

The Compatibility of Direct Realism with the Scientific Account of Perception; Comment on Mark Crooks

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These comments are concerned to show that direct realism about perception is quite compatible with the physical and neuroscientific story. Use is made of D.M. Armstrong's account of perception as coming to believe by means of the senses. What we come to believe about is the bird on the gatepost, say. So the account is direct realist. But it is obviously compatible with the scientific story which explains how the coming to believe comes about. We can also identify beliefs with brain states.

A large part of Mark Crooks's (2002, this issue) paper is concerned with criticism of the Churchlands. Though my sympathies are on many points with the Churchlands I disagree both with them and with Crooks on the main issue of these comments, since Crooks thinks that a direct realist theory of perception is incompatible with the physical and neurophysiological facts and similarly the Churchlands think much the same in so far as they think that folk psychology is an obsolete theory like that of phlogiston. I shall leave the Churchlands to look after themselves and concentrate on the main issue of direct realism and Crooks's criticisms of it. I believe that a direct realist philosophical account of perception, especially as put forward by D.M. Armstrong (1993), is perfectly compatible with the physical and neuroscientific account of perception. Crooks also calls the position he wants to attack "naïve realism" but it seems to me that philosophers such as Armstrong who defend direct realism are subtle and far from naïve (see Armstrong, 1993; Pitcher, 1971; and to some extent Grice, 1961). They give a direct realist analysis of perception that is perfectly compatible with the causal story given by physics and neuroscience. I defend this point of view myself and for purposes of exposition will state Armstrong's account of per-

ception as being “coming to believe by means of the senses.” This of course requires some qualifications but for conciseness I will for the most part ignore necessary epicycles. For example there is the difference between seeing an object and seeing that something is the case. I think that the former can be defined in terms of the latter. Another epicycle is needed to deal with illusion, such as that of an oar being bent when part of it is submerged in water. You know from experience that the oar is not really bent. You may even be familiar with Snell’s law in optics. You do not actually come to believe by means of your visual sense but you do come to have a tendency or temptation to believe that the oar is bent, even though the tendency is overridden by a stronger tendency not to believe.

Note that Armstrong’s account of perception is compatible with his (and my) mind–brain materialism, since the senses can be defined without dualist ideas and beliefs can be contingently identified with brain states. Indeed Armstrong now prefers to talk of “information” instead of “beliefs.” The notion of information, like that of belief (which signifies a state apt for producing certain behaviour) is neutral between materialism and dualism: no doubt it is logically possible (though in fact false) that the information or belief is encoded in spiritual stuff and logically possible (and I think true) that it is encoded physically, e.g., with switching circuits, or connectionist neural nets, or electrons being “spin up” or “spin down,” or for that matter in DNA or RNA.

Let me state, then, Armstrong’s account of perception in simplified form, ignoring the epicycles which do not affect the argument. Note that the characterisation is what I have called “topic neutral” (Smart, 1959). It is neutral between materialism and dualism. It is for reasons of scientific plausibility that we defend materialism. Of course Descartes accepted a scientific causal story of sorts but he also argued that this story culminated at the end in a non-physical mental event. Naturally Armstrong and I argue that sensations (I shall shortly express a preference for the word “sensings”) are identical with brain processes. Also we can contingently identify beliefs with brain states. The contention that perception is coming to believe by means of the senses is topic neutral. It does not imply the scientific story but is compatible with it. “Perception is coming to believe by means of the senses” provides an analysis of the ordinary and topic neutral concept. The scientific story provides an explanation of the coming to believe. So direct realism is compatible with the scientific story. We come to believe about tomatoes (say), not percepts, whatever these are. I shall come soon to the question of inner sense. We can come to believe about our coming to believe, or at least that part of our coming to believe which occurs in our cortex, though only under a topic neutral description. After all, Aristotle had inner sense and yet believed that the brain was an organ for cooling the blood.

Perception is of course of the utmost importance to animals. Animals need to get information about the presence of food and water, of the locations of predators and prey, and so on. This sits naturally with Armstrong's analysis even though it is not absolutely incompatible with Crooks's account, which seems to me to be a form of the representative theory of perception which goes back to Locke and even to Descartes and beyond, and more recently to Bertrand Russell.

I am not clear about Crooks's use of the word "percept," which is not common in the recent philosophical literature and is not in my own philosophical vocabulary. Russell used it quite often, and it is used in a sense which is probably not Crooks's in Firth (1949, 1950). I am unclear whether his percepts are events in the brain with non-physical qualia or whether they are just events in the brain. Does he agree with Russell who at one time believed that we perceive only brain events and by some sort of induction or hypothetico-deductive reasoning come to believe in external things on the grounds that, say, the existence of a tomato is the best explanation of a tomatoish sense datum? I shall indicate shortly why I do not believe that the world contains sense data (or mental images either). If Crooks's percepts are brain events then he has given in outline a scientific story of how they are typically caused by a chain of events beginning, in the case of light, with the reflection of light from an object, and transduction of information through various stages in and behind the retina and nervous system. He does seem to me to leave inner sense, a perception of percepts, a mystery. What is his story about our perception of percepts? I shall be giving my own story of how we can perceive (by inner sense) our perceivings. This is the account I want to give of consciousness, essentially one suggested by Armstrong (Armstrong and Malcolm, 1984). It is convenient to make a terminological modification to those I made in earlier papers (such as Smart, 1959). I used to talk of visual, auditory, olfactory, etc. sensations, which I identified with brain processes. I am now inclined to talk of visual "sensings." This is because Armstrong has elucidated bodily sensations as perceptions of damage in the body. That is, bodily sensations are perceptions, not analogous to what I used to call visual sensations.

Now consider what goes on in me when I see a tomato. There is a coming to believe about the tomato by means of my visual sense. I can do this without full consciousness when my consciousness is mere awareness. Consider the case where the bicycle track on which I am riding crosses a road. I walk my bicycle across the road, get on it again, have avoided oncoming cars, and yet have no recollection of crossing the road. I have indeed been on "automatic pilot," as Armstrong puts it. I have indeed been coming to believe (gaining information) about the advancing cars, but I have not been coming to believe by means of inner sense of my comings to believe by means of

visual and auditory senses. One may wonder whether dogs, cats, kangaroos are always on automatic pilot. I hope not. Perhaps it is more likely that snakes and lizards are. This inner sense is perception of goings on in the brain by the brain itself. The brain is part of the body and so Armstrong has compared inner sense to proprioception.

A sensing is part of the cerebral part of the chain of causes involved in coming to believe. In the case of non-veridical perception it is what is like what would occur in the case of veridical perception. I have sometimes used the term "sense datum" in this connection. But beware! I believe in having sense data but not in sense data. To have a red, blue and yellow striped sense datum is just to have a sensing which is like what goes on when I actually perceive a red, blue and yellow striped object. If one is depending on a materialist theory of mind then one must deny the existence of sense data. If there was a Union Jack sense datum then it would be something in the brain, and it is implausible that there are Union Jack red, white and blue entities in our brains. Fortunately the notion of "sense datum" has been severely criticised even by analytic philosophers who have no stake in defending materialism.

"Sense datum" is admittedly philosopher's jargon, but it is convenient to have a noun phrase cognate to "mental image" which is a part of common language. But just as I hold that there are no sense data but only havings-of-sense-data, so I hold that there are no mental images, only the havings of them. To have a mental image is to put ourselves (in fact our brains) through motions similar to those of actually seeing or hearing. Neither sense data nor images are to be thought of either as ghostly picture postcards or as analogous to postcards in the brain. It is true that phenomenology may tempt us to belief in qualia. This phenomenology, according to me, is illusory. Armstrong (1968) has given a possible explanation of the illusion. We confuse not being aware of our experiences as physical with being aware that they are non-physical. Nor do I believe that the brain events, though physical, have (non-physical) qualia. (Modulo the fact that there is a respectable sense of "qualia," as in cognitive science, where a quale is something like, say, a point in an abstract similarity space.) On this matter see Smart (1995).

Nevertheless, one small point of agreement with Crooks, as I understand him, is that I am not denying that there are representations. They are no doubt part of the scientific story. Somehow the perceptual information is encoded in the brain in a physical form, whether in a configuration of switching circuits, or even more abstractly in a neural net. They are not a bit like interior picture postcards. To admit that there are representations in the scientific story is not to espouse the representative theory of perception as it is found in Locke, in Bertrand Russell, or as far as I can see, in its present form by Crooks. We perceive tomatoes, not representations of tomatoes, and this familiar truth is perfectly compatible with the scientific story. I have

been arguing that Crooks (p. 199) is mistaken in thinking that the representative theory of perception follows by elementary logic from sensory psychology. I have argued that direct realism, properly understood, is perfectly compatible with the facts of neuroscience and psychology.

Much of Crooks's article is concerned with the auditory sense of pitch, whereas in my writings I have concentrated on colour. Certainly the sense of hearing differs from that of vision. We don't say that the sound of a carriage on the gravel is a property of the carriage. We don't say that a ripe tomato makes a red in the way that we say that the carriage on the gravel makes a sound. Of course people do not need to know about acoustics or sound waves to talk about sounds. But I can agree with a peasant who does not know anything about sound waves that we hear the sound of a carriage on the gravel. We both think of the sound as something out there, but the identification with sound waves is a contingent one and very likely unknown to the peasant. We learn to react to sounds and to describe them in what I have called a topic neutral way. Not that we need to define sounds in this way, any more than a child needs to know about normal human percepts with respect to colour to first learn colour words. Children learn how to apply them as if they got to them through the definition in terms of normal human percepts in (say) cloudy Scottish daylight (Smart, 1995). Similarly with sounds. People can be trained to apply the right word to these neutrally understood sounds, e.g., "middle C." I am not exactly tone deaf but cannot recognise sounds in this way: I think best about music by thinking about sound waves. In a sense "pitch" is easier to deal with than colour words because there is a one-one relation between pitch and frequency, while "red" corresponds verbally to a highly disjunctive and idiosyncratic physical property. By "idiosyncratic" I mean that the classification though perfectly objective would not be of cosmic import: extra-terrestrials with different visual physiology might classify differently.

To some extent Crooks's argument may be vitiated by an incorrect account of identity. He quotes Wittgenstein's *Tractatus* at the beginning of his article. However, this depends on the notions in the *Tractatus* of atomic facts and logically proper names which Wittgenstein himself came to reject. A connected matter is that the *Tractatus* notion of the quantifiers "all" and "there is a" is essentially substitutional, not the classical objectual quantification (Smart, 1986). When you say truly "The cleverest boy in the class is the best footballer in the school" you are not identifying two persons. (There would be two if the identity statement were false.) You are still giving information to someone who knows who the cleverest boy is but who does not know who the best footballer is. (Let me refer to the definition of identity in first order logic.)

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