argued that researchers both in philosophy and in psychology apply the term 'consciousness' and its cognates to distinct kinds of mental occurrence, with theoretically confusing results. Most of that work has focused on the now well known and widely discussed distinction between what Block calls phenomenal consciousness and access consciousness. A state is phenomenally conscious if, roughly, it has qualitative character; I'll say more about this shortly. By contrast, a state is access conscious if its content is, in Block's words, "poised to be used as a premise in reasoning,... [and] for [the] *rational* control of action and... speech."[1] According to Block, these two types of mental occurrence are conceptually independent; a state can, in principle at least, be conscious in one way without its being conscious in the other.

Block has also distinguished a third type of mental occurrence that is also often called consciousness, but which, he argues, is distinct from each of the others. This type of consciousness, which he has variously called *reflexive*, *introspective*, or *monitoring consciousness*, involves the occurrence not just of one mental state, but two. As he has recently put it, "[a]n experience is conscious in this sense just in case it is the object of another of the subject's states, for example one has a thought to the effect that one has that experience."[2] It's the contrast between phenomenal consciousness and reflexive consciousness that has figured most prominently in Block's recent writing, and I'll focus mainly on that contrast in what follows.

Some commentators on Block's work, myself among them, have raised questions about these distinctions. One challenge has been about whether one or another of the phenomena Block describes is properly speaking a kind of consciousness at all. For this reason among others, Block now proposes to conduct the discussion without using the term 'consciousness' or its near synonym, 'awareness.' Forswearing those terms, he now often refers to the three types of mental occurrence simply as *phenomenality*, *global access*, and *reflexivity* (202–203).[3]

But difficulties remain, even apart from whether something should be called consciousness. Most of the following discussion focuses on phenomenality and reflexivity. But it's worth making a few remarks about global access. For one thing, global access, whatever its connection with consciousness, presumably comes in many degrees. So it's not clear that such connectivity constitutes a single psychological phenomenon subject to study. Nor, despite its current popularity,[4] is it clear

[1] "On a Confusion about a Function of Consciousness," *The Behavioral and Brain Sciences*, *18*, 2 (June 1995): 227–247, p. 231; emphasis Block's.

[2] "Paradox and Cross Purposes in Recent Work on Consciousness," *Cognition*, *79*, 1–2 (April 2001): 197–219, p. 205. When not otherwise indicated, page references are to this article.

[3] Still, he often speaks of phenomenality as consciousness *of* something, which seems to make ineliminable reference to consciousness, e.g., in describing subjects as being phenomenally conscious of the letters in the Sperling experiment (209), discussed below.

[4] See, e.g., Daniel C. Dennett's idea that "[c]onsciousness is cerebral celebrity," "The Message Is: There Is No *Me*dium," *Philosophy and Phenomenological Research* LIII, *4* (December 1993): 919–931, p. 929, echoed in much of *Consciousness Explained*, Boston: Little, Brown, 1991; and Bernard J. Baars's idea of consciousness as due to a global workspace in, e.g., *A Cognitive Theory of Consciousness*, Cambridge: Cambridge Univ. Press, 1988.

why global access has anything at all to do with what we intuitively think of as consciousness. Many mental events occur to which the system has relatively global access even though they aren't conscious in any way whatever. In typical circumstances, for example, many mental occurrences that bear on the organism's moving about won't be conscious, though the system needs to have fairly global access to them. Conversely, mental states are often conscious despite their lack of global connectivity, as when we have a specific conscious thought or image that has little bearing on the system's overall functioning.

Block claims that the relevant kind of access involves a state's being "poised to be used... for [the] *rational* control of action and... speech." But control of action can be rational without being conscious. So why think that a state's being poised for rational control has anything to do with whether that state is conscious, in any way whatever? The question is especially pressing given robust experimental findings that the readiness potentials associated with decisions occur measurably in advance of our consciousness of those decisions.[5] Doubtless the answer is that our sense of having control of ourselves and indeed of being rational in that control stems from the way we are conscious of our decisions. We are conscious of ourselves *as* exerting rational control over our actions. But that doesn't by itself show that a state must be conscious to exert such rational control.

Putting global access to one side, let me turn to phenomenality. Block describes phenomenality in different ways that arguably pick out distinct types of mental occurrence. On one account, "phenomenality... [is w]hat it is like to have an experience. When you enjoy the taste of wine, you are enjoying gustatory phenomenality" (202).

But Block also allows that phenomenality can occur not only without one's knowing it, but in cases in which one would firmly deny its occurrence. For example, in cases of so-called visual extinction, subjects report having no subjective experience of certain visual stimuli on one side of the visual field (198). And Block argues that it is theoretically open to see these subjects as "really... hav[ing] phenomenal experience of those stimuli without knowing it" (203). On this interpretation, he urges, subjects have phenomenal consciousness without access consciousness, phenomenality without global access. Similarly, the phenomenality Block posits in the striking case of aerodontalgia he describes is evidently phenomenality without reflexivity,

[5] See, e.g., Benjamin Libet, Curtis A. Gleason, Elwood W. Wright, and Dennis K. Pearl, "Time of Conscious Intention to Act in Relation to Onset of Cerebral Activity (Readiness Potential)," *Brain*, *106*, Part III (September 1983): 623–642; Patrick Haggard, Chris Newman, and Edna Magno, "On the Perceived Time of Voluntary Actions," *British Journal of Psychology*, *90*, Part 2 (May 1999): 291–303; and Patrick Haggard and Benjamin Libet, "Conscious Intention and Brain Activity," *Journal of Consciousness Studies*, *8*, 11 (November 2001): 47–63.

See also my "The Timing of Conscious States," *Consciousness and Cognition*, *11*, 2 (June 2002): 215–220, and additional references there.

though the trace laid down in aerodontalgia is very likely no kind of phenomenality at all.[6]

This does not fit comfortably, however, with the explanation of phenomenality as "[w]hat it is like to have an experience." It's important to distinguish this somewhat special use of the phrase 'what it's like' to describe subjectivity from its more general, nonmental use. There is something it's like to be a table, or even to be this very table. What it's like to be a table, for example, is roughly something's having characteristic features of tables.

But this is of course not what's involved in talking about what it's like to have an experience. As Nagel stressed in the article that launched that phrase, what it's like to have an experience is what it's like *for* the individual that has the experience. When a person enjoys the taste of wine, thereby enjoying gustatory phenomenality, there is something it's like *for that person* to experience the taste of the wine.

Not so in cases of visual extinction; there is nothing it's like *for* an extinction subject to have a qualitative experience of the extinguished stimuli. That's why seeing visual extinction as the having of phenomenality without one's knowing it does not fit comfortably with the explanation of phenomenality in terms of what it's like to have an experience.

Block has argued elsewhere that there being something it's like in the relevant way need not involve there being something it's like *for a subject*. The added phrase, he urges, implies having access to oneself, which is unnecessary for phenomenality.[7] But there being something it's like *for one* does not imply any explicit access to oneself; one can be conscious of oneself in the relevant way without also being conscious that one is. And such implicit, nonintrospective access must in any case occur if there is something it's like to have the experience. We're not interested in there being something it's like for somebody else to have the experience; there must be something it's like for one to have it, oneself. Without specifying that, what it's like would be on a par with what it's like to be a table.

If 'conscious' and 'aware' are vexed terms, perhaps we also shouldn't expect much from the phrase 'what it's like'. But, as Block notes in "Paradox and Cross Purposes," "[a]ny appeal to evidence to back a theory of consciousness depends on a pre-theoretic concept of consciousness to supply a starting point" (202). So we need some way to tell, in commonsense terms, when phenomenality occurs and when it doesn't. And, if we disallow the appeal to there being something it's like for one, it's unclear that any pretheoretic way remains.

The disparity between explaining phenomenality in terms of there being something it's like for one and allowing phenomenality of which one has no knowledge

[6] In these anecdotal cases, tooth extractions under general anesthetic alone resulted in later pains, whereas that did not occur when both local and general were administered. Block hypothesizes that the traces laid down by extractions under general anesthetic alone exhibit phenomenality. On aerodontalgia, see Robert Melzack and Patrick D. Wall, *The Challenge of Pain*, 2nd ed., Penguin, 1988, and P. W. Nathan, "Pain and Nociception in the Clinical Context," *Philosophical Transactions of the Royal Society of London B*, *308* (1985): 219–226.

[7] Replying to me, in "Biology versus Computation in the Study of Consciousness," *The Behavioral and Brain Sciences*, *20*, 1 (March 1997): 159–166, p. 162.

suggests that there are, after all, two distinct kinds of phenomenality in play. One kind consists in the subjective occurrence of mental qualities, while the other kind consists just in the occurrence of qualitative character without there also being anything it's like for one to have that qualitative character. Let's call the first kind *thick phenomenality* and the second *thin phenomenality*. Thick phenomenality is just thin phenomenality together with there being something that it's like for one to have that thin phenomenality. Just as it's useful to distinguish different applications of the term 'consciousness', so the term 'phenomenality' and its cognates may well be used in these two distinct ways.[8]

If we bracket the issue about how to understand the admittedly vexed phrase 'what it's like', Block's view seems to be that phenomenality is simply thin phenomenality, and what I'm calling thick phenomenality is phenomenality plus reflexivity. For example, he seems to take the ability to report a mental state as an indication that reflexivity is present, presumably because reporting something indicates awareness of it. Thin phenomenality, such as that which occurs in visual extinction, is not reportable, and we have only theoretical reasons to posit it.

Terminology aside, this fits neatly with my own view of these things. The pretheoretic notion of a mental state's being conscious, I've argued elsewhere, is that of one's being conscious of being in that state. Common sense doesn't count as conscious any state of which a subject is wholly unaware. So states with merely thin phenomenality are not in any pretheoretic, commonsense way conscious states.

All that's needed, then, to explain what it is for a mental state to be conscious in that pretheoretic way is to determine the way we're conscious of the mental states we count as conscious states. The traditional answer to this, from Locke and Kant to David Armstrong and William Lycan,[9] appeals to sensing; we are conscious of our conscious states by way of some kind of "inner sense."

But inner sense is an unsatisfactory answer to our question. Sensing is distinguished by its having some mental quality; so being conscious of our conscious states by way of some higher-order, inner sense would require that there be higher-order qualities. But the only mental qualities that occur when mental states are conscious are those of the states we are conscious of; there are no additional qualities in virtue

[8] Thus Block objects to the apparent assimilation by Anthony I. Jack and Tim Shallice ("Introspective Physicalism as an Approach to the Science of Consciousness," *Cognition*, *79*, 1–2 [April 2001]: 161–196) and by Stanislas Dehaene and Lionel Naccache ("Towards a Cognitive Neuroscience of Consciousness: Basic Evidence and a Workshop Framework," *Cognition*, *79*, 1–2 [April 2001]: 1–37) of phenomenality to its function. But it may well be that these authors are simply talking about thick phenomenality.

[9] Immanuel Kant, *Critique of Pure Reason*, transl. and ed. Paul Guyer and Allen W. Wood, Cambridge: Cambridge Univ. Press, 1998, p. 174, A22/B37; John Locke, *An Essay Concerning Human Understanding*, edited from the 4th (1700) edition by Peter H. Nidditch, Oxford: Oxford Univ. Press, 1975, II, i, 4, p. 105; D. M. Armstrong, "What Is Consciousness?," in Armstrong, *The Nature of Mind*, St. Lucia, Queensland: University of Queensland Press, 1980, 55–67, p. 61; William G. Lycan, *Consciousness and Experience*, Cambridge, MA: MIT Press/ Bradford Books, 1996, ch. 2, pp. 13–43.

of which we are conscious of those states. In standard circumstances, we are conscious only of the qualitative properties of the states of which we are conscious. And even when we are introspectively conscious of those states, we don't take ourselves to be conscious of those targets in virtue of higher-order states with independent qualitative properties. Nor is there any independent theoretical reason to posit such higher-order qualities.

Sensing is not, however, the only way we are conscious of things. We are also conscious of something when we have a thought about that thing as being present. I need not see somebody in the audience to be conscious of that person; it's enough just to have a thought that the person is here. There is, moreover, no other way we know about of being conscious of things. So, if we are not conscious of our conscious states by sensing them, the only alternative is that we have thoughts about them – what I have elsewhere called *higher-order thoughts* (HOTs).

HOTs need not themselves be conscious thoughts; for a HOT to be conscious, one must have a third-order thought about it. I would reserve the term 'introspection' for that special case, in which we are deliberately and attentively conscious of our mental states. Because the content of a HOT is that one is in the target state, HOTs are in part about oneself; they make one conscious of oneself as being in target states. But, because HOTs usually aren't conscious, we don't notice being thus conscious of ourselves. When mental states are conscious in the relevant pretheoretic way, we are conscious of them in a way that seems direct and unmediated. The HOT model can capture that if we stipulate that HOTs cannot seem to one to be based on inference; the subject must be unaware of any inference on which a HOT is based.

One's HOTs need not be accurate; one can seem to be in a state that one isn't in. But since one is conscious of oneself as being in such states, that's not a case of being conscious of something that doesn't exist.[10] There is no problem about how a nonexistent state can have the monadic property of being conscious. States do not in any case occur independently of something of which they are states. And the occurrence of a conscious state is the *appearance* one has that one is in that state; compare the way we speak about rainbows. This will seem problematic only if one regards the phenomenological appearances as automatically veridical.[11]

Since HOTs make one conscious of oneself as being in a particular state, what it's like for one to be in a state is a function of how one's HOT represents that state.

[10] Plainly one can be conscious of existent things in ways that are inaccurate, e.g., in respect of properties the thing doesn't have, and the commonsense idea that being conscious of something is factive must bow to that.

[11] For more on the HOT hypothesis, see my "Two Concepts of Consciousness," *Philosophical Studies*, *49*, 3 (May 1986): 329–359; "Thinking That One Thinks," in *Consciousness: Psychological and Philosophical Essays*, ed. Martin Davies and Glyn W. Humphreys, Oxford: Basil Blackwell, 1993, 197–223; "A Theory of Consciousness," in *The Nature of Consciousness: Philosophical Debates*, eds. Ned Block, Owen Flanagan, and Güven Güzeldere, Cambridge, MA: MIT Press, 1997, 729–753; and "Explaining Consciousness," in *Philosophy of Mind: Contemporary and Classical Readings*, ed. David J. Chalmers, New York: Oxford Univ. Press, forthcoming 2002.

Does this mean that phenomenality is, after all, a property only of HOTs, and not the qualitative states that HOTs are about?[12] Here the distinction between thick and thin phenomenality is crucial. Thin phenomenality, which occurs independently of our being in any way conscious of it, is a property of qualitative states, not HOTs. By contrast, thick phenomenality, which simply consists in the subjective appearance of phenomenality, occurs solely in connection with HOTs. Only if one sees the two types of phenomenality as a single, indissoluble property will there be an appearance of a problem here.

Block has objected that the stipulations that HOTs represent their targets as belonging to oneself and that HOTs not be based on conscious inference are ad hoc.[13] But both provisions are well-motivated. We are conscious of our conscious states as states of oneself; indeed, the very subjectivity of conscious experience involves the experience's being one's own. And we appear to ourselves to be conscious of our conscious experiences in a way that is spontaneous, unreasoned, and based on nothing else. The two provisions simply help save to the phenomenological appearances, which must be paramount in studying consciousness.

But perhaps HOTs can occur without the subjective appearance of phenomenality. Block has urged that a blindsight patient who didn't have to be cued to guess about stimuli in the blind field, but could spontaneously pronounce on those stimuli, might nonetheless have no subjective phenomenality.[14] And he argues that as subject with such superblindsight, as he calls it, would have HOTs without subjectively conscious experience, without thick phenomenality.

But being self-cuing is not enough for a superblindsighter to have the relevant HOTs if the intentional states about stimuli are still guesses. Being conscious of oneself as being in particular states means having a level of conviction that one is, which guessing can't provide. But how about hyperblindsight, defined so as to involve the assertoric mental attitude characteristic of HOTs?[15] That would, of course, undermine the HOT model of subjective phenomenality, but the mere conceivability of such a case does not. The HOT model is an empirical hypothesis about what it is for a mental state to be a conscious state, so it's no difficulty that one can imagine things that would falsify it.[16]

[12] As Elizabeth Vlahos has argued, in "Not So HOT: Higher Order Thought as an Explanation of Phemomenal Consciousness," delivered November 2000 at the New Jersey Regional Philosophical Association.

[13] At the November 2000 Conference of the New Jersey Regional Philosophical Association.

[14] "On a Confusion," 233. He uses the case there to urge the possibility of phenomenality without global access, but the relevant point is largely the same.

[15] Or biofeedback that resulted in spontaneous assertoric HOTs without the occurrence of thick phenomenality.

[16] One might object (as an anonymous referee did) that the HOT hypothesis is more than merely an empirical claim, since it's intended also to say what it is for a mental state to be conscious, what, that is, a state's being conscious consists in. But we need not construe our saying what it is for something to be *F* or what its being *F* consists in as a conceptual matter. That heat is mean molecular kinetic energy is wholly empirical even though it tells us what heat consists in and what it is for something to be higher-order thought.

On the pretheoretic sense of 'conscious state' I have just explicated, a state's being conscious corresponds reasonably closely to what Block calls reflexivity. As noted earlier, reflexivity occurs when a mental state is "the object of another of the subject's states, for example [when] one has a thought to the effect that one has that experience."

If we agree, however, not to worry about which mental phenomena deserve the honorific title 'consciousness,' it may seem that there is nothing left about which Block and I disagree. We might even agree to apply the term 'conscious', in a special sense, to states that exhibit only thin phenomenality. Though we are in no way aware of those states, being in them does result in our being conscious *of* various things. So those states do have an essential connection with consciousness.[17] Still, this construal does have the disadvantage of counting as conscious all thinly phenomenal states, thereby disallowing the contrast between such states' being conscious and not being conscious, on which the commonsense notion of consciousness depends.

This apparent convergence between Block and me seems to gain support from his discussion of the Debner–Jacoby exclusion paradigm and the Jacoby–Whitehouse false recognition paradigm.[18] Subjects in these experiments are more likely to follow instructions successfully with words consciously presented than with words presented nonconsciously. Block's hypothesis is that consciously presented words involve reflexive consciousness, which facilitates an internal monologue that rehearses and applies the relevant instructions; absence of reflexivity in the nonconsciously presented cases inhibits that internal monologue. I find this explanation congenial. In my terms, HOTs about one's experiences of consciously presented words triggers and provides input for the internal monologue.

Still, I think that differences in our treatment of phenomenality remain. This can be seen in a remark Block makes in "Paradox and Cross Purposes." He says we have no reason to choose between the hypothesis that the unconsciously presented cases are unconscious both phenomenally and reflexively and the hypothesis that they are unconscious reflexively but phenomenally conscious. But that isn't so. Thin phenomenality must occur in the unconsciously presented cases, since even in these cases there is sensory input that plays a role in subsequent mental processing. And, since

[17] Cf. Fred Dretske's suggestion in "Conscious Experience," *Mind 102*, 406 (April 1993): 263–283, p. 282.

[18] James A. Debner and Larry L. Jacoby, "Unconscious Perception: Attention, Awareness and Control," *Journal of Experimental Psychology: Learning Memory and Cognition*, *20*, 2 (March 1994): 304–317; and Larry L. Jacoby and K. Whitehouse, "An Illusion of Memory: False Recognition Influenced by Unconscious Perception," *Journal of Experimental Psychology: General*, *118* (June 1989): 126–135. See also Philip Merikle and Steve Joordens, "Parallels between Perception without Attention and Perception without Awareness," *Consciousness and Cognition*, *6*, 2/3 (June/September 1997): 219–236.

the perceiving is unconscious, it's only thin phenomenality; thick phenomenality is the subjective awareness of thin phenomenality.[19]

The difference between us about phenomenality emerges also in connection with Block's objection that my HOT model is too cerebral. A mental state is conscious, on that model, if it's accompanied by a HOT to the effect that one is in the target state. So, if a creature's conceptual resources are insufficient for such HOTs, that creature's mental states are never conscious.

But an mental state's being conscious seems to be conceptually unsophisticated; indeed, a nonconceptual state's being conscious may seem to require no conceptual resources at all. Having HOTs, by contrast, seems to make very substantial conceptual demands, so great that many or even all nonlinguistic animals may lack them, to say nothing of human infants. And any theory on which human infants and nonhuman animals are never in any conscious state is plainly mistaken. So it may seem that we should instead adopt Block's view that phenomenality is itself a kind of consciousness that presupposes no conceptual resources whatever.

There are two lines of response to this objection. One is to point out that the conceptual resources needed for HOTs are a lot more modest than might appear at first sight. Although the content of a HOT is that one is in some target state, that content need not involve more than a minimal concept of the self, strong enough only to distinguish oneself from everything else. And any creature with even the most rudimentary intentional states will presumably be able to distinguish conceptually between itself and everything else. Nor do HOTs require having a concept of mind; HOTs characterize one as being in various states, but they needn't characterize the states as mental.

HOTs also do not require distinctively mental terms to pick those states out. Any creature with even a rudimentary conceptual ability can pick out events in the environment. So such a creature can also identify a state of itself in terms of the environmental event it results from or co-occurs with. Descriptions cast in these terms won't always pick out unique events, but that's not necessary; even distinctively mental terminology doesn't pick those states out uniquely.[20] It's been suggested to me that we try accommodating creatures with primitive conceptual resources by appealing not to HOTs, but to higher-order states with nonconceptual content. But difficulties about nonconceptual content aside,the conceptual demands HOTs make are so minimal that that move is unnecessary.

The way we are conscious of our conscious states is a function of the way our HOTs describe them. And the conceptually minimal descriptions just envisaged are far simpler than those in terms of which we humans are ordinarily conscious of our

[19] Not all sensory input results in phenomenality of any sort, however thin. Dorsal-stream input, e.g., which results mainly in motor responses, arguably does not. See A. David Milner and Melvyn A. Goodale, *The Visual Brain in Action*, Oxford: Oxford Univ. Press, 1995. Possibly, as Milner and Goodale argue, sensory input mediated by the dorsal stream and thus resulting in motor responses should not count as perception of any sort. Distinguishing in a principled way between that nonconscious sensory input which counts as thin phenomenality and that which does not may have to await further research.

[20] All that's necessary is that the creature is conscious of itself as being in some state picked out in the relevant way.

conscious states. That brings me to the second line of response to Block's objection. It may well be that the mental states of nonlinguistic animals, though sometimes or even often conscious, are nonetheless not conscious in as rich a way as the conscious states of humans normally are.

Mental states are sometimes conscious in a fine-grained, detailed way, but sometimes in a coarse-grained way that yields little awareness of detail. Consider the difference in the way one's visual sensations are conscious when one looks at something attentively and when one glances at it in a casual, offhand manner. Two sensations may, themselves, differ in detail, independently of how one is conscious of them. But the way one is conscious of them may differ as well. A casual, offhand glance may result in a sensation one is conscious of in respect of very little detail, even when the visual information is very fine grained, enough, say, to allow one to recognize a person some distance away.

These differences in the ways we are conscious of our conscious states are important for what we should say about creatures with less sophisticated conceptual resources than ours. Though some of the mental states of those creatures may well be conscious, we need not assume that they will be conscious in respect of the kind of rich detail in which our mental states are ordinarily conscious.

It is often assumed that consciousness is uniform from creature to creature, so that what it is for another creature's states to be conscious is the same as what it is for ours to be conscious. This assumption recalls the multiple realizability often used by functionalists against the mind-body identity theory, which took for granted that octopus pain, for example, is pretty much the same as human pain. But functional role aside, there is little reason to think that this is so. Similarly for the ways in which different creatures' mental states are conscious; even when mental states are conscious, they may well be conscious in respect of different properties and greater or lesser detail.

How far down the phylogenetic scale does conceptual ability go? Nobody really knows. But nobody knows, either, how far down the phylogenetic scale the ability to be in conscious states goes. Plainly lizards are conscious creatures, since they are sometimes awake and responsive to sensory stimuli. But that doesn't show that the mental states of lizards are conscious states. What it is for creatures to be conscious is not the same as what it is for their mental states to be conscious; otherwise, a creature's being conscious would mean that all its mental states are conscious as well. Nor does a creature's being conscious mean even that at least some of its mental states are conscious. Mental functioning can occur even when the relevant mental states are not conscious states. Lizards when awake presumably have thin phenomenality, but that is not a kind of consciousness at all, at least as we pretheoretically distinguish conscious from nonconscious states.

Let me in closing turn briefly to a couple of the experiments Block discusses. In experiments done by George Sperling, subjects are very briefly presented with 3 by 3 arrays of letters and, though they report seeing all the letters, they can identify only about half of them.[21] Block interprets this in terms of the difference between

[21] George Sperling, "The Information Available in Brief Visual Presentations," *Psychological Monographs*, *74*, 11 [whole number 498] (1960): 1–29.

phenomenality, on the one hand, and reflexivity or global access, on the other. Subjects have phenomenal images of all the letters, but global or reflexive access only to some.

This interpretation again underscores the difference, terminology aside, between our treatments of phenomenality. The experience of a letter that a subject cannot identify is, on anybody's account, a pretheoretically conscious experience. The subject reports the experience, but can't identify what letter it's an experience of. It often happens that we cannot identify things of which we have conscious experiences. So if the experience of a letter that a subject cannot identify is a case of phenomenality without global access or reflexivity, reflexivity isn't what makes the difference between conscious and nonconscious phenomenality.

But an alternative interpretation is available.[22] If a subject reports seeing all the letters, the subject consciously sees all of them. In creatures with the requisite linguistic abilities, reportability is a sign of a state's being conscious. Indeed, this is just what the HOT model predicts. Any report expresses a thought with the same intentional content; so reports of mental states express thoughts about those states, that is, HOTs, in virtue of which one is conscious of the states. In the Sperling experiment, then, subjects have sensory experiences of all the letters and are also aware of all those sensory experiences.

But, if subjects are conscious of their experiences of all the letters, why can't they identify all the letters? The best explanation is that, though they are conscious of all their experiences of the letters, they are not conscious of all the experiences *in respect of the identities of those letters*. One can be conscious of an experience of the letter 'T', say, as simply an experience of a colored blob or even of some letter or other, and not as an experience of the letter 'T'. And the best explanation of what makes that difference is that the HOT in virtue of which one is conscious of the experience of the letter represents the experience not as an experience of the letter 'T', but only as an experience of a colored blob or as an experience of some letter or other.

In similar work by Philip Liss, subjects report lightly masked letters as brighter and sharper than unmasked letters, but were far better at identifying the unmasked letters.[23] Block explains this as due to subjects' being phenomenally fully conscious of the masked letters, including their shapes, but lacking the reflexivity needed to apply the concepts for the various letter types. Some processing difficulty plainly figures here, but it doesn't show that reflexivity is absent. Rather, when subjects experience the masked letters, their HOTs represent those experiences as bright, sharp experiences of letters, but not as experiences of specific types of letters. Reflexivity is present, but it tends not to bear on the identity of letter types.

Block considers experiments by Patrick Cavanagh and his colleagues that show subjects cannot attend to individual lines in a field of closely spaced lines, even though the lines are all seen as lines; when fewer lines are less closely spaced, subjects

[22] Block discusses alternative interpretations from his, but not in general those suggested by the HOT hypothesis.

[23] Philip Liss, "Does Backward Masking by Visual Noise Stop Stimulus Processing?," *Perception and Psychophysics*, *4*, 6 (1968): 328–330.

can attend to individual lines.[24] He writes: "[T]o the extent that one cannot attend to [individual lines], one cannot apply concepts to them, e.g., shape concepts" (214). And this, he urges, shows that the lines one consciously sees but cannot attend to individually are a case of phenomenality without reflexivity. And, again, since on anybody's account one sees the lines consciously, conscious sensing doesn't require the deployment of concepts, and so needn't involve HOTs.

But another interpretation is again available. When one consciously sees a series of lines as lines but they're too close to count or attend to individually, one is conscious *of* one's experience of the series of lines *as* an experience of a series of lines, but not conscious of any experiences of individual lines. HOTs provide a natural way to explain what happens. One's HOT in this case represents one's experience as being of a series of lines; when the lines can be individually attended, by contrast, one can also have HOTs about experiences of the lines one by one.[25]

Block's appeal to the Cavanagh experiments raises an important issue. It's clear that subjects cannot attend to the closely spaced lines individually. Block interprets that as indicating phenomenality without reflexivity, since attention and reflexivity both involve conceptualization; he presumably sees the absence of reflexivity as the best explanation of the inability to attend to the individual lines. Early in "Paradox and Cross Purposes" he expresses approval of assimilating reflexivity to attention.[26] And he suggests that, when we suddenly notice hearing an ongoing sound to which

[24] Patrick Cavanagh, Sheng He, and James Intriligator, "Attentional Resolution: The Grain and Locus of Visual Awareness," in C. Taddei-Ferretti and C. Musio, eds., *Neuronal Basis and Psychological Aspects of Consciousness*, Singapore: World Scientific, 1998, 41–52; Sheng He, Patrick Cavanagh, and James Intriligator, "Attentional Resolution and the Locus of Visual Awareness," *Nature*, *383*, 6598 (September 1996): 334–337; James Intriligator and Patrick Cavanagh, "The Spatial Resolution of Visual Attention," *Cognitive Psychology*, *43*, 3 (November 2001): 171–216.

[25] Such considerations help also in understanding so-called change blindness; we are conscious of our visual experiences as being continuously updated, even though there is compelling evidence that they are not.

Block argues that the so-called illusion of richness referred to in the change-blindness literature may actually be just phenomenal richness combined with attentional sparseness (215–216), which he takes as evidence of conceptual sparseness. But it's unclear how a conscious sense of richness would result unless this were thick phenomenal richness; thin phenomenal richness would not do.

On change blindness, see John Grimes, "On the Failure to Detect Changes in Scenes across Saccades," *Perception*, ed. Kathleen Akins, New York: Oxford Univ. Press, 1996, pp. 89–110; Ronald A. Rensink, J. Kevin O'Regan, and James J. Clark, "To See or Not to See: The Need for Attention to Perceive Changes in Scenes," *Psychological Science*, *8*, 5 (September 1997): 368–373; Daniel J. Simons, "Current Approaches to Change Blindness," *Visual Cognition*, *7*, (2000): 1–16; and Ronald A. Rensink, J. Kevin O'Regan, and James J. Clark, "On the Failure to Detect Changes in Scenes across Brief Interruptions," *Visual Cognition*, *7* (2000): 127–145.

[26] See p. 200, and his approving reference to Jesse J. Prinz, who develops a compelling version of such a view ("A Neurofunctional Theory of Visual Consciousness," *Consciousness and Cognition*, *9*, 2, Part 1 [June 2000]: 243–259, and replies to commentaries, 274–287).

we had been paying no attention, the period before our noticing is a case of phenomenality without reflexivity.

But reflexivity need involve neither attention nor noticing. Most of our conscious visual field contains sensations to which we pay no attention and do not in any discernible way notice. Attention may well, at least in the relevant versions, involve conceptualization, but we cannot infer from its absence that reflexivity also does not occur. Perceiving that's conscious but inattentive is not a case of phenomenality without reflexivity, even if, as in the Cavanagh experiments, something in the perceptual situation interferes with attention.

This suggests that Block's distinction between phenomenality and reflexivity is not so much a distinction between two kinds of consciousness at all, but rather between two kinds of mental processing. When we perceive things, including our own bodily states, there is both sensory processing and conceptual processing of various types, including the relevant kinds of attentional processing. Reflexivity and HOTs involve a kind of conceptual processing, but a kind that occurs to a very large extent independently of the kinds of conceptual processing that figure in attention, noticing, and similar cognitive occurrences. Many, if not all, of Block's examples of reflexivity without phenomenality and phenomenality without reflexivity are better understood not as involving two types of consciousness, but two broad types of mental processing, which lead to mental states, some of which are conscious states.

Perhaps the most important advantage of the HOT hypothesis is that it readily explains how experiences can be conscious in respect of different properties and in respect of finer or coarser grained properties. How an experience is conscious and what it's like to have that experience depends on how the accompanying HOT describes it. This advantage, among others, encourages a view of phenomenality on which conscious phenomenality occurs only when it is accompanied by a HOT.[27]

[27] An earlier version of this paper was presented at the November 2000 meeting of the New Jersey Regional Philosophical Association, in a session at which Block presented "Paradox and Cross Purposes in Recent Work on Consciousness."