In Defense of the Cognitivist Theory of Perception

By D. M. Armstrong

JOHN FOSTER'S BOOK, *THE NATURE OF PERCEPTION* (FOSTER, 2000), IS WRITTEN TO defend his Idealist, or Berkeleyan, theory of perception. One view that he is concerned to reject is what he usefully calls the 'Cognitivist' theory of perception. I am named as one of its defenders. His critique of the theory serves me as a good starting point and as a stimulus for a new defense of the theory.

In work done a long time ago (Armstrong, 1961 and 1968, Chapters 10 and 11) I argued that the central cases, at least, of perception are nothing more than acquirings of beliefs, beliefs about the current state of our environment. The environment here should be understood to include our own body, and in (Armstrong 1962 and 1968, Chapter 14) I argued that bodily sensations are to be understood as bodily perceptions. In Chapter15 of the 1968 book I went on to argue for the 'inner sense' account of introspective awareness—consciousness in the most important sense of that difficult concept. Perception, bodily sensation and introspection were all to be thought of as, fundamentally, nothing but the acquiring of beliefs about the current state of our environment, our body, and our mind. The 'acquiring' part, by the way, I think I got from Gilbert Ryle, although I cannot trace a source. The important thing, of course, is what it is that is acquired. But that perception is an *event* of acquiring is, I think, a most useful insight.

Over the years I have not abandoned a theory of this sort, but I have been made to suffer for, and have regretted my using of, the word "belief" in articulating the theory. The problem is that belief is, it seems, such a sophisticated notion. It is natural to think that only rather a superior sort of mind, perhaps only the sort found in human beings, is capable of such a high-class act as believing things. But perception occurs

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in very low-class organisms indeed. Do evolutionarily primitive insects that can perceive have *beliefs*? It is hard to believe!

That is why I think John Foster's 'Cognitivist' is a much superior term. I myself have tried to weasel away from the word "belief" in a couple of ways. I regularly use the word "information" these days, as does Foster, in discussing the theory. That already sounds rather better, suggesting as it does information theory, whose key concept is reduction of uncertainty. But that concept may be suspected of being too wide, and in any case it is clear that information in the context of perception will have to cover *misinformation*. Non-veridical perception is still perception.

Something else that may sound rather bad at first hearing, but may actually be more helpful in articulating the cognitive theory, is another idea which I have also put to myself at times: that what is acquired in perception is a *propositional* state. What I mean by this is, of course, nothing linguistic. The idea is that the mental state involved has a structure with a certain complexity. It involves the attributing of a property to an object, or attributing the holding of a relation between two or more objects.

By contrast, non-cognitivist theories of perception have what one might call a '*thing* model' for perception. Perception is conceived of as a two-term relation between a mind and an object. Because of the need of any theory of perception to give an account of perceptual illusion, thing models rather naturally lead to the postulation of sense-data. A.J. Ayer's clever description of sense-data as 'junior substances' captures exactly their thing-like nature.

But returning to the propositional theory, the object or objects to which properties and relations are attributed are picked out indexically. Perception is concerned with the perceiver's body and its environment in the here and now, where the here and now is given by the place and date of the perception itself. It seems, however, not essential that the indexical component be represented within the perceptual structure. That would be much too sophisticated. But take the case where the perceiver *acts* on the basis of the perception. It is clear that the action *presupposes*, as it were, that the perceived structure of the body and environment is the particular structure that it putatively has at the time and place of the perception. Consider a device that is at a varying temperature, and whose output is a measurement not of absolute temperature but of the *difference* between its temperature and the temperature of its environment. There is something indexical in its output, which may cause the device to take certain action—action designed, say, to minimize the difference. But the non-relative temperature of the device is not represented in the output. The indexical character of perception need be no more than that found in the device.

In perception, properties and relations are attributed to objects. But the structure in the mind that is acquired when we perceive will not literally have these properties and relations. So there will have to be mere *representations* of sensible properties and relations in the structure.

This leads me to say that perception involves the employment of *concepts*, concepts of these properties and relations. (Of course, there will be individual concepts also in the structure of perceptions, but let us pass that complication by.) Since most perceivers are quite incapable of language, this means that we ought, given a Cognitivist theory of perception, to accept the reality of *non-linguistic* concepts. If this conclusion is resisted, then I am prepared to compromise and say instead that what a perceiver must have, and what figure in perceptual structures, are *discriminative capacities*. Each perceptual representation of a property or a relation involves a discriminative capacity, a capacity to discriminate (in behavior, as I take it) between an object's having, or lacking, the property or relation in question. (Not an infallible capacity, of course.) This logical tying of the perception of sensible qualities and relations to *action* is very important and seems essential if the problem of marking off perceptions from other mental activities such as imagings is to be achieved.

It may be noted that the status of the sensible qualities and relations is somewhat ambiguous. They belong to what Wilfrid Sellars called, in his great figure, the manifest image of the world. Some of us would want to go with Sellars and devalue these properties by comparison with the true, or at least truer, properties of the scientific image of the world as it is painfully articulated. I think that the sensible properties can still be accepted as real properties, even if "second-rate" properties, that is, properties that fail to carve nature at its true joints. It is true that our empirical knowledge begins with perception, and that perception, and therefore the manifest image, is the ultimate court of appeal in the testing of the theories embodied in the scientific image. Nevertheless, the scientific image works away from the manifest image at a number of points. In particular, a critique and a purging have to be conducted against the properties and relations found in the manifest image. I cannot, of course, defend that position in any depth here.

Various points now arise. Consider again this propositional structure of concepts or discriminative capacities. The structure attributes something to the world—a certain state of affairs, I am inclined to say. The attribution may be veridical or non-veridical. This last remark should make it clear that the mental states involved are *intentional* states, in the technical sense of the mediaevals that contemporary analytic philosophy has, to its great benefit, reacquainted itself with. The major mark of an intentional object is that there may or may not be a really existing object corresponding to it. I may add that I was brought to see this point by Elizabeth Anscombe's fine paper on the intentionality of sensation (Anscombe,1965).

It may be objected that the introduction of intentionality once again threatens to sophisticate perception in an unacceptable manner. This, however, seems to be incorrect. Recent investigations have shown that the notion of intentionality may well admit of *degrees* of intentionality. The very lowest degree is to be found in purely physical

objects, and is linked to their dispositions and powers. See in particular (Martin and Pfeifer, 1986). The late George Molnar went so far as to speak of *physical intentionality* in connection with dispositions and powers (Molnar, 2003). The 'intentionality' here is given by the fact that the dispositions and powers of particulars point, as it were, to *manifestations* of these dispositions and powers in suitable circumstances, yet the manifestations need never occur. More and more sophisticated intentionalities can be found in the goal-seeking and feedback mechanisms that are to be found in the organic world. It can then be seen that to give an account in terms of intentionalities does not over-sophisticate perception.

One thing that a propositional account finds easy to accept is the possibility of unconscious perception. Why should we not acquire cognitive structures of a certain sort that represent (or sometimes misrepresent) certain features of the current state of our body and its environment, representations that can be used to steer conduct, yet be introspectively unaware of what is thus acquired? [SUGGESTION: Why should we not acquire cognitive structures that are representative (or sometimes misrepresentative) of certain features of the current state of our body and its environment, are such that these representations can be used to steer conduct, and yet are acquired in such a way that we are introspectively unaware of how they were so acquired?] The cure seems a lot worse than the disease! The original sentence is too long. Why not simply omit 'representations that can be used to steer conduct'?
Indeed, since introspective awareness is presumably the privilege of relatively few of the perceivers that the animal kingdom contains, should we not expect unconscious perception to be the norm? And in any case a great deal of scientific evidence now exists to show that unconscious perception occurs in human beings.

A matter that considerably exercises John Foster, and that he thinks is a difficulty for Cognitivist theory, is that of marking off perception from the having of mental images. Imaging is often involved in the memory of events, but can be the mere having of images. There is no doubt, as Berkeley and Hume in particular made clear, that perceiving and imaging resemble each other closely. And if the Cognitivist theory of perception is correct, then it is also clear that imaging will have to involve some sort of second-hand mobilization of the very same concepts – or discriminative capacities – that are found in perception. But, at the same time, Berkeley, Hume, and others have not had great success in marking off perception from imaging. As I have already said, the special link that perception has to current action, a link lacking in imaging, is very important and close to the essence of perception. But if we try to make the link to action part of a strict definition, counter-instances are rather easily produced.

I don't think that this problem is too important. It does seem important if you think that the problem has to be solved purely by philosophers using the method of conceptual analysis. It then becomes a

very difficult problem that nobody has been able to solve. All the suggested conceptual marks have embarrassing counter-instances. But I suggest that the problem should not be thought of in this way. We should look to psychology and neurology for the exact account of the difference. We can start from the position that we have a perfectly good, unselfconscious grasp of what perception is—seeing, hearing, touching, tasting, and so forth—and its difference from mere imaging in these same modes. We might say, as Hume said of belief when he found himself unable to give any satisfactory definition of it (*Treatise*, Book I, Part III, Section VII), "its true and proper name is *perception*". Of imaging we can say "its true and proper description is the having of mental images". But the exact difference between perceiving and imaging remains to be spelled out by science, and not by us philosophers.

But now we must consider the traditional objection to cognitive theories of perception, one quite rightly insisted upon by Foster. As we all know, it is perfectly possible to have a perception that is in some respect non-veridical and yet not to attribute, or even have any inclination to attribute, the intentional content of the perception to reality. The straight stick or oar that looks half bent when the lower end is placed in water is a traditional example. We may be perfectly familiar with the phenomenon, accept that the objects look bent, but not *attribute* bentness to them. This case not only constitutes a difficulty for cognitivism in perception, but also casts some doubt upon the alleged link between perception and action. There is, of course, a true counterfactual involved. We have *independent* good reasons, aside from the perception, for thinking that the objects are really straight. If we did not have these reasons, then we would have attributed bentness in such cases. Nevertheless, there is no actual attribution.

This objection used to trouble me a good deal. But now I do not think that it is really too serious. The propositional gloss on the cognitive theory seems to give us the resources to meet the objection. In the 'bent stick' case, we do come to acquire an actual, currently present, cognitive structure very like an ordinary perception. Its intentional structure, moreover, is the same as a through-and-through veridical perception of something bent. Compare telling a story that both narrator and audience know perfectly well is false. The story-teller's words and thoughts and the audience's thoughts do not lose their intentionality just because everybody knows that the teller is not telling the truth. We do not attribute truth to the story-teller's tale; and we do not attribute veridicality to the perception of the stick as bent.

The mind is a big place, and it contains many programs and many modules. One great program, with innumerable sub-programs, is the perceptual program. It is a completely invaluable program for steering in the world. Without it we could not live. But we get to know that, as a guide to the state of our body and the world, it has certain limitations. It is like a set of trusted and efficient spies who continuously send back reports on what is going on. But it becomes known at

headquarters that in certain limited situations reports come back that are flawed in certain ways. Headquarters, which is responsible for initiating action in the light of present circumstances, discounts these reports, overruling the *prima facie* attributions made by the spies.

We come now to the most serious of all the objections to a cognitivist theory of perception, the one on which I think John Foster would also put the most weight. It may be called 'the Argument from the Secondary Qualities', where these qualities are the qualities of color, of sound, of taste, of smell, of heat and cold and perhaps certain other qualities associated with bodily perception. Foster argues, with a good deal of plausibility, that our ordinary conceptions of these qualities involve a contradiction that is not easy to resolve.

The first point is that, as a matter of phenomenology, these qualities belong in the physical world. They characterize physical objects or physical phenomena. I suppose that the clearest case is surface color. The colors, including white and black, when they characterize surfaces seem very clearly to be intrinsic (non-relational) properties of these surfaces. As it has been said, they are 'painted on' the surfaces. The details of the phenomenology of the other secondary qualities is perhaps less clear, but we do seem to place them in the world. The sound fills the room or comes from one corner, the smell hangs around, the taste is there in the object as it meets the tongue, the hotness or coldness of the water is there in the water.

(Interestingly, the point is to be found in Berkeley, although in the service of his Idealism. In the *First Dialogue* he asks "if you will trust your senses, is it not plain that all sensible qualities co-exist, or to them appear as being in the same place? Do they ever represent a motion, of figure, as being divested of all other visible and tangible qualities?")

Yet at the same time, how can the secondary qualities qualify the physical world? There are two arguments to be noted here. One is particularly familiar, and may be called 'the argument from science' or the 'argument from physics'. I think that I only need to gesture at it here. We seem to have good reasons for excluding these qualities from the physical world because they have no natural place in our developed conception of[Here I meant to suggest omitting 'the physical' and substituting just 'that']Foster does not put weight on this argument, rightly from his point of view because he is arguing for an Idealist or Berkeleyan conception of the physical world. But it has great weight with me.

Foster develops a more purely philosophical argument, which must also be given weight. He concedes that with respect to these qualities we can distinguish between a veridical and an illusory perception of them. There can be a question about what the color of a surface really is, and so on. But, he argues, this distinction, in contrast with the primary properties, is quite superficial. In the case of the secondary qualities, veridical perception is no more than what subjectively appears to a We have, then, reasons to put the

secondary qualities in the physical world, and reasons not to put them there. I would like to argue that we should go along with the idea that secondary qualities are where they are perceived to be. They are, however, not something over and above the primary properties—whatever science eventually decides what the latter are. The secondary properties are really microphysical properties. They are not additional to the primary properties, but are certain microphysical properties imperfectly, or as Leibniz would say, confusedly perceived. If this can be made plausible, then it will be seen that the argument from physics becomes no objection. I think it will emerge that Foster's argument can also be answered.

It is surprising that this *realistic reductionism* about the secondary qualities has its best classical upholder in Leibniz, for whom the physical world is no better than a 'well-founded phenomenon'. The best quotation I have found is from his *New Essays on Human Understanding* (Leibniz, 1981). Locke had argued that there is no resemblance between pain and the motion of a piece of steel dividing our flesh. But Leibniz says:

> It is true that pain does not resemble the movement of a pin; but it might thoroughly resemble the motions which the pin causes in our body, and might represent them in the soul; and I have not the least doubt that it does. That is why we say the pain is in our body and not in the pin, although we say that the light is in the fire; because there are motions in the fire which the senses cannot clearly detect individually, but which form a confusion – a running together – which is brought within the reach of the senses and is represented to us by the idea of light (Leibniz, 132).

Again, he says:

> The ideas ... of sensible qualities retain their place among the simple ideas only because of our ignorance. (The sensible qualities only appear simple.) [IS THIS THE SAME PAGE NUMBER? Yes. Also restore [] brackets – it is my gloss, not Leibniz's remark.]

Arguing in the spirit of Leibniz, I think of our perception of the secondary qualities as awarenesses of complex microphysical properties that we are unable to analyze in any way, so that the properties present themselves to us as simple. We are aware of all sorts of intrinsic resemblances and difference among these properties, but not of the basis of these resemblances and difference. These properties are *biologically* very important properties for us and other animals to pick up, giving invaluable assistance in what Berkeley called 'the conduct of life'. But ontologically speaking these properties are complex, idiosyncratic, apparently very disjunctive in many cases, and quite fail to carve the noble beast that is the world along its property joints.

Since, furthermore, the properties are picked up in what may be called a *gestalt* fashion—the senses, for good and obvious reasons, being unable to penetrate to the real complexities involved—it is easy to see that the only way to experience these properties *in just the way we experience*

them will be to have the use of our particular set of sense-organs. If so, then there is a sense in which the experienced properties have an existence relative to perceivers, although strictly it is only our experience of these properties that has this relative existence.

So, although there is no doubt that the secondary qualities constitute the chief problem that a cognitive theory of perception must confront, I think that this problem shows promise of having been solved.φ

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