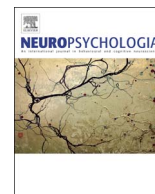


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Consciousness and confidence

David Rosenthal

Philosophy and Cognitive Science, Graduate Center, City University of New York, 365 Fifth Avenue, New York, NY 10025, USA

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ABSTRACT

It is natural to see conscious perceptions as typically bringing with them a degree of confidence about what is perceived. So one might also expect such confidence not to occur if a perception is not conscious. This has resulted in the use of confidence as a test or measure of consciousness, one that may be more reliable and fine-grained than the traditional appeal to subjective report as a test for a perception's being conscious. The following describes theoretical difficulties for the use of confidence as a reliable test for consciousness, which show that confidence is less reliable than subjective report. Difficulties are also presented for the use of confidence ratings in assessing degrees of consciousness, which cast doubt on any advantage confidence might have from being more fine-grained than subjective report. And an explanation is proposed for the wide appeal of using confidence to assess subjective awareness, an explanation that also makes clear why confidence is less reliable than subjective report.

1. Introduction: Conscious vs. nonconscious perception

There are numerous experimental findings that point convincingly to the occurrence of perceptual states that fail to be conscious. One of the most dramatic is blindsight, in which some portion of primary visual cortex is destroyed, resulting in a subject's sincere denial of seeing anything in the affected contralateral hemifield, though forced-choice guessing about a significant range of visual stimuli is highly accurate (Weiskrantz, 1986, 1997). Blindsight subjects evidently detect and discriminate stimuli even though the perceptual states that figure in doing so are not conscious.

Similar findings occur in experimental conditions independent of damage to perceptual systems. Visual stimuli can be masked so that subjects sincerely report not seeing stimuli, though forced-choice guesses (Weiskrantz, 1986) and priming results reveal impressively accurate perceptual processing of those stimuli (Marcel, 1983; Breitmeyer and Ögmen, 2006; Bachmann and Francis, 2014). Priming also provides evidence of remembered information that amnesiac patients deny having (Schacter and Church, 1995), and galvanic skin response reveals recognition of faces that a prosopagnosic patient denies having (Bauer, 1984; Tranel and Damasio, 1988). And transcranial magnetic stimulation (TMS) can produce in normals a condition that resembles blindsight; subjects deny perceptual awareness of stimuli, but priming and forced-choice guesses reveal perceptual processing of the stimuli (Boyer et al., 2005).

Other experimental paradigms generate similar findings; subjects deny awareness of stimuli, though indirect methods provide evidence of

perceptual processing of them (Weiskrantz, 1998). The most compelling explanation of these results is that the perceptual states do occur, but they occur without being conscious.

The following discussion considers various theoretical and methodological issues that arise in studying the difference between conscious and unconscious perceiving, focusing on the use of confidence as an indicator that perceiving is conscious. Considerations are adduced that suggest that confidence is not a reliable or theoretically well-founded measure of consciousness.

1.1. Objective measures of consciousness

Some researchers have proposed an objective measure of whether a perception is conscious. On that measure, states as conscious if, but only if, the subject's performance on guessing about a stimulus is above chance (Cheesman and Merikle, 1984, 1986; Eriksen, 1960; Holender, 1986; Dulany, 1997). Cheesman and Merikle (1984, 1986) argue that consciousness priming effects sometimes reveal perceptions that fail on this measure to be conscious. This enables the measure, so defined, to accommodate subliminal perception as failing to be conscious.

But this measure has the odd consequence that perception in blindsight then counts as conscious, since blindsight subjects' forced-choice performance is well above chance. In addition, the only motivation for a measure that counts as conscious states that lead to above-chance performance in guessing is that such states carry perceptual information. And since priming also reveals perceptual information, such a measure reflects a double standard, counting above-chance

E-mail address: davidrosenthal1@gmail.com.

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performance on guessing one way and priming another. It is arguably arbitrary to treat the two differently.

So it will be useful to define a modified objective measure of consciousness, on which a state counts as a conscious perception if, but only if, above-chance performance on forced choice, priming effects, or any other reliable test reveals that the state carries perceptual information. This modified objective measure treats above-chance guessing as on a par with priming effects.

But this has a downside, since it precludes any perceptions, properly so called, which fail to be conscious. On this modified objective measure, perceptions in blindsight, masked priming, and any similar conditions are conscious just so long as they reflect perceptual processing of presented stimuli, regardless of subjects' sincere denial of perceiving any stimuli.

Adopting this modified objective measure of consciousness prevents us from explaining subjects' denial that they perceive a stimulus on the otherwise natural hypothesis that the relevant perceptual states fail to be conscious. So we must seek an alternative explanation. Perhaps subjects' denial of seeing anything is due to the stimulus' being so weak that it is difficult to detect or discriminate, though whatever perceptual detection or discrimination does occur would on this modified measure nonetheless be conscious.¹

The original (Cheesman and Merikle, 1984, 1986) objective measure allows for perceptions that fail to be conscious, but in a way that is arguably arbitrary. Above-chance force-choice guessing and priming effects both reveal the occurrence of perceptual perceptual information independently of a subject's claim to perceive or not. So it is reasonable to see the modified measure as preserving the spirit of the original objective test more successfully than the original test itself. Nonetheless, it is difficult to accept the consequence that all perceptions are conscious.

1.2. Subjective measures of consciousness

It is widely accepted that perception can occur without being conscious, though this is not universally accepted. Phillips (2016) contends that perception is invariably conscious, relying not on considerations connected with any version of an objective measure, but on the particular conception he adopts of what perception is.

But there is another view in the philosophy literature that does rest on considerations that closely reflect those that underlie an objective measure of consciousness. According to Dretske (1993), a psychological state is conscious if, but only if, an individual is conscious of something in virtue of being in that state. Since a psychological state is conscious on this view if one's being in that state results in one's being conscious of something, all that matters is that the state carry some perceptual information in virtue of which one is conscious of the relevant stimulus. But perceptions of which subjects are altogether unaware also carry such information. And subjects will sincerely deny having any perception of which they are wholly unaware. So Dretske's view, like the modified objective mental state, will preclude any distinction between conscious and unconscious perceiving.²

The alternative to any type of objective measure is a subjective measure of consciousness. A subjective measure figures in the reliance in blindsight and masked priming on subjects' sincere denials of perceiving the stimulus. This reliance is subjective in that it hinges on a

¹ Peters and Lau (2015) urge that this occurs some cases, though they do not, as I understand them, completely preclude the possibility of perceiving that genuinely fails to be conscious.

² Dretske (2006) proposed to deal with this difficulty by expanding on his view to provide that a perception is conscious only if a subject can cite the fact the subject perceives as a justifying reason for doing something. But citing something as a reason requires being aware of it, in this case being aware of the perceptual justifying reason. So Dretske's (2006) adjustment conflicts with Dretske (1993), since the later treatment implies that a perception is conscious only if one is aware of it.

report about whether one subjectively takes oneself to perceive something. A perception count as conscious, then, if a subject sincerely reports perceiving something.

The operative assumption is that if a perception is conscious it is reportable, at least in favorable conditions. In testing for consciousness conditions are set up to be favorable, though reportability may be dramatically diminished for many conscious perceptions in ecologically realistic conditions and in particular experimental setups. Such reliance on reportability of perceiving a stimulus underlies the conclusion that perceptions in blindsight, masked priming, and similar conditions are not conscious. (For a useful review and discussion of the contrast between objective and subjective measures, see Dienes (2004), Seth et al. (2008), and Timmermans and Cleeremans (2015).)

1.3. Reportability and higher-order theories

Reportability is widely regarded as reliable in distinguishing conscious states from psychological states that are not conscious, and is doubtless the experimental test currently most in use. But it is plain that a state's being conscious cannot consist in that state's being reportable. Experimental situations aside, subjects cannot report all their perceptions that are conscious at any particular time. There are vastly too many, and most by far are typically peripheral and fleeting.

But despite that, there is a crucial connection between reportability and consciousness. Sincere report is a reliable indicator of whether a psychological state is conscious because sincere report reveals whether the subject is aware of being in that state. So being reportable is a reliable indicator that a psychological state is conscious.

And being aware of a psychological state is in turn pivotal for consciousness because if an individual is in some psychological state but in no way aware of being in it, the only credible explanation of that lack of awareness is that the state is not conscious. That is the reasoning in blindsight, masked priming, and related conditions. The priming or accurate forced-choice guessing is evidence that the subject did perceive the relevant stimulus; the sincere denial is evidence of the subject's being unaware of doing so.

It follows that a state is conscious only if the individual that is in the state is in some suitable way aware of that state. This is the basis for so-called higher-order theories of consciousness, on which a state's being conscious consists in the occurrence of some suitable awareness of the state (Rosenthal, 2002, 2005; Gennaro, 2004).

Higher-order theorists differ about what type of higher-order awareness of a state is relevant for a state to be conscious. But the reliance on reportability points to a compelling answer. A subject's report of being in a psychological state expresses the subject's higher-order awareness of that state. And reporting a state consists in saying, either verbally or indirectly by some nonverbal means, that one is in that state. So the higher-order awareness that figures in a state's being conscious must be some kind of awareness that one can express by saying that one is in that state.

As a general matter, moreover, saying something expresses some thought that one has. If one says, "It is raining," one's saying that expresses a thought one has that it is raining. Similarly, a report that one is in some psychological state expresses a thought that one is in that state. The higher-order awareness that figures in a state's being conscious is evidently a thought about the state, what we can call a higher-order thought (Rosenthal, 2002, 2005).

Such higher-order thoughts will seldom be conscious thoughts. For a higher-order thought itself to be conscious, there would have to be a further higher-order thought about the second-order thought. And that likely never happens except in deliberate, attentive introspecting, which is rare. Since subjects are seldom aware of any such higher-order thoughts, the appeal to them, and more generally an appeal to any form of higher-order awareness, does not rely on subjective or introspective access to such higher-order states. Higher-order awarenesses are theoretical posits, to be evaluated by appeal to the explanatory success of

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