

## The case against direct realism

**Paul Griffiths argues that analytic philosophy took a wrong turn when it espoused direct realism in the middle of the last century. From the perspective of cognitive science, it seems that we can have the directness-claim or the realism-claim but not both together.**

[[Cartoon artwork showing direct realism in the dock facing a retrial]]

The late twentieth century saw a dramatic rise in the fortunes of “direct realism”. Up until the middle years the vast majority of philosophers dismissed theories of direct perception, essentially the common sense understanding, as hopelessly naïve, but by the close they had become the orthodoxy within analytic philosophy. In contrast, mainstream cognitive science has remained constant in its opposition to the notion of direct perception. Here is a conflict with profound implications for our understanding of this world in which we find ourselves.

So what is “direct realism”? And why does it matter?

According to Wikipedia, direct realism is the idea that *the senses provide us with direct awareness of objects as they really are*. This, the directness-claim, captures well the essential connection with our pre-critical intuitions of direct perceptual access to the world. However, as the term suggests, “direct realism” also makes a realism-claim, that *the world of objects has an existence that is not in any way dependent upon it being perceived*.

It is the realism-claim which unites direct and indirect realism against idealism, and the directness-claim on which the two realisms divide. We can think of Locke and Berkeley, respectively, as proponents of indirect realism and idealism. There were very few direct realists amongst the Early Moderns when Thomas Reid was something of a lone voice in defending common sense and our pre-critical intuitions.

But why should a debate between theories of perception have profound implications? Alva Noë and Evan Thompson put it well in introducing a collection of papers on the science and philosophy of perception: what is at stake is one’s understanding of consciousness itself and one’s place in the natural world. A D Smith puts it still more succinctly as the choice between realism and idealism. The stakes could not be higher.

## **The twentieth century rehabilitation of direct realism**

Until the 1950s, students would have been disabused of the common sense understanding of perception in Philosophy 101. Bertrand Russell does the job in the first few pages of his 1912 best seller *The Problems of Philosophy*. Indeed, John Searle now talks of the “embarrassing fact” that if you look at the history of philosophy from Descartes on, there were no direct realists among the great philosophers. So what happened to turn the tables?

Two arguments against direct realism held sway up until the early years of the twentieth century. The Argument from Illusion, which draws on illusory and hallucinatory cases in which our senses do not provide us with direct awareness of objects as they really are. And the Argument from Science, which draws on our understanding of the perceptual process in terms of a complex causal chain involving, say in the case of vision, light rays, retinas, optic nerves and brains. For a period in the middle of the last century there was relatively little interest in the philosophy of perception. However, when philosophers returned to the topic the alternatives to direct realism (indirect realism and idealism) were at odds with the new intellectual climate: particularly its commitment to physicalism, but also the vestiges of Linguistic Philosophy which gave a newfound authority to common sense. Thus motivated, the longstanding arguments against direct realism came under renewed scrutiny.

With the focus on the argument from illusion, two types of objection were raised: “disjunctivist” and “representationalist”. The former accepts that in the case of illusion and hallucination our senses do not provide us with direct awareness of objects as they really are, but rejects the generalisation of this conclusion to the standard (so called “veridical”) case. The latter rejects the argument from illusion outright on the basis that it rests on a fundamental misunderstanding of the nature of perception. These objections draw on controversial principles and a, sometimes strident, debate continues within the direct realist camp. Nevertheless, although there are a few dissenters, direct realism, in one form or the other, is now the orthodoxy within contemporary analytic philosophy.

Philosophers started the twentieth century as indirect realists or idealists, lost interest in the middle years, and espoused direct realism on their return.

## The debate within cognitive science

Whilst the philosophy of perception changed course in the middle of the last century, mainstream cognitive science has remained true to its Helmholtzian roots (Herman von Helmholtz 1821-94) and rejects the notion of direct perception as incompatible with our scientific understanding of the perceptual process. In the 2002 *MacMillan Encyclopedia of Cognitive Science*, Alva Noë characterises the theory of direct realism as a sophisticated response to the widely held view that perception could not be direct.

According to mainstream cognitive science the notion of direct perception is simply incompatible with the underlying physics. As Noë puts it, when you see a tomato you do not make direct contact with it. At best you make contact with the tomato only as mediated by a complicated causal process: the tomato affects the light which gives rise to a pattern of stimulation of the receptors in the eyes which in turn produces activity in the optic nerve and brain. At the terminus of this process there is the visual experience as of a tomato. The tomato enters the process only as a remote cause of the experience one eventually undergoes.

Such an indirect realist understanding of the perceptual process is implicit within much of the wider scientific community. Richard Dawkins tells us that what we see is a model of the real world, and Stephen Hawking talks in terms of our brains making a model of the outside world. Decades earlier, Hiram McLendon reports Einstein as having expressed “great admiration” for Russell’s defense of indirect realism.

However, there are counter currents within cognitive science and unequivocally-direct theories of direct perception are championed by James J Gibson (1904 – 1979) and his intellectual successors. Gibson’s insistence that perception must be understood in terms of its role in enabling an organism to survive and thrive in its environment, rather than a disembodied brain discovering facts about the world, has been widely accepted. On the other hand, his theory of direct perception remains highly controversial. Indeed, if Helmholtz is seen as the founding father of orthodox cognitive science, Gibson is the anti-establishment iconoclast who rejects much of what has gone before as on the wrong track and of little value.

Gibson talks in terms of “resonance”, “affordances” and “information pickup”, rather than the complex causal sequence of processes and representations discussed within mainstream science, though he is notoriously reticent about the mechanisms involved. Nonetheless, if, as he supposes, perception is not to be understood in terms of signals from the sensory organs

but, rather, the senses are analogous to tentacles or feelers, he has thereby removed a major obstacle to the claim that perception is direct. There is a similar rejection of the standard causal picture in Gibson's avowedly-radical twenty first century successors.

Direct perception might be the orthodoxy within analytic philosophy, but it is the heterodoxy within cognitive science. Moreover, when theories of direct perception are defended by a small but increasingly influential minority, it is at the expense of the naturalistic worldview which underpins mainstream cognitive science and much of analytic philosophy.

## **Conflict – What conflict?**

But, perhaps perception is direct in the one sense and indirect in the other. Indeed, back in the 1950s when Linguistic Philosophy was in the ascendant, Gilbert Ryle maintained that the philosophy of perception stands apart from the science and should confine its attention to giving an account of how certain words work. Few, if any, philosophers would now agree. Nevertheless, the vestiges of this demarcation remain and John Smythies refers disparagingly to those direct realists who claim that they are dealing with the logic of perception which leads a life miraculously independent from the scientific account of how perception actually works. But such a deflationary construal would reduce “direct realism” from a robust defence of our pre-critical intuitions of direct perceptual access to the world, to what is, at best, a comparatively insubstantial claim. Moreover it would be a pale shadow of the direct perception defended within Gibsonian cognitive science.

Peaceful coexistence and withdrawal into separate camps is not an option. It would not address the substantial metaphysical and epistemological issues which are at stake. Only philosophically sophisticated cognitive science, or scientifically savvy philosophy, call it what you may, has the resources to address the problem.

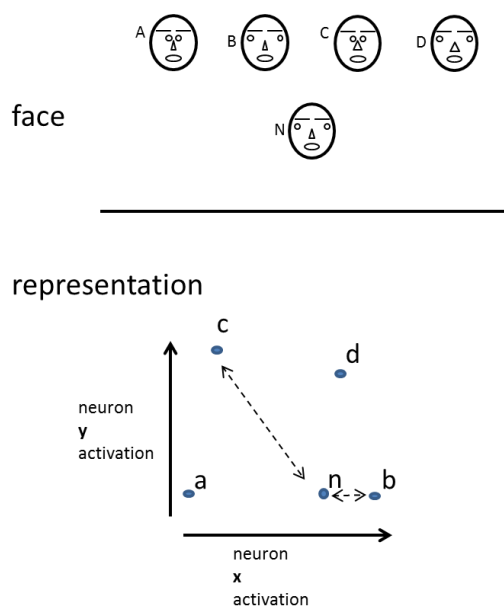
## **Mainstream cognitive science and the directness-claim**

The notion of representation plays a key role in both the philosophy and science of perception and provides the common ground on which to explore the conflict.

According to mainstream cognitive science, perception is a process whereby the brain, builds up representations of relevant features of the environment using information from the senses. On this basis, plausible explanations of perceptually guided behaviour, say discriminating between prey and predators, have been proposed in terms of representations in neural

networks. However, the problem for the direct realist is that such representations are incompatible with the directness-claim.

This point is best made with a simplified version of an example used by Patricia Churchland and others. That is representations in an artificial neural network which can discriminate between faces. Suppose that four faces, **A**, **B**, **C** and **D**, have two distinguishing features, eye separation and nose width, which activate two neurons **x** and **y** somewhere in the network. The greater the eye separation the more neuron **x** is activated and the wider the nose the more neuron **y** is activated. Thus faces **A**, **B**, **C** and **D**, can be represented by points **a**, **b**, **c** and **d**, as in the diagram. For



example, face **D**, with widely separated eyes and wide nose, activates both neurons to a high level and is represented by point **d**.

The utility of such a network, for the purpose of initiating perceptually guided behaviour, is that similar faces are represented by nearby points and dissimilar faces by distant points. Suppose type **B** faces are predators and type **C** faces are prey. Then on encountering a new face **N**, avoiding action could be initiated on the basis that, since point **n** is nearer to **b** than to **c**, face **N** is likely to be a predator. (There is of course no suggestion that points are actually plotted-out in the brain, but the notion of distance between points carries over into multidimensional abstract spaces.)

The essential point is that such representations provide information about the relationship between objects rather than the properties of objects. Though they share the same structural relationships, face **B** is similar to face **N** and representation **b** is similar to representation **n**, there is no similarity between face **B** and representation **b**. As Shimon Edelman puts it, they are representations *by* similarity rather than *of* similarity. The problem for direct realism is this. Contrary to the directness-claim, that the senses provide us with direct awareness of objects as they really are, physical objects do not share any properties with the

representations on which, according to mainstream cognitive science, our perceptions are grounded.

## **Gibsonian cognitive science and the realism-claim**

Within cognitive science representations are inextricably linked with theories of indirect perception. So perhaps direct realist philosophers should join forces with Gibson and the non-representationalist minority?

However this would be an unsustainable alliance. As we have seen, Gibson and his twenty first century intellectual successors defend direct perception at the expense of questioning assumptions which underpin both analytic philosophy and mainstream science. Many are sympathetic to the Phenomenological Tradition within which the likes of Heidegger and Merleau-Ponty question the independent reality of the natural world, and some draw connections with Berkeley's idealism.

To claim that there is an essential connection between non-representationalist cognitive science and anti-realism would be to go too far; the debate is ongoing. However, the parallels between Gibson's directly perceivable "affordances" and Merleau-Ponty's meaning-laden environment were recognised from the outset. Both reject the notion of a perceiver-independent objective world. This notion is further undermined by those who propose theories of "extended cognition" in which the cognitive system extends beyond the body out in to the world. Here we have a Heideggerian dissolution of the distinction between the perceiver and that which is perceived.

These are indeed major departures from the realism-claim which underpins mainstream cognitive science and contemporary analytic philosophy. But such is the cost of defending the directness-claim. Anthony Chemero talks of a burden so severe that it may outweigh all the advantages to conceiving perception as direct; though as a proponent of radical embodied cognitive science he is prepared to bear it.

## **Conclusion**

Direct realism brings together the directness-claim and the realism-claim to defend our pre-critical intuitions of direct perceptual access to a mind-independent world. However, the debate within cognitive science brings to the fore the tension between the two claims which first emerged between Berkeley and Locke in the Early Modern era. From the perspective of

twenty first century cognitive science, you can have the directness-claim, or the realism-claim, but not both together. This presents the direct realists with a dilemma.

The rehabilitation of direct realism in the middle of the last century was in large part motivated by the need for a theory of perception which was conducive to the newly ascendant physicalist worldview. Direct realism served this purpose well since, by virtue of sustaining the directness-claim, there was no need for the mind-dependent “sense data” which appeared to be an essential feature of indirect realism or idealism. So far, so good.

However, the problems for direct realism arise when the physicalist understanding of the perceptual process is fleshed out in terms of cognitive science. Mainstream science rejects the notion of direct perception and is incompatible with the directness-claim. The avowedly-radical Gibsonian minority defend direct perception, but at the expense of rejecting the physicalist worldview and undermining the realism-claim.

Harking back to the demarcations of 1950s Linguistic Philosophy, direct realists may claim to be defending the notion of direct perception in a sense which is independent of our scientific understanding of the perceptual process. But such a defence would be the equivalent of getting off a drink-driving charge on a legal technicality whilst admittedly drunk at the wheel. The verdict may be in accordance with statute, but we wouldn't want the accused driving the school bus. Nor would we want a theory of direct perception which was acquitted on such legalistic grounds driving our worldview.

We should call for a retrial.