perception or memory can also take place without consciousness. Such unconscious processing always tends to reflect habitual or strong responses. From this perspective, unconscious processing is best characterized as the indirect effects of conscious processing. The extent to which conscious and unconscious processes involve distinct brain regions remains an open issue, but it is clear that some regions of the brain tend to be more associated with conscious processing than others. The distinction between conscious and unconscious processing thus appears to involve both a graded and a dynamic continuum (in terms of the underlying mechanisms) and a dichotomy (in terms of subjective experience). Functional brain-imaging methods, when used together with sufficiently sensitive behavioral methods, offer the promise of combining first-person and third-person perspectives to elucidate the relationships between conscious and unconscious processes in cognition.

See also: Cognitive Neuroscience; Cognitive Psychology: History; Cognitive Psychology: Overview; Consciousness and Sensation: Philosophical Aspects; Consciousness, Cognitive Psychology of; Consciousness, Neural Basis of; Evolution of Cognition: An Adaptationist Perspective; Implicit Learning and Memory: Psychological and Neural Aspects; Implicit Memory, Cognitive Psychology of; Mind–Body Dualism; Psychoanalysis: Overview; Theory of Mind

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Consciousness and Sensation: Philosophical Aspects

1. Types of Consciousness

The term 'consciousness' picks out several different aspects of mental functioning. Though these aspects are related in various ways, it is crucial for any theoretical understanding of consciousness to distinguish the different things to which we apply the term.

The oldest and most widespread use of the term is to describe people, and other sentient creatures, as being awake and receptive to sensory input. This is also the least problematic mental phenomenon we refer to as consciousness. The term is used in this case simply to mark the distinction between a person or other creature being in an ordinary waking state and its being asleep, knocked out, anesthetized, or failing for some other reason to interact mentally with its environment in ordinary ways. The distinction between these conditions is doubtless to be explained in large measure in biological terms. Because this first notion of consciousness applies to people and other sentient creatures, we may refer to it as creature consciousness.

A second notion of consciousness has to do with a person or other animal's being conscious or aware of something, or its being conscious or aware that something is the case. A person is conscious of something when that person sees or hears it or perceives it in some other way. Following on that perceptual model, we also count a person as being conscious of something when that person has a thought about that thing as being present. Finally, a person is conscious that something is the case when that person has a thought that it is the case. This second notion of consciousness again applies to people and other creatures, but we describe this kind of consciousness in terms of some object of which a person or other creature is conscious. For that reason it is convenient to refer to this second kind of consciousness as transitive consciousness.

A third notion of consciousness applies not to people or other creatures at all, but to their mental states, states such as perceiving, sensing, thinking, desiring, and feeling. A mental state is conscious just in case one is conscious of it in a way that seems spontaneous and unmediated. An important theoretical question, taken up in Sect. 4, is how to explain the way one is conscious of one's mental states when those states are conscious. But it seems clear that no mental state counts as being conscious if the subject is in no way conscious of that state. Because this third use of the term 'consciousness' applies to mental states, rather than people or other creatures, it is useful to refer to it as state consciousness.

Some theorists have insisted that a person is never in any of these states without being conscious of them. This claim is perhaps best represented by philosophers such as René Descartes (1596–1650) and John Locke (1643–1704), although many thinkers today also hold this. One reason many find this claim tempting may be that in ordinary situations we care relatively little about any mental states that the subject is wholly unaware of. It seldom matters to anybody if a person thinks or feels something without being in any way aware of doing so; still less in the case of other creatures. But the temptation to insist that we are conscious of all our mental states also seems to reflect a certain confusion. When a person perceives something or has a thought about it, that person is in a state of being conscious of that thing. It may seem an easy step to pass from somebody's being in a state of being conscious of something to that state's being a conscious state.

But it is crucial to preserve the distinction between the things one's mental states are about and 'the mental states that are about those things. It is one thing to have a thought or perception of something and another altogether to be conscious of that thought or perception. Even if the thought or perception is not conscious, because one is in no way conscious of it, one's having that thought or perception will still make one conscious of whatever the thought or perception is about. One will then be conscious of something, but not consciously so. We mark this distinction by a third use of the term 'consciousness,' on which a mental state is conscious if one is conscious of that state in a spontaneous, seemingly unmediated way.

The condition about seeming to be spontaneous and unmediated is important. A thought or perception is not conscious if one is conscious of it by applying a theory to oneself, or because one takes somebody else's word for it. One must be conscious of oneself as being in the state in question without seeming to infer that from anything else.

In ordinary waking life, many mental states are conscious, but normally they are not conscious in any reflective or attentive way. When one focuses attentively on one's conscious states, so that one's interest is in the mental state one is in rather than on whatever that mental state makes one conscious of, one is said to introspect the mental state under scrutiny. In these cases one is not only conscious of the mental state one is in, but conscious also that one is conscious of that state. Ordinary state consciousness is not at all reflective in this way.

Both creature consciousness and transitive consciousness can be understood only if we first understand what it is to perceive and think about things. A person or other creature is conscious only if it is mentally responsive to its environment, and one is transitively conscious of something only if one is in a suitable kind of mental state. To understand state consciousness, by contrast, requires something in addition. One must understand what it is to think about or perceive something, and also understand the difference between thinking and perceiving consciously and doing so in a way that is not conscious. Because of disagreement about how to understand that contrast, state consciousness continues to provoke considerable controversy in psychological and philosophical theory, and seems to some even to resist scientific explanation altogether.

2. *Sensations and Consciousness*

The most difficult theoretical issues surrounding state consciousness arise in connection with the conscious-

ness of sensations. Sensations fall into two groups: bodily sensations and perceptual sensations. Bodily sensations include such mental states as pains, aches, tickles, itches, and feelings of nausea, dizziness, and the like. Perceptual sensations, by contrast, include those which pertain to the five exteroceptive senses of sight, hearing, taste, touch, and smell.

There are two additional kinds of sensation, which provide instructive borderline cases. Proprioceptive sensations pertain to the motions and position of our limbs, and enteroceptive sensations pertain to the feelings of our viscera and other internal organs. These two groups resemble bodily sensations in having to do with bodily conditions, but they also resemble perceptual sensations in providing information about the conditions of things, in this case one's own body. The existence of these borderline cases suggests the hypothesis, defended by some theorists (e.g., Armstrong 1962), that bodily sensations, along with proprioceptive and enteroceptive sensations, are simply perceptual sensations that are involved in perceiving bodily conditions. Pains, for example, reveal bodily damage, aches reveal bodily strains and stresses, and so forth for other types of bodily sensation.

Traditional theorists have usually distinguished between sensations and perceptions, though this distinction has been drawn in a variety of different ways. Some theorists have isolated sensations as states that occur in earlier stages of perceptual processing. But this is unhelpful unless one can specify exactly where in the early processing stream sensations are supposed to occur. Some theorists have sought to meet this difficulty by holding that sensations occur early enough in perceptual processing to represent things accurately, whereas perceptions may reflect distortions due to subsequent mental processing. But this is still unsatisfactory, since some distortion occurs even in the earliest stages of sensing. In any case, work on visual processing suggests that the early stages involve nothing that would ordinarily be called a sensation (Treisman 1986). An altogether different approach to the distinction holds that perceiving involves some conceptual content, whereas sensing has only qualitative character and no conceptual content. Even if sensing, so understood, often does not occur as a separate stage of visual processing, one can still abstract the purely qualitative aspect of perceiving and refer to that as sensing.

Conscious sensations exhibit characteristic qualitative character; for every type of conscious sensation, there is something it's like to have that sensation consciously. Many theorists hold that no informative account is possible of this conscious qualitative character, that what it's like to have a conscious sensation resists theoretical treatment of whatever sort (e.g., Chalmers 1996, Nagel 1974, Levine 1993, McGinn 1991). No theoretical treatment could capture or convey the knowledge of what it's like to have any particular type of conscious sensation; the only way one can come to have that knowledge is by having the conscious sensation itself (Jackson 1982).

Other theorists, however, have argued that one can give an informative, theoretical account of what it's like to have particular types of conscious sensation. Sensations play distinctive a role in perceiving and the various types of perceptions and perceptual beliefs are keyed to specific types of perceptible property. So it may be possible to give an informative theoretical treatment of the various types of sensation in terms of characteristic causal connections sensations have with perceptions and perceptible physical objects (e.g., Shoemaker 1975, 1984 and Sellars 1963, Chaps. 2, 3, and 5). Such an account fits well especially with the hypothesis that bodily sensations are a special case of perceptual sensations.

There are two ways theorists seek to distinguish among types of sensation: in terms of the characteristic role they play in perceiving and in terms of what it's like for one to have them. Some have held that these two ways of taxonomizing sensations might give different results. Consider sensations that play the same role in perceiving, say, sensations that result from visual stimulation by a ripe tomato in good lighting. Perhaps what it's like for one person to have such a sensation is different from what it's like for another person to have a sensation picked out by that perceptual role. Perhaps, more generally, what it's like for somebody to have a sensation bears no predictable relation to the characteristic perceptual cause of that type of sensation. The possibility that what it's like for different people might be independent of characteristic perceptual cause is known as the possibility of qualia inversion. (Qualia, singular 'quale,' are the conscious qualitative properties of sensations.) If such inversion occurs, what it's like for one person to have a sensation characteristic of seeing a ripe tomato might be the same as what it's like for another to have a sensation characteristic of seeing grass.

It may seem that such qualia inversion occurs all the time, since people do see things slightly differently. But these ordinary differences are readily detectable, relying only on the way people describe the things they see in perceptual terms. So these differences can be treated as a function of the perceptible properties people take physical objects to have. Qualia inversion would occur, by contrast, if what it's like to have various sensations were wholly independent of the connections those sensations have to perceptible properties. One would therefore be unable to detect such qualia inversion by reference to the way people describe their experiences in perceptual terms. If what it's like for people to have the relevant sensations were independent of the properties they perceive objects to have, people would use the same words to describe the objects they perceive, but what it would be like for them to perceive those subjects would be different.

It is unclear, however, that such undetectable inversion could occur. It is arguable that we are

conscious of our sensations in respect of the role they play in perceiving objects of characteristic sorts. But what it's like for one to have a sensation is a function of how one is conscious of that sensation. One can, for example, be conscious of sensations in more or less fine-grained ways; the visual sensation one gets from seeing a particular red object might be conscious just as some indiscriminate shade of red or as a highly specific shade, depending on factors such as how carefully one is attending, how alert one is, and so forth. If what it's like for one to have a sensation is a function of how one is conscious of it and one is conscious of one's sensations in respect of their role in perceiving, what it's like for one to have a sensation will not vary independently of that role in perceiving (Rosenthal 1999).

Mental states such as thoughts and beliefs do not exhibit qualitative properties, and some theorists insist that sensations and perceptions also exhibit no qualitative properties. This view, known as representationalism, holds that the only qualitative properties involved in sensing and perceiving are the qualities we take physical objects and processes to have (Dretske 1995, Harman 1990, Lycan 1996).

It is clear that no mental states have the qualitative properties of color, sound, and so forth that we perceive physical objects to have. But that does not show that sensations do not have a distinct, mental version of such qualitative properties. We do describe sensations in qualitative terms, visual sensations as being red and green, for example, and pains as being sharp or burning. These qualities of being red, green, sharp, or burning are not the same type of property that physical objects have, but sensations do fall under different types in respect of having one or another type of qualitative property.

It is likely that our grasp of the distinguishing properties of sensations trades on connections those properties have to perceptible properties of physical objects; red sensations occur in response to red objects, and so forth. But sensations sometimes occur in the absence of any objects of the kind that characteristically occasion them. So the sensations themselves must have distinguishing properties that parallel those of the objects that typically occasion them. These distinguishing properties are the qualitative properties of sensations.

3. *Do Mental States Ever Fail to be Conscious?*

It is generally recognized that some types of mental state can occur without being conscious. Thoughts, desires, wishes, expectations, and other such states all sometimes occur without the subject's having any conscious access to them. Indeed, novelists and playwrights have long described their characters as thinking and wanting things that they are sometimes wholly unaware of thinking and wanting.

Freud's theoretical and clinical arguments for positing unconscious thoughts and desires can be seen as continuous with this commonsense recognition of such unconscious states. Unconscious thoughts and desires, according to Freud, often make possible explanations of behavior that seems inexplicable by reference to conscious thoughts and desires (Freud 1915/1966–74). The unconscious thoughts and desires he posited interact to cause behavior in just the way that corresponding conscious thoughts and desires would to cause that same behavior.

Much in Freud's clinical and theoretical thinking remains controversial, but the general point seems sound. There are theoretically neutral examples of the operation of such unconscious thoughts and desires; verbal slips, for example, which Freud called parapraxis, sometimes provide evidence of thoughts or desires of which the subject is wholly unaware (Freud 1915/1966–74, pp. 166, 168–9).

More dramatically, work in social psychology has shown that people often report having thoughts and desires that it can be established experimentally they do not have (Nisbett and Wilson 1977, White 1988). Subjects in these cases confabulate thoughts and desires that seem to make *ex post facto* sense of their behavior, by rationalizing some situation or conforming to expectations or preconceived ideas that they or others have. When subjects confabulate thoughts and desires in this way, they typically remain wholly unaware of the thoughts and desires that actually cause that behavior. Experimental work on metacognition, which is how much subjects know of their own cognitive states and processes, also reveals nonconscious cognitive states (Metcalfe and Shimamura 1994 and Nelson 1992).

Even if thoughts and desires occur without being conscious, some theorists continue to doubt that this is possible with qualitative states, such as sensations. Even Freud held that, because of their qualitative nature, feelings and emotions cannot occur without being conscious (Freud 1915/1966–74, p. 177, 1923/1966–74, pp. 22–3).

There is something it's like for one to be in a qualitative state, such as an emotion or sensation, only when that qualitative state is conscious. When one is in no way conscious of a sensation, there is nothing it's like to have it, that is, nothing it's like for the subject. So, if we taxonomize sensations only in respect of what it's like for one to have them, sensations would have to be conscious to have the distinguishing characteristics of sensations at all. No state would count as a sensation or other qualitative state unless it was conscious.

But if we taxonomize sensations at least in part by reference to their role in perceiving, there is no reason to deny the occurrence of nonconscious sensations, since it is experimentally demonstrable that perceiving occurs without being conscious. It is well-established, for example, that when subjects are presented very

briefly with visual or auditory stimulus material followed by a second stimulus, the second stimulus may mask the first, blocking conscious access to it. Nonetheless, it can often be shown in these masked-priming experiments that the first stimulus has a distinctive perceptual effect (e.g., Marcel 1983a, 1983b).

Research on some subjects with a part of the primary visual cortex destroyed yields similar results. When such subjects are presented with visual stimuli in the area of the visual field served by the damaged part of the cortex, they report seeing nothing at all. Some subjects, however, can guess the visible characteristics of the stimulus with startlingly high accuracy (Weiskrantz 1986, 1997). This phenomenon is known as blind sight. In these cases and in masked-priming experiments, subjects' guesses, often in forced-choice experiments, are highly accurate in the absence of any relevant conscious mental states. Such experimental work leaves little doubt that nonconscious perceiving occurs and that whatever sensations occur in such perceiving also fail to be conscious.

4. *Theories of Consciousness*

A mental state is conscious only if one is conscious of that state in a way that seems to one spontaneous and unmediated. We do not regard as conscious any state the subject is in no way conscious of being in, or conscious of being in only as a result of inference or observation.

Theories of state consciousness differ chiefly in how they seek to explain the way people are conscious of their conscious states. As noted earlier, there are two ways one is transitively conscious of things: by sensing them and lay thinking about them as being present. Corresponding to those two ways of being transitively conscious of things are two hypotheses about the way we are conscious of our conscious states.

On one hypothesis, we are conscious of our conscious states by sensing them. This theory has a long history in philosophical writing. Aristotle's claim that we always perceive that we perceive (Aristotle 1968, 425b12) was developed by John Locke (1700/1975) and Immanuel Kant (1787/1998) into a theory of consciousness as a kind of 'inner sense.' On this view, represented by such contemporary writers as Armstrong (1978) and Lycan (1996), a mental state is conscious if one perceives that state. Because perceiving something seems to make us directly aware of that thing, if we perceive our conscious states, that would explain why it seems that we are directly aware of those states.

But we are also conscious of things when we think of them as being present. So it may be that a mental state is conscious if one has a thought to the effect that one is in that state (Rosenthal 1986, 1997). We would seldom be aware of such higher-order thoughts about our mental states, since they would not themselves be conscious thoughts unless we had third-order thoughts about them, which would be unusual. Very likely that would occur only when we are introspectively conscious of our conscious states. On this hypothesis, higher-order thoughts arise independently of any conscious inference, that is, any inference of which we are conscious. That would explain, without appeal to the apparent immediacy of perceiving, why it seems we are directly aware of our conscious states.

A variant of this model holds that actual higher-order thoughts are not required for a state to be conscious; all that is needed is that one be disposed to have a higher-order thought about that state (Carruthers 1996). But this is less satisfactory, since being disposed to have a thought about something does not result in one's being conscious of that thing, but only in one's being disposed to be conscious of it.

The higher-order thought model has certain advantages over the inner-sense hypothesis. Perceiving always seems to involve mental qualities, but we are never aware of any higher-order mental qualities. In addition, mental qualities all fall into families corresponding to the various sensory modalities, such as sight, hearing, bodily sensations, and so forth. But it is difficult to imagine what sensory modality could be involved in higher-order sensing or perceiving.

Another issue that divides theorists is whether our being conscious of our conscious mental states is intrinsic to the mental states we are conscious of. Looked at from the point of view of the person whose mental states are conscious, the property mental states have of being conscious seems to be intrinsic to those states, and it seems that they could not have occurred without having that intrinsic property. Accordingly, some theorists have adopted a model on which the higher-order thought or sensing in virtue of which we are conscious of our conscious states is intrinsic to those states (Brentano 1874/1973).

Most contemporary theorists, however, argue that a more satisfactory theoretical model results from assuming that the relevant higher-order states are distinct from the states they make us conscious of. It is well known, moreover, that commonsense impressions about which properties are intrinsic and which are relational are often wrong. As with physical properties such as weight, properties that initially seem to be intrinsic often turn out to be relational. So being conscious may well not be an intrinsic property of conscious states, despite its seeming, from the point of view of the person whose mental states are conscious, that it is.

Not all theorists appeal to inner sense or higher-order thoughts to explain how we are conscious of our conscious states. Some suppose that we are conscious of those states in some third way that is unique to being conscious of mental states. Such theorists often

appeal to metaphor to capture this third way of being conscious of things, these as a search light that illuminates mental states, thereby making them conscious. Such metaphorical description makes it difficult to evaluate these proposals. In the absence of some clear account of this third way of being conscious of things, it is likely that positing such a third way is simply a label for the problem of explaining how we are conscious of our conscious states, rather than a substantive explanation.

Some have gone farther, and reject even the commonsense idea that one is conscious of one's conscious mental states (Dretske 1995, Searle 1992). On this view, a mental state's being conscious consists not of one's being conscious of that state in some suitable way, but rather of its being a state in virtue of which one is conscious of something. But all sensing and perceiving and much if not all thinking makes one conscious of things. So this account of what it is for a mental state to be conscious obliterates the distinction between mental states that are conscious and those which are not.

Some theorists distinguish various ways in which mental states can be conscious. On one of the most influential accounts, a state's being access conscious consists of it being poised to play an active role in rationally guiding action, speech, and reasoning, whereas a state has phenomenal consciousness if it has qualitative character (Block 1995).

It is unclear, however, that either notion does justice to our pretheoretic, commonsense idea of a mental state's being conscious. Many states that are poised to guide action, speech, and reasoning are conscious states, but many are not. Nonconscious states often play an important role in the rational guidance of action, speech, and reasoning. So a state's being poised for these tasks cannot subserve that state's being conscious; intuitively, it is necessary also that one be in some way conscious of the state.

As for phenomenal consciousness, a state's simply having qualitative properties cannot ensure that the state is conscious; as masked-priming experiments and work on blindsight show, qualitative states occur without being in any intuitive way conscious. In addition, if phenomenal consciousness were just having qualitative properties, sensations could not occur without being conscious, since they cannot occur without qualitative properties. This sense of consciousness would again obliterate the distinction between a state's being conscious and not being conscious.

5. *Consciousness and Interpretation*

We often determine what thoughts and desires other people have by inferring from what they do to the thoughts and desires that would best explain or make sense of that behavior. Sometimes people also say what they think and desire, but often all we have to go on is that seeing others as having particular thoughts and desires would make sense of their behavior.

Daniel Dennett has argued attributing beliefs and desires to others in this requires seeing others as being rational in doing what will get them what they want, given what they believe. He argues that this explanatory strategy is effective with much behavior that cannot readily be explained by the physical stance, which appeals to how something operates as a physical object, or the design stance, which regards objects as well-designed machines. This explanatory framework, which Dennett labels the intentional stance, seeks to rationalize the behavior of people and other creatures by seeing that behavior as due to their thoughts and desires (Dennett 1987).

Dennett has developed a theory of consciousness, on which consciousness in effect results from people's adopting of the intentional stance toward themselves. A person's conscious thoughts and desires are those one is disposed to report having or in some other way takes oneself to have, thereby making sense of one's behavior. Consciousness is a matter of our spontaneously interpreting ourselves as being in various mental states. So there are, in this view, no determinate facts about consciousness beyond such self-interpretive behavior (Dennett 1991).

Spontaneously interpreting oneself as being in some mental state can be seen as resulting from one's having a spontaneous higher-order thought to the effect that one is in that state. So Dennett's view has much in common with the higher-order-thought model. But there are important differences. Dennett takes self-interpretative behavior to be the last word about what conscious states we are in. But because such behavior cannot by itself explain how one is conscious of one's conscious states, the higher-order-thought model takes that behavior to be a mere symptom of the higher-order thoughts in virtue of which one is conscious of those states. So on that model there will be determinate facts about consciousness independent of self-interpretative behavior.

Spontaneous self-interpretation is on both views the last word about how consciousness represents our mental lives, since a state's being conscious consists, on these views, of one's spontaneous interpretation of oneself as being in that state. But what states consciousness represents one as being in is not the last word on what states one is actually in. Thoughts, desires, perceptions, and feelings all have characteristic causal connections with stimulus conditions and behavior and with one another. These causal connections can determine what mental states a person is in independently of what states consciousness represents that person as being in.

If a mental state's being conscious involves spontaneous self-interpretation, it is natural to speculate that such self-interpretation may be influenced by the interpretations others make of us as being in particular

mental states. The interpretations others make of us may even play a role in our coming, as very young children, to learn to apply mental concepts to ourselves.

The hypothesis that a state's being conscious is a matter of one's spontaneously interpreting oneself as being in that state fits well with the way people sometimes confabulate having thoughts and desires that they do not actually have (Nisbett and Wilson 1977, White 1988). From the point of view of the person confabulating, these cases are subjectively indistinguishable from cases of actually having the relevant conscious thoughts and desires. Consciousness represents one as having thoughts and desires that one does not actually have. Some research suggests that the same may well occur with qualitative states, such as bodily or perceptual sensations (e.g., Staats et al. 1998, Holmes and Frost 1976).

Much work in social sciences such as sociology, cultural anthropology, social psychology, and history relies on the interpretation of people as being in particular mental states. This raises a problem if the mental states one is in can diverge from the mental states one is conscious of oneself as being in. One could interpret a person as actually being in a particular mental state or simply as being conscious of being in that state. If the mental states one is in can differ from those one is conscious of oneself as being in, one interpretation might be correct and the other not. So it is methodologically important to be clear about which interpretation is in question.

See also: Knowledge (Explicit and Implicit): Philosophical Aspects; Self-knowledge: Philosophical Aspects

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Consciousness, Cognitive Psychology of

The 'Hard Problem' of consciousness is how to explain a state of consciousness in terms of its neurological basis. Chalmers (1996) distinguishes between the Hard Problem and 'easy' problems that concern the function of consciousness. The Hard Problem (though not under that name) was identified by Nagel (1974) and further analyzed in Levine (1983).

There are two *prima facie* reasons for thinking that the Hard Problem has no solution.

(a) Actual failure. In fact, no one has been able to think of even a highly speculative answer.

(b) Principled failure. The materials we have available seem ill-suited to providing an answer. As Nagel (1974) says, an answer to this question would seem to require an objective account that necessarily leaves out the subjectivity of what it is trying to explain. We don't even know what would *count* as such an explanation.

1. Perspectives on the Hard Problem

There are many perspectives on the Hard Problem but I will mention only the four that comport with a naturalistic framework.

(a) *Phenomenal realism*, the view that consciousness is a substantial property that cannot be philosophically reduced in nonphenomenal terms. According to most contemporary phenomenal realists, consciousness plays a causal role and its nature may be found empirically as the sciences of consciousness advance. Phenomenal realism is compatible with the empirical reduction of consciousness to neurological or computational properties of the brain. (This is the perspective of this article.) This view accepts the Hard Problem but aims for an empirical solution to it. (Block 1995, Flanagan 1992, Nagel 1974, Searle 1992; McGinn 1991 argues that an empirical reduction is possible but that we can't find or understand it.)

(b) *Dualistic naturalism*. In this catch-all category, I include Chalmers' (1996) view that standard materialism is false but that there are naturalistic options to dualism such as panpsychism. Nagel (forthcoming) proposes that there is a deeper level of reality that is the naturalistic basis both of consciousness and of neuroscience.

(c) *Eliminativism*, the view that consciousness as understood above simply does not exist (Dennett 1979, Rey 1997). So there is nothing for the Hard Problem to be about.

(d) *Philosophical reductionism*. Philosophical reductionists (e.g., Dennett 1991) move closer than eliminativists to common sense by allowing that consciousness exists, but they 'deflate' this commitment—again on philosophical grounds—taking it to amount to less than meets the eye (as Dennett might put it). One prominent form of philosophical reductionism in this sense makes a conceptual reductionist claim: that consciousness can be conceptually analyzed in nonphenomenal terms. The main varieties of analyses are functional, representational, and cognitive. Many philosophical reductionists disparage *a priori* conceptual analysis, but nonetheless hold that we know on purely philosophical grounds (independently of the sciences of consciousness) that consciousness is constituted by the functional, representational, or cognitive.

Here are some examples of philosophical reductionism. Pitcher (1971) and Armstrong (1968) can be interpreted as analyzing consciousness in terms of beliefs. One type of prototypical conscious experience, as of the color blue, is a matter of an inclination (perhaps suppressed) to believe that there is a blue object in plain view. (See Jackson 1977 for a convincing refutation.) A different analysis appeals to higher order thought or higher order perception. These theorists take the concept of a conscious pain to be the concept of a pain that is accompanied by another state that is about that pain. A pain that is not so accompanied is not a conscious state (Armstrong 1968, Carruthers 1992, Lycan 1990, Rosenthal 1997 advocates a higher order thought view as an empirical identity rather than as a conceptual analysis). Another philosophical reductionist view that is compatible with the analyses in terms of beliefs concerns not the states themselves but their contents. Representationism holds that it can be established philosophically that the phenomenal character of experience is its representational content. Many representationists reject conceptual analysis, but still their accounts do not depend on details of the science of mind; if any science is involved, it is evolutionary theory (see Harman 1990, Dretske 1995, Lycan 1996, McDowell 1994, Tye 1995; Shoemaker 1994 mixes phenomenal realism with representationism in an interesting way). Conceptual functionalists say that the concept of consciousness is analyzable functionally (Lewis 1994).

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