



Fred Dretske

ANIMAL MINDS

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The problem of other minds—the problem of what, if anything, is going on in the mind of another living being—is an old and very durable philosophical problem. The reason it is so durable is that, unlike most philosophical problems, it has a very practical side to it. At one time or another, in our personal affairs, we have probably all faced some version of this problem. What is he thinking? Is he faking it? Does she really like me? Can asparagus really taste the same to others as it does to me? If it does, how can they (as they say) like it? How can one tell how things taste to other people? By asking them? But doesn't this just raise the same problem again? How can one tell what they mean by the words they use to describe the taste?

Generally speaking, only philosophers take the additional step of worrying about how we know other people even have a mind. But once you've become skeptical of our ability to know, specifically, what is going on in the mind of another—what kinds of thoughts and experiences they are having—it isn't such a big a step to worrying about our ability to even know that they have a mind—that they have thoughts and experiences. Another short step finds you worrying about the mental life of machines. Do chess playing computers—Big Blue, for instance—think about their moves? Are they disappointed when they lose, happy when they win?

One particular form of the problem of other minds that has probably occupied most of us at one time or another is the problem of animal, non-human, minds. Our interest here is often about particular kinds of mental activities and states. Do dogs feel pride? Are cats ever embarrassed? Do chimpanzees reason? Do birds feel hungry? Sometimes we are concerned about more general, basic, forms of mental life. We want to know not whether the animal has this or that kind of thought or feeling, but whether they have thoughts and feelings at all. Do ants feel anything when you step on them? Does it hurt the fish to have its flesh pierced with a hook? Are spiders conscious and, if they are, what form does their consciousness take? What about worms? Is there anything at all going on in there? As we descend the phylogenetic scale, the similarities of physiognomy (worms don't look like us) and behavior (they don't behave like us either) that we depend on to fathom the mental life of fellow human beings become fewer and fewer. The questions, then, get harder and harder to answer.

Part of the difficulty in thinking about the mental life of animals is that we don't have a very clear picture of what, biologically speaking, the mind is for, what its purpose is. In the recent philosophical literature this question is often posed as a question about the biological function of consciousness. If you don't know what the purpose, the biological function, of consciousness is, it is difficult—maybe even impossible—to figure out whether animals are conscious because one can't tell whether anything in them is doing what consciousness is supposed to do. If you know what an automobile transmission is,

you can tell—even without looking inside—that your car has a transmission because your car does what transmissions enable cars to do. Transmissions are supposed to transmit the engine's power to the axle and, hence, to the wheels so if your car's engine turns your wheels when you put it in gear it must have a transmission. Problem solved. You may not know exactly how your car's transmission works, but you know it's got one. But if you don't know what a fungoe valve is, what fungoe valves are supposed to do, it seems quite impossible to tell whether your car has a fungoe valve. The car's behavior won't tell you since you don't know whether it is doing, or is capable of doing, what fungoe valves enable cars to do. Even looking inside won't help. You don't know what fungoe valves look like.

So the first question to answer in approaching the problem of animal minds is the question of what minds in general—and, therefore, what animal minds in particular—are supposed to do. If you want to know whether worms are conscious, first find out what consciousness in a creature is supposed to do. What does consciousness enable an animal to do that it can't do, or can't do as well, without it? This question has become especially urgent in the last twenty or thirty years as results in neuropsychology revealed that certain abilities that depended—or so we thought—on conscious experience could be carried out without it. Blindsight, for example, is a phenomenon in which brain damaged subjects, by using their eyes, pick up, process, and use (in the control of behavior) information about their optical surroundings without conscious experience. They say they can't see anything even though, judging by their extraordinary accuracy in guessing (at least they think they are guessing) what the stimulus is, they must be picking up information about the stimulus. If they can do this without conscious experience, why don't we? What does consciousness do for us that can't be done (as it is with the blindsighters) without it? If blindsighters acquire information about a stimulus without being conscious of it, without seeing it, maybe—who knows?—that is the way animals do it all the time. How do we know it isn't?

It is this problem that concerns me now. I am interested not so much in providing answers to questions about whether animals think and have conscious experiences and, if so, what these thoughts and experiences are like, but in providing distinctions I think useful (indeed, necessary) in seeking answers to these questions. The answers, as I see it, will someday be provided by science—for these questions are, I think, questions about factual matters—but in order to look for answers the questions have to be framed in scientifically accessible terms. No use asking scientists to find out whether cars have fungoe valves if no one knows what a fungoe valve is. Helping to get clear about what consciousness is so that someone can tell us, eventually, whether animals and machines have it is one job a philosopher can try to do.

1. The First Distinction: Conscious Beings vs. Conscious States.

We are not only conscious (full stop), we are conscious of things—of objects (the bug in my soup), events (the commotion in the hall), properties (the color of his tie), and facts (that someone is following me). Using a distinction Rosenthal (1990) introduced I will call all these creature consciousness. In this sense the word is applied to beings who lose and regain consciousness and are conscious of things and that things are so.

Creature consciousness is to be distinguished from what Rosenthal calls state consciousness—the sense in which certain mental states, processes, events and activities (in or of conscious beings) are said to be either conscious or unconscious. When we describe desires, fears, and experiences as being conscious or unconscious we attribute or deny consciousness, not to a being, but to some state, condition or process in that being. States (processes, etc.), unlike the creatures in whom they occur, are not conscious of anything or that anything is so although we can be conscious of them and (more of this in §2) their occurrence in a creature may make that creature conscious of something.

That is the distinction. How does it help with our question? I'll say how in a moment, but before I do, I need to make a few things explicit about my use of relevant terms. I have discovered that not everyone talks the way I do when they talk about consciousness. So let me say how I talk. My language is, I think, entirely standard (I use no technical terms), but just in case you talk funny, I want you to know how I (and, I hope, other ordinary folk) talk about these matters.

For purposes of this discussion and in accordance with most dictionaries I regard “conscious” and “aware” as synonyms. Being conscious of a thing (or fact) is being aware of it. Alan White (1964) describes interesting differences between the ordinary use of “aware” and “conscious.” He also describes the different liaisons they have to noticing, attending, and realizing. Though my use of these expressions as synonymous for present purposes blurs some of these distinctions, I think nothing essential to this topic is lost by ignoring the nuances.

I assume, furthermore, that seeing, hearing, smelling are sensory or perceptual forms of consciousness. Consciousness is the genus; seeing, hearing, and smelling are species of this genus (the traditional five sense modalities are not, of course, the only species of consciousness). Seeing is visual awareness. Hearing is auditory awareness. Smelling burning toast is becoming conscious—in an olfactory way—of burning toast. One might also see the burning toast. And feel it. These are other modalities of awareness, other ways of being conscious of the toast.¹ You may not pay much attention to what you see, smell, or hear, but if you see, smell or hear it, you are conscious of it.

This is important. I say that if you see, smell, or hear it, you are conscious of it. The “it” refers to what you are aware of (the burning toast), not the fact that you are aware of it. When one is aware of burning toast there are two ways one might fail to be aware that one is aware of it. First, one might know one is aware of something, but not know what it is. “What is that smell?”

is the remark of a person who is aware of (i.e., smells) burning toast without being aware (knowing) that it is burning toast he is aware of. Second, even if one knows what it is one is aware of—that it is burning toast—one might not understand what it means to be aware of things, might not, therefore, be aware that one is aware of it. A small child or an animal—someone who lacks the concept of consciousness—can still be conscious of (i.e., smell) burning toast. They just aren't aware, they don't know, that they are conscious of something. Even if they happen to know that it (i.e., what they smell) is burning toast, they may not know—may not, therefore, be aware—that they smell it.

The language here is a bit tricky, so let me give another example. One can be aware of (e.g., hear) a French horn without being aware that that is what it is. One might think it is a trombone or (deeply absorbed in one's work) not be paying much attention at all (but later remember hearing it). If asked whether you hear a French horn, you might well (falsely) deny it or (more cautiously) say that you don't know. Not being aware that you are aware of a French horn does not mean you are not aware of a French horn. Hearing a French horn is being conscious of a French horn. It is not—not necessarily anyway—to be aware that it is a French horn or aware that you are aware of it. Mice who hear—and thus have auditory awareness of—French horns never become aware that they are aware of French horns.²

So, once again, when I say that if you see, hear, or smell something you must be conscious of it, the “it” refers to what you are aware of (burning toast, a French horn), not (not necessarily anyway) what it is you are aware of (that it is burning toast, that it is a French horn) nor that you are aware of it. Animals (not to mention human infants) are aware of a great many things. They see, smell, and feel the things around them. Often, though, they are not aware of what it is they are aware of and seldom (if ever) are they aware that they are aware of it.

So much for terminological preliminaries. I have not yet (I hope) said anything that is controversial. Nonetheless, with only these meager resources, we are in a position to usefully divide our original question into two more manageable parts. Questions about the function of consciousness can either be questions about creature consciousness or about state consciousness. I will, for the rest of this section, take them to be questions about creature consciousness. I return to state consciousness in the next section.

If, then, we take our question about the biological function of consciousness as a question about creature consciousness, about the advantages that consciousness affords the animals who are conscious, the answer would appear to be obvious. If animals could not see, hear, smell and taste the objects in their environment—if they were not, in these ways, conscious—how could they find food and mates, avoid predators, build nests, spin webs, get around obstacles, and, in general, do the thousand things that have to be done in order to survive and reproduce?

Let an animal—a gazelle, say—who is aware of prowling lions—where they are and what they are doing—compete with one who is not and the outcome

is predictable. The one who is conscious will win hands down. Reproductive prospects, needless to say, are greatly enhanced by being able to see and smell one's predators. That, surely, is an evolutionary answer to questions about the benefits of creature consciousness.³ Take away perception—as you do, when you remove consciousness—and you are left with a vegetable. You are left with an eatee, not an eater. That is why the eaters of the world (most of them anyway) are conscious.

This answer is so easy I expect to be told that I'm not really answering the question everyone is asking. I will be told that questions about the function of consciousness are not questions about why we—conscious beings—are conscious. It is not a question about the biological advantage of being able to see, hear, smell, and feel (thus, being conscious of) the things around us. It is, rather, a question about state consciousness, a question about why creatures who see, smell, and hear things in their environment do so by means of conscious states, processes, and activities in them. Why, for instance, do animals who are conscious of the things around them (= creature consciousness) have conscious thoughts and experiences (= state consciousness) about these things?

2. The Second Distinction: Objects vs. Acts of Awareness.

If our question is one about the benefits of conscious states, then, of course, we have to get clear about what a conscious state is before we start answering it. What makes an experience, a thought, a desire, a feeling conscious? We all have a pretty good grip on what a conscious animal is. It is one that—via some perceptual modality—is aware of things going on around (or in) it. There are surely modes of awareness, ways of being conscious, that we do not know about and will never ourselves experience. We do not, perhaps, understand what it feels like to be a bat or what it is like for a dogfish to electrically sense its prey. But we do understand the familiar modalities—seeing, hearing, tasting and so on—and these, surely, qualify as ways of being conscious. So we understand, in rough and ready terms, what someone is talking about when they talk about a creature's being conscious in one of these ways. But what does it mean to speak, not of an animal being conscious in one of these ways, but of some state, process, or activity in the animal as being conscious? States, remember, aren't conscious of anything. They are just conscious (or unconscious) full stop. What kind of property is this? Until we understand this, we won't be in a position to even speculate about what the function of a conscious state is.

There are, as far as I can see, only two options for making sense out of state consciousness. Either a state is made conscious by (1) its being an object or (2) its being an act of creature consciousness. A state of creature S is an object of consciousness by S being conscious of it. A state of S is an act of creature consciousness, on the other hand, not by S being aware of it, but by S being made aware (so to speak) with it—by its occurrence in S making (i.e., constituting) S's awareness of something (e.g., an external object). When state consciousness is identified with a creature's acts of awareness, the creature need not be

aware of these states for them to be conscious. What makes them conscious is not *S*'s awareness of them, but their role in making *S* conscious—typically (in the case of sense perception), of some external object.

Consider the second possibility first. On this option, a conscious experience is one that makes an animal conscious (of whatever the experience is an experience of). When a gazelle sees a lion, its visual experience of the lion qualifies as a conscious experience, a conscious state, because it makes, or helps make, the gazelle conscious of the lion. Without this experience the gazelle would not see the lion.

If we agree about this—agree, that is, that conscious experiences are internal states that make creatures conscious of things (typically, in the case of sense perception, of external objects)—then the function, the good, of state consciousness becomes evident. It is to make creatures conscious, and if (see §1) there is no problem about why animals are conscious, then, on the act conception of conscious states, there is no problem about why states are conscious. Their function is to make creatures conscious. Without state consciousness, there is no creature consciousness. If there is a biological advantage in gazelles being aware of prowling lions, then there is a purpose in gazelles having conscious experiences. The purpose is to enable the gazelle to see, hear and smell the lions.

I do not expect many people to be impressed with this result. I expect to be told that internal states are conscious not (as I have suggested) if the animal is conscious with them, but, rather, if the animal (in whom they occur) is conscious of them. A conscious state is conscious in virtue of being an object, not an act, of creature awareness. A state becomes conscious, according to this orthodox line of thinking, when it becomes the object of some higher-order act, a thought or experience. Conscious states are not states that make creatures conscious (of things); it is the other way around: creatures make the states (that occur in them) conscious by becoming conscious of them.

Since (according to this account) the only way a state can become an object of consciousness is if there are higher order acts (i.e., thoughts or experiences) that take it as their object, this account of what makes a state conscious has come to be called a HO (for Higher Order) theory of consciousness. It has several distinct forms, but all versions agree that an animal's experience (of lions, say) remains unconscious (or, perhaps, non-conscious) until the animal becomes aware of it. A higher order awareness of one's lion-experience can take the form of a thought (a HOT theory)—in which case one's experience of the lion is conscious only if one is aware that (i.e., one thinks that) one is experiencing a lion—or the form of an experience (a HOE theory)—in which case one's lion experience is made conscious by one becoming aware of it in something like the way one is aware of the lion when one sees it: one experiences one's lion-experience (thus becoming aware of one's lion-experience) in the way one is aware of (experiences) the lion.

I have elsewhere (Dretske 1993, 1995) criticized HO theories of consciousness, and I will not repeat myself here. I am more concerned with what HO

theories have to say—if, they have anything to say—about the function of consciousness. If conscious states are states we are, in some way, conscious of, why have conscious states? What do conscious states do that unconscious states don't do? According to HO theory, we (i.e., creatures) could be conscious of (i.e., see, hear, and smell) most of the objects and events we are now conscious of (and this includes whatever bodily conditions we are proprioceptively aware of) without ever occupying a conscious state. To be in a conscious state is to be conscious of the state, and since a gazelle, for example, can see, smell, and hear a lion without being conscious of its internal visual, olfactory, and auditory experiences of the lion, it can be conscious of the lion—i.e., see, smell, and hear the lion—while occupying no conscious states at all. This being so, what is the purpose, the biological point, of conscious states? It is awareness of the lion, not awareness of lion experiences, that is presumably useful in the struggle for survival. It is the lions, not the lion-experiences, that eat gazelles.

On an object conception of state consciousness, it is difficult to imagine how conscious states could have a function. To suppose that conscious states have a function would be like supposing that conscious ball bearings—i.e., ball bearings we are conscious of—have a function. If a conscious ball bearing is a ball bearing we are conscious of, then conscious ball bearings have exactly the same causal powers as do the unconscious ones. The causal powers of a ball bearing (as opposed to the causal powers of the observer of the ball bearing) are in no way altered by being observed or thought about. The same is true of mental states like thoughts and experiences. If what makes an experience or a thought conscious is the fact that S (the person in whom it occurs) is, somehow, aware of it, then it is clear that the causal powers of the thought or experience (as opposed to the causal powers of the thinker or experiencer) are unaffected by its being conscious. Mental states and processes would be no less effective in doing their job—whatever, exactly, we take that job to be—if they were all unconscious. According to HO theories of consciousness, then, asking about the function of conscious states in mental affairs would be like asking about the function of conscious ball bearings in mechanical affairs.

The fact that some people who have cancer are aware of having it while others who have it are not aware of having it does not mean there are two types of cancer—conscious and unconscious cancers. For exactly the same reason, the fact that some people (you and me, for instance) are conscious of having visual and auditory experiences of lions while others (parrots and gazelles, for example) are not, does not mean that there are two sorts of visual and auditory experiences—conscious and unconscious. It just means that we are different from parrots and gazelles. We know things about ourselves that they don't, and it is sometimes useful to know these things. It does not show that what we know about—our conscious experiences—are different. We both have experiences—conscious experiences—only we are aware that we have them, and they are not. Both experiences—those of the gazelle and those of a human—are conscious because (I submit) they make the creatures in whom they occur conscious of things—whatever objects and conditions are perceived

(lions, for instance). Being aware that you are having such experiences is as irrelevant to the nature of the experience as it is to the nature of observed ball bearings.⁵

3. The Third Distinction: Object vs. Fact Awareness.

Once again, I expect to hear that this is all too quick. Even if one should grant that conscious states are to be identified with acts, not objects, of creature awareness, the question is not what the evolutionary advantage of perceptual belief is, but what the advantage of perceptual (i.e., phenomenal) experience is. What is the point of having conscious experiences of lions as well as conscious beliefs about lions? Why are we aware of objects (lions) as well as various facts about them (that they are lions, that they are headed this way)? After all, in the business of avoiding predators and finding mates, what is important is not experiencing (e.g., seeing, hearing) objects, but knowing certain facts about these objects. What is important is not seeing a hungry lion but knowing (seeing) that it is a lion and that it is hungry (with all this entails about the appropriate response on the part of lion-edible objects). Being aware of (i.e., seeing) hungry lions and being aware of them, simply, as tawny objects or as large shaggy cats (something a two-year old child might do) isn't much use to someone on the lion's dinner menu. It isn't the objects you are aware of, the objects you see, smell, and hear, that is important in the struggle for survival, it is the facts you are aware of, what you know about what you see. Being aware of (seeing) poisonous mushrooms (these objects) is no help to an animal who is not aware of the fact that they are poisonous. It is the representation of the fact that another animal is a receptive mate, not simply the perception of a receptive mate, that is important in the game of reproduction. As we all know from long experience, it is no trick at all to see sexually willing (or, as the case may be, unwilling) members of the opposite sex. The trick is to see which is which—to know that the willing are willing and the others are not. That is the skill—and it is a cognitive skill, a skill involving knowledge of facts—that gives one a competitive edge in sexual affairs. Good eyesight, a sensitive nose, and a discriminating ear are of no help if such experiences always (or often) yield false beliefs about the objects perceived. It is the conclusions, the beliefs, the knowledge, that is important, not the qualia-laden experiences that give rise to such knowledge. So why do we have phenomenal experience of objects as well as beliefs about them? Or, to put the same question differently: Why are we conscious of the objects we have knowledge about?

Still another way of putting this question is to ask why we aren't all, in each sense modality, the equivalent of blindsighters who are able to get information about nearby objects without experiencing (seeing) the objects.⁶ In some sense blindsighters seem able to "see" the facts (at least they receive information about what the facts are—that there is, say, an X (not an O) on the right—without being able to see the objects (the X's) on the right. They have no phenomenal experience. If, therefore, a person can receive the information

needed to determine appropriate action without experience, why don't we?⁷ Of what use is phenomenal experience in the game of cognition if the job can be done without it?

These are respectable questions. They deserve answers—scientific, not philosophical, answers. But the answers—at least in a preliminary way—would appear to be available. There are a great many important facts we cannot be made aware of unless we are, via experience, made aware of objects these facts are facts about. There are also striking behavioral deficits—e.g., an inability to initiate intentional action with respect to those parts of the world one does not experience (Marcel 1988a). Humphrey (1970, 1972, 1974), worked for many years with a single monkey, Helen, whose capacity for normal vision was destroyed by surgical removal of her entire visual cortex. Although Helen originally gave up even looking at things, she regained certain visual capacities.

She improved so greatly over the next few years that eventually she could move deftly through a room full of obstacles and pick up tiny currants from the floor. She could even reach out and catch a passing fly. Her 3-D spatial vision and her ability to discriminate between objects that differed in size or brightness became almost perfect. (Humphrey 1992: 88).

Nonetheless, after six years she remained unable to identify even those things most familiar to her (e.g., a carrot). She did not recover the ability to recognize shapes or colors. As Humphrey described Helen in 1977 (Humphrey 1992: 89),

She never regained what we—you and I—would call the sensations of sight. I am not suggesting that Helen did not eventually discover that she could after all use her eyes to obtain information about the environment. She was a clever monkey and I have little doubt that, as her training progressed, it began to dawn on her that she was indeed picking up 'visual' information from somewhere—and that her eyes had something to do with it. But I do want to suggest that, even if she did come to realize that she could use her eyes to obtain visual information, she no longer knew how that information came to her: if there was a currant before her eyes she would find that she knew its position but, lacking visual sensation, she no longer saw it as being there. . . . The information she obtained through her eyes was 'pure perceptual knowledge' for which she was aware of no substantiating evidence in the form of visual sensation . . .

If we follow Humphrey and suppose that Helen, though still able to see certain facts about objects (that they were here rather than there), was nonetheless unable to see the objects themselves (i.e., had no visual experience of them) we have a clue about what the function of phenomenal experience might be: we experience (i.e., see, hear, and smell) objects to help in our identification

and recognition of them. Remove visual sensations of *X* and *S* might still be able to tell where *X* is, but *S* will not be able to tell what *X* is. Helen couldn't. That is—or may be—a reasonable empirical conjecture for the purpose of experience—for why animals (including humans) are, via perceptual experience, made aware of objects. It seems to be the only way—or at least a way—of being made aware of important facts about them.

Despite the attention generated by dissociation phenomena, it remains clear that people afflicted with these syndromes are always “deeply disabled” (Weiskrantz 1991: 8). Unlike Helen, human patients never recover their vision to anything like the same degree that the monkey did. Though they do much better than they “should” be able to do, they are still not very good (see Humphrey 1992: 89). Blindsight subjects cannot avoid bumping into lamp-posts, even if they can guess their presence or absence in a forced-choice situation. Furthermore,

All these subjects lack the ability to think about or to image the objects that they can respond to in another mode, or to inter-relate them in space and in time; and this deficiency can be crippling (Weiskrantz, 1991: 8).

This being so, there seems to be no real empirical problem about the function (or at least a function) of phenomenal experience. The function of experience, the reason animals are conscious of objects and their properties, is to enable them to do all those things that those who do not have it cannot do. This is a great deal indeed. If we assume (as it seems clear from these studies we have a right to assume) that there are many things people with experience can do that they cannot do without it, then that is a perfectly good answer to a question about what the function of experience is. That is why we, and a great many other animals, are conscious of things and, thus, why, on an act conception of state consciousness, we have conscious experiences. Maybe something else besides experience would enable us to do the same things, but this would not show that experience didn't have a function. All it would show is that there was more than one way to skin a cat—more than one way to get the job done. It would not show that the mechanism that did the job wasn't good for something.

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¹I here ignore disputes about whether, in some strict sense, we are really aware of objects or only (in smell) odors emanating from them or (in hearing) voices or noises they make. I shall always take the perceptual object—what it is we see, hear, or smell (if there is such an object)—to be some external physical object or condition. I will not be concerned with just what object or condition this is.

²In saying this I assume two things, both of which strike me as reasonably obvious: (1) to be aware that you are aware of a French horn requires some understanding of what awareness is (not to mention an understanding of what French horns are); and (2) mice (even if we give them some understanding of French horns) do not understand what awareness is. They do not, that is, have the concept of awareness.

³This is not to say that consciousness is always advantageous. As Georges Rey reminds me, some tasks—playing the piano, pronouncing language, and playing sports—are best performed when the agent is largely unaware of the performatory details. Nonetheless, even when one is unconscious of the means, consciousness of the end (e.g., the basket into which one is trying to put the ball, the net into which one is trying to hit the puck, the teammate to whom one is trying to throw the ball) is essential. You don't have to be aware of just how you manage to backhand the shot to do it skillfully, but, if you are going to be successful in backhanding the puck into the net, you have to be aware of the net (where it is).

⁴In the case of external objects (like lions) the experience is necessary, but not sufficient, for awareness of (seeing) the lion. We also need a lion, of course, and whatever causal relations between the lion and the experience are required to make the experience the experience of the lion.

⁵I'm skipping over a difficulty that I should at least acknowledge here. There are a variety of mental states—urges, desires, intentions, purposes, etc.—which we speak of as conscious (and unconscious) whose consciousness cannot be analyzed in terms of their being acts (instead of objects) of awareness since, unlike the sensory states associated with perceptual awareness (seeing, hearing, and smelling), they are not, or do not seem to be, states of awareness. If these states are conscious, they seem to be made so by being objects, not acts of consciousness (see, e.g., Van Gulick 1985). I don't here have the space to discuss this alleged difference with the care it deserves. I nonetheless acknowledge its relevance to my present thesis by restricting my claims about state consciousness to experiences—more particularly, perceptual experiences. Whatever it is that makes a desire for an apple, or an intention to eat one, conscious, visual (gustatory, tactile, etc.) experiences of apples are made conscious not by the creature in whom they occur being conscious of them, but by making the creature in whom they occur conscious (of apples).

⁶For more on blindsight see Weiskrantz 1986 and Milner & Rugg 1992. I here assume that the subjects' (professed) absence of visual experience is tantamount to a claim that they cannot see objects, that they have no visual experience. The question that blindsight raises is why one has to see objects (or anything else, for that matter) in order to see facts pertaining to those objects—what (who, where, etc.) they are. If

blindsighters can see where an object is, the fact that it is there (where they point), without seeing it (the object at which they point), what purpose is served by seeing it?

⁷There are a good many reflexive “sensings” (Walker 1983: 240) that involve no awareness of the stimulus that is controlling behavior—e.g., accommodation of the lens of the eye to objects at different distances, reactions of the digestive system to internal forms of stimulation, direction of gaze toward peripherally seen objects. Milner (1992:143) suggests that these “perceptions” are probably accomplished by the same midbrain visuomotor systems as mediate prey catching in frogs and orienting reactions in rats and monkeys. What is puzzling about blindsight is not that we get information we are not aware of (these reflexive sensings are all instances of that), but that in the case of blindsight one appears able to use this information in the control and guidance of deliberate, intentional, action (when put in certain forced choice situations)—the sort of actions that normally require awareness.

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