1   *Introduction*

TIM CRANE

1 *The problems of perception*

Anyone who studies the philosophy of perception will soon realise that there is not just one problem of perception. One reason for this is the bearing theories of perception have on other areas of philosophy. The obvious example here is the role of theories of perception in traditional epistemology – traditional accounts of the foundations of knowledge often depend upon particular conceptions of perception. And theories of perception also have an impact on general philosophy of mind, philosophy of science and aesthetics. As Strawson observed, philosophers' views on perception can often be the key to the rest of their metaphysics (Strawson 1979).

But perception is a subject of interest in its own right. Any full understanding of the mind must give a central place to perception, since it is through perception that the world meets our minds. But the nature of perceptual states is perplexing: do they give us access to the world that is in any sense 'direct'? Or is perception mediated by the awareness of some mental or nonmental intermediary? Are perceptions essentially conscious? Do they essentially involve sensation? Do they represent the world – do they have *content* – in the way beliefs or judgements do, and if so, can they be reduced to beliefs? In any case, how do they get their contents? And how do perceptions and their contents relate to the structure of the rest of the mind, especially to belief, desire and action?

It is with these questions, and others, that the essays in this volume are concerned. My aim in this introduction is to locate the essays in a very schematic history of these debates, and briefly locate the debates within other general issues in the philosophy of mind.

2   TIM CRANE

2   *Sense-data*

Much discussion of perception in the first fifty years of this century was concerned with the idea of *sense-data*. It is natural to begin with this idea.

It would be difficult to give a complete account of the idea of sense-data, if only because of the very different purposes to which philosophers have put this notion. As Baldwin and Snowdon point out in their contributions to this volume, epistemological and metaphysical issues were often inextricably bound up with issues in the philosophy of mind in the traditional dispute between Direct Realism, Indirect Realism and Phenomenalism. This makes it hard to see which problems are specifically problems about perception, and which therefore need to be solved by theories of perception (as opposed to theories of knowledge or reference).

But it is possible I think to separate two straightforward questions, both of which are questions about perception, and both of which have been answered by employing the idea of sense-data. The first is: what is the immediate object of perception? What is it that we immediately perceive when we perceive something? The second question is a question about phenomenology – about what it is like to have an experience. Does an experience of an object essentially involve the awareness of something else, apart from the way it represents the world to be – perhaps a sensation, or (on some views) a feature of a 'visual field'?

A sense-data theory would answer the first question by saying that the immediate objects of perception are sense-data, and then offer an account of their nature – of whether they are mental or nonmental, inhabiting a 3D or 2D space and so on. The arguments for this could very well be epistemological – like the sceptical arguments used by Russell to argue for sense-data in the first chapters of *The Problems of Philosophy* (1912). The theory might then say that material objects are perceived 'indirectly' in addition to sense-data (Indirect Realism), or that material objects are 'constructions' out of sense-data (Phenomenalism). Here the idea of a sense-datum is just the idea of an 'internal' object – an object whose existence depends on being perceived.

A sense-data theory would answer the second question by saying that what we are aware of in experience is some kind of phenomenological stand-in for the external object perceived. It would aim to identify this stand-in by introspection – as Moore did in a famous passage from 'A Defence of Common Sense', when he asked the reader to 'look at his right

hand' to find out what he meant by 'sense-data'. Here the idea of a sense-datum is the idea of what is phenomenologically 'given' in experience – and it may be an open question whether it is an 'internal' object.[1]

Though these questions can be linked – and often are – they are logically distinct. One could hold, with Russell, that sceptical arguments require that the immediate object of perception is internal, but deny that it is necessarily phenomenologically detectable. And one could hold that there is a phenomenological 'given' in perception without holding that it is the immediate object of perception. (The 'sensational properties' of Peacocke 1983 could be seen this way.)

The distinctness of these questions helps to explain the extreme and conflicting reactions that many people have to the very idea of sense-data. The situation was well expressed by G. A. Paul:

> Some people have claimed that they are unable to find such an object, and others have claimed that they do not understand how the existence of such an object can be doubted. (Paul 1936, p. 103)

This situation can be diagnosed as follows. Those who claim they cannot find sense-data are thinking of sense-data as phenomenologically discoverable entities. They introspect – perhaps following Moore's laborious instructions – and find nothing that fits the description of sense-data. They look for the sense-data, but (in J. J. Valberg's words) 'all [they] find is the world'.[2]

But those who have arrived at sense-data through (as it may be) epistemological considerations, as Russell did in *The Problems of Philosophy*, will find these phenomenological considerations irrelevant. What drives them to sense-data is the Cartesian intuition underlying the arguments from illusion and hallucination. These arguments are supposed to show that the direct object of an experience cannot be an ordinary material object, since any experience could have just the character it has without that

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[1]For more on 'internal objects' see J. J. Valberg's 'The puzzle of experience' (this volume), to which I am indebted.

[2]'The puzzle of experience' (this volume); see also the discussion of introspection in Michael Tye's 'Visual qualia and visual content' (this volume). It is possible to see some of J. J. Gibson's objections to sensation-based theories of perception this way. In *The Senses Considered as Perceptual Systems*, he claims that 'the theory of sensations as the basis of perception presumes that the infant at birth must see the world ... as a flat picture'. He thought that (something like) sense-data only figure in experience when we take the 'pictorial attitude' to what is seen: 'if it were possible to detect pure sensations' he writes, 'we could all be representational painters without trying' (Gibson 1968, p. 237).

object existing. So the direct object of experience can never be a material object, but must always be something else – an internal object or sense-datum. Given the power of the argument from illusion, how could anyone possibly deny that sense-data exist?[3]

In 'The puzzle of experience', J. J. Valberg argues that the simple but powerful thought underlying the argument from illusion forms the first half of a very general antinomy about the object of experience. There is a natural way of reasoning about experience that goes like this: things could be exactly as they are in my experience without the external object of the experience existing. God could have interfered with the causal chain leading to my experience by eliminating the external object, and yet he could have left my experience intact. So the external object is inessential to my experience: the object of experience must always be internal (in the sense mentioned above).

But when we actually examine our experience as it strikes us – when we are, as Valberg says, 'open' to our experience – it is simply impossible to believe that the object of experience is always internal. When we are open to our experience, we find nothing but the world itself. But this is not a *refutation* of the natural reasoning – and this is why there is an antinomy. Valberg argues that we may avoid the antinomy by denying that experience is the product of a causal process. But, as he says, this is surely wrong.

Paul Snowdon starts a stage further on in the debate, and tries to explicate what exactly it is to perceive something 'directly'. If we disentangle this task from the epistemological considerations that have motivated it in the past, it becomes rather harder than one might think to say clearly what is involved in direct perception. After rejecting various definitions, Snowdon offers his own – roughly, a subject, x, perceives an object, y, if and only if x can *demonstratively* identify y (if x were capable of thinking demonstratively at all). The direct object of perception is therefore identified as the direct object of demonstrative thought.

Notice that this definition does not prohibit Snowdon from saying that the direct object of perception is an internal object – a sense-datum, in the first sense of that term suggested above. For if we can demonstratively identify such objects – '*that* after-image is orange' – then on Snowdon's account we can directly perceive them. But Snowdon's point is not so much

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[3] I do not deny that phenomenology is appealed to in the argument from illusion; but the phenomenology need not be that of 2D patches of colour, as Gibson and other critics of sense-data have supposed.

to rule out internal objects, but to let in external objects as the direct objects of perception. And to forge a link here with demonstrative thought surely must be on the right lines.

Valberg and Snowdon are largely concerned with the first question – what is the object of perception? – and not so much with the second – what is the phenomenological 'given'? In 'Experience and its objects' E. J. Lowe tries to answer both, and in this respect he comes closest of all our contributors to advocating a traditional sense-data theory.[4]

Lowe presents an account of what it is to see an object in terms of a relation of causal dependency between an experience and the properties of the seen object, in such a way that one is thereby enabled to form judgements about what those properties are. The definition is not circular, since the notion of experience is independently characterised, in terms of its 'qualitative' or 'sensational' features (for more on these features, see section 4 of this introduction). Lowe then argues that perception in his sense – perception that necessarily involves sensation – is necessary for belief.

The role assigned to sensation on this picture is crucial. Seeing is defined in terms of having a visual experience, and having a visual experience is defined in terms of its 'intrinsic phenomenal or qualitative character'. To put it in terms of my two original questions: Lowe answers the question about the object of perception by means of his answer to the question about phenomenology. One directly sees an object when it is appropriately related to one's visual experiences, which are defined in terms of sensations. So on Lowe's view, one cannot see without a phenomenological 'given' – that is, without sense-data, in the second sense of the term mentioned above.

It may seem odd to be paying so much attention to sense-data. After the attacks on the various conceptions of sense-data by Austin (1962), Ryle (1949) and Wittgenstein (1958), it became orthodox to mock sense-data and their kin. The sense-data theory became the archetype of the sort of gross philosophical illusion. Sense-data were supposed to be a 'myth' (Barnes 1944) and believing in them involved a 'fallacy' – so much so that in a set of essays devoted to perception published twenty years ago, F. Sibley's *Perception: a Symposium* (1971), there was hardly a mention of sense-data.

I hope some of the essays in this volume show that there is much that is worth recovering from the sense-data tradition.

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[4]Though unlike some traditional empiricists, and unlike modern sense-datum theorists like Brian O'Shaughnessy (1980) and Frank Jackson (1977), Lowe favours a treatment of sensations as properties of visual experiences, rather than objects.

3   *Representational content and experience*

But the critics of sense-data had many powerful objections. Particularly significant is the point – raised above in connection with the phenomenology of perception – that normal experience yields information about how things are in the world, not just about 'how it is with you', considered independently of the world.

This leads to what we can call (following Baldwin[5]) the 'Informational Theory of Perception'. Given the division of labour mentioned between the epistemology and the metaphysics of perception, the role to be played by an informational theory could be conceived as follows. Perception gives us information about our environment – it enables us to form beliefs (make judgements) about how things are in our immediate surroundings. This truism is enshrined in ordinary usage: we normally believe what we see. But what we believe is *that* things are so and so – our beliefs have propositional, or intentional, or representational *content*. So if we believe *what* we see, must not our experiences have some sort of content too? Indeed, we often see that it is raining, hear that the bus is coming, and so on. Don't these idioms give support to the idea that the chief function of perception is to represent the world?

The introduction of the notion of *content* is part of a wider movement in the philosophy of mind. Since the 1970s this area of philosophy has undergone important changes, and the most significant of these is the increased interest in the notions of *mental representation* and *content*. This interest has two main sources.

First, the question of meaning in the philosophy of language – the focus of research in much 1960s and 1970s philosophy – has been seen by many as requiring answers from the philosophy of mind. To understand how language represents, we have to understand how linguistic items gain their representational powers from the states of mind of those who use them.

Second, the growth of the cognitive sciences has provided a fruitful framework in which to study the notion of representation generally. In particular, computational or information-processing models of the mental have suggested ways to approach the traditional questions of the philosophy

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[5]'The projective theory of sensory content' (this volume). 'Representational' would be a good name for this theory, but there is then a danger of confusing the term with another name for the sense-datum theory: the Representative Theory. As Baldwin says, calling it the informational theory leaves it open whether these 'informational states' are genuinely beliefs – as in Armstrong 1968 – or some other kind of state with content – as in Millar 1991.

of mind: how does the mind get 'outside' itself and represent external objects? What is the relation between mental states and states of the brain? What is reasoning, and how can it lead to action? The computational theory of mind, as defended by philosophers such as Fodor (1987), suggests ways of answering these questions: mental processes are, literally, computations: causal sequences of token representations, processed algorithmically.

This shift of interest in the philosophy of mind generally has, as one might expect, had its effects on the philosophy of perception. One obvious effect is the now generally accepted assumption that perceptions have content (whether or not they have other features too). Moreover, recent empirical studies of vision have thrown light on the mechanisms by which this content is produced. In particular, computational theories of vision attempt to specify the computational processes that result in visual representations of the objective world.[6] These theories employ the notion of representation, and hence (implicitly) content, and one would thus expect that they might shed some light on the philosophical debates surrounding these notions. The following questions, in particular, arise: how are the specifications of content employed by computational theories related to those which the common-sense psychological vocabulary employs? And how is the upshot of these putative computations – the '3D description' – related to the phenomenology of experience – descriptions of which could be offered by any articulate perceiver? The first question is a general one in the philosophy of psychology and cognitive science; the second is specific to the philosophy of perception.

But whatever such psychological theories achieve, we still need to give an account of the phenomenology itself. And this is where the phenomena of perception once again raise their own distinctive problems. For although it is right to say, with the informational theory, that experiences have contents, this is not yet to say very much. The notion of *content* is a philosophical term of art – so without an account of perceptual content, the informational theory is a mere promise. The essays by Peacocke, Tye, Baldwin and myself offer, in very different ways, some elements of such an account. It will be useful to locate them relative to a landmark of recent philosophy of perception – chapter 1 of Christopher Peacocke's *Sense and Content* (1983). This will also help to introduce the idea of sensation.

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[6] One psychological theory that has had an enormous impact on recent philosophy of mind is that of David Marr and his associates – see Marr 1982. For a good survey and discussion of the issues involved here, see Boden 1988, chapters 1-3.

In this chapter, Peacocke aims to clarify the distinction between the representational and sensational properties of an experience, and to argue that 'concepts of sensation are indispensable to the description of the nature of any experience' (Peacocke 1983, p. 4). Peacocke here is setting himself against the claim that the subjective character of any experience may be *completely* characterised by a description of its sensory channel (sight, touch) and its representational content. I shall call this theory – that the subjective character of any experience may be completely so characterised – a *'Pure* Informational Theory' (PIT).

Peacocke argues that any PIT is inadequate, since experiences have essentially sensational properties too. These are 'other aspect[s] – other than representational content – of what it is like to have that experience' (Peacocke 1983, p. 5). He illustrates what these other aspects are by using examples like the following. Suppose you are standing on a road, and in the distance there are two trees, one a hundred yards away, the other two hundred yards. Your experience represents them as being both the same size, but one takes up more 'space' in your visual field. Although there is a sense in which one 'seems' bigger than the other, it does not seem to *be* bigger than the other; it is not *represented* as being bigger. The PIT cannot account for this aspect of the experience, since it takes an experience to be exhausted by how it represents the world to be.

The natural way for the PIT to respond is to try and show that the features of experience that Peacocke is calling sensational are really representational. For example, it could be said that the content of the experience includes the angle subtended in the visual field by the perceived object.[7] So the nearer tree, though represented as the same size by the experience, subtends a larger visual angle, and this explains the phenomenological effect without invoking any nonrepresentational, sensational properties.

Peacocke responds to this suggestion by observing that a perceiver can have the experience of the two trees without possessing the concept of subtended angle. And he argues that this cannot be part of the representational content of an experience, because

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[7] See Rock 1975, pp. 39, 47, 56. Michael Tye takes this line against Peacocke in 'Visual qualia and visual content' (this volume).

> it is a conceptual truth that no-one can have an experience with a
> given representational content unless he possesses the concepts from
> which the content is built up. (Peacocke 1983, p. 19)

So the concept of *subtended angle* cannot be part of the representational
content of the experience (of the two trees) if a perceiver can have that
experience without having that concept.

Whether this is right depends on how we understand the crucial terms
'concept' and 'representational content'. But at least on the face of it, the
claim seems too strong. Consider, for example, the experience of colours.
As I look out of my window, I see an old brick wall and a shabby brown
fence. Their surfaces have many different colours – shades of brown, grey
and red. I can, at this moment, distinguish all these colours that my
experience offers me, and they are *presented* or *represented* to me as
different. But is it right to say that I must have *concepts* of them all in order
for my experience to be like this? It is not obvious that I am able to classify
all these colours – for instance, I am not confident that my experience gives
me anything that will enable me to identify them if I saw them again.
Whatever 'concept' means, it just seems too much to ask that I have concepts
of all these shades of colour in order to perceive them.[8]

Soon after *Sense and Content* was published, Peacocke changed his mind
on this issue. In 'Analogue Content' (Peacocke 1986a, p. 15) he remarks
that

> When we enter a room, even a room full of abstract sculptures, we
> perceive things in it as having particular shapes: and there is no
> question of this requiring that we had in advance concepts of these
> particular shapes.

Thus an experience can represent the world as being a certain way – it can
have a representational content – without the subject having a *concept* of
that way. We can call the contents of such experiences, '*nonconceptual*
contents'.

In 'Analogue Content' and 'Perceptual Content' (Peacocke 1989a),
Peacocke argued that experiences have nonconceptual contents, but not
simply on the basis of intuitions about phenomenology, such as that

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[8] I should mention that some philosophers would say that I must have a *demonstrative*
concept – *that shade* – for each shade I perceive. Whether this is right, of course, depends
on the correct theory of demonstrative content: a contentious subject.

mentioned. He argues that the contents of experience should not be individuated in terms of the Fregean criterion of difference for senses, or 'modes of presentation': if two senses, s and s^*, are identical, then the thought that *the thing presented by s = the thing presented by s^** is uninformative. It follows that if you can rationally wonder whether s^* is s, then s and s^* are different senses or modes of presentation.

But it is quite possible, Peacocke claims, for a perceiver to perceive two distinct lengths – say the lengths of a column and a window – as the same, yet to rationally wonder whether in fact they are the same length. In this case, to learn that the length of the column is identical with the length of the window would be informative. Yet *ex hypothesi*, the lengths are perceived as the same. So the ways in which the lengths are perceived are not Fregean senses or modes of presentation (Peacocke 1986a, p. 14). Since, in standard terminology, concepts are individuated (at least in part) by the Fregean criterion, then this is one route to the thesis that perceptions have nonconceptual contents (see Crane 1988a).

It is very plausible then that the representational content of experience is not individuated by the principles that individuate the contents of beliefs and other propositional attitudes. And this, in part, is what makes them nonconceptual (though as we shall see, the term is not yet wholly clear). But what more can be said about these nonconceptual contents?

In his contribution to this volume, 'Scenarios, concepts and perception', Peacocke develops a more detailed account of the nonconceptual content of perception than he gave in his earlier treatments. He argues that the content of a perceptual state is what he calls a 'scenario': roughly, a set of ways of filling out the space around a perceiver with properties, relative to an origin (e.g. the centre of the chest of a human body) and a set of axes (typically up/down, left/right, forward/back). A scenario is thus not a proposition (in any of the traditional senses) nor a Fregean Thought, but a 'spatial type', composed of properties and a notional 'volume of the real world'.

But why are these types *contents*? Peacocke's answer is that it is because they have 'correctness conditions' – conditions under which they represent the world correctly. The scenario is the type which includes all and only those ways of filling out the space around the perceiver that are consistent with the correctness of the experience. What it is for the content to be correct, in the case of a scenario, is for the properties that make it up to be *instantiated*; for the type to be tokened.