



Stokes's malleability thesis and the normative grounding of propositional attitudes

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Abstract

The position that Stokes's *Thinking and Perceiving* aims to overthrow is committed to the idea that the facts about one's propositional attitudes and the facts about one's perceptual experiences are alike grounded in facts about representations (in various formats) that are being held in a short or long term memory store, so that computations can be performed upon them. Claims about modularity are claims about the distinctness of these memory stores, and of these representations. One way in which to reject those claims is to deny only that distinctness. A more radical way would be to reject the underlying idea that facts about perception and facts about propositional attitudes are alike grounded in facts about stored representations. Although the more radical approach might seem to face a problem concerning causal efficacy, I suggest that the way is open for Stokes to take it.

Keywords

Modularity · Perception · Expertise

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1 Rejecting the Fodorian picture

If you were a cognitive scientist in the last decades of the twentieth century then you may have been attracted to an exclusively feed-forward picture of the processes by which beliefs are acquired from experience. That picture is likely to have been one in which the processes of perception were taken to implement an algorithm computing a function from proximal stimuli to representations of one's environment (along the lines theorized by Marr, 1982). The representations generated by this algorithm would then serve as the inputs for a subsequent process, with the role of generating and regulating our doxastic commitments. The most

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philosophically complete account of this picture was given by Fodor, in his 1983 (Fodor, 1983).

Working memory was implicated in the second, and more doxastic, of these processes. So too were consciousness and abductive rationality. Explaining this second process was therefore a daunting prospect, but the hope was that, before that prospect needed to be faced, explanatory questions about the first, merely perceptual phase of belief acquisition could be broached more or less independently. Such hopes were founded on the idea that this perceptual processing would turn out to be the work of a module, which would be encapsulated enough to be innocent of any explanatory entanglement with the more philosophically puzzling aspects of the mind.

If this Fodorian picture had been accurate then perception would have been relatively easy to study with the methods of cognitive neuroscience, and relatively easy to model computationally. The epistemologists' task might also have been a more straightforward one, since it would have been relatively easy to credit perceivers with uncontaminated objectivity. Those implications would have depended on the picture being one in which cognitive states do not serve as arguments for the function that the perceptual process computes (although facts about one's environment might nonetheless figure in the explanation of the efficacy of the algorithm that that computation implements: this algorithm's success in arriving at accurate representations of depth might, for example, be explained by the fact that light comes typically from above, but the algorithm would need to depend on this fact without making use of any representation that grounds a personal-level attitude to that fact.)

Those who adopted this picture often did so as a working hypothesis of convenience, rather than as a matter of conviction. No element of the picture was ever free from controversy. Philosophers over the last twenty years have taken issue with every part of it, launching attacks on various fronts, from various positions. The picture nonetheless retains its cachet. It continues to serve as a point of departure, with new approaches defining themselves in contrast to it. In the first half of *Thinking and Perceiving*, Dustin Stokes marshals arguments suggesting that, when this picture's rationale is examined in the light of more recent empirical findings, it is no longer credible as an account of the way in which perception is actually accomplished, at least in the human case. Stokes also thinks that it would be a mistake to regard this as a partial picture, from which reality deviates only in exceptional cases. He suggests that our current theorizing has been unhelpfully skewed by this picture's ongoing role, as a foil for more recent views. Summarizing the results of the discussion in his book's first half, Stokes writes:

[M]odularity does not deserve the default theoretical position: Neither its arguments nor its explanations are sufficient to justify such a default. Accordingly, novel proposals in the philosophy and cognitive science of perception need not attach their success conditions to undermining or disproving modularity; they need not make the case

that an interesting cognitive-perceptual phenomenon 'counts' as cognitive penetration. To do so is to continue to make that very default assumption and suffer the theoretical restrictions that come with it. (Stokes, 2021, p. 141 f.)

In the second half of his book, Stokes therefore sets out on a course that attempts to leave this old picture behind. While doing so, he makes a plausible case for a claim ('the *TiP* thesis'), according to which thinking sometimes exerts an epistemically beneficial influence on perception. That claim is contrary to the spirit of the old picture, and undermines some of the considerations that were supposed to speak in favour of it. In advocating it, Stokes hopes to exemplify the benefits of working with a rival picture of perception's relationship to cognition.

The reader is shown enough of this rival picture for us to know that the *malleability* of perception features prominently in it. But there are various different pictures within which Stokes's *TiP* thesis could be accommodated, and malleability might be prominent in several of them. To effectively exclude the old picture from its role as the default view, one would like to instate some particular rival in its stead. One would therefore like to know which of the various malleability-accommodating views to favour.

The most radical of those views would reject a fundamental part of the old picture, by taking perception or cognition to be something other than a computational process that generates representations. Less radical alternatives would retain the idea that both cognition and perception are constituted by computational processes that generate representations, whilst rejecting only the idea that these processes are encapsulated from one another. The lion's share of Stokes's discussion takes the less-radical approach, treating perception as a representation-generating computation. There are some remarks (especially in the book's epilogue) suggesting that this might be a simplification that has been made for the purposes of exposition, and that Stokes's sympathies might tend in the direction of something more radical. But one who departs from the old picture only on the point concerning modularity might accept the arguments given in all of his book's more precisely regimented parts.

I would like to take the present opportunity to draw Stokes out on the point of just how radical he thinks our departure from the Fodorian picture should be. To this end I want, below, to sketch one way in which the traditional picture might be rejected. Having sketched this view, we will see that its radicalism is somewhat circumscribed: it breaks from the old picture's conception of belief, but does so while retaining some of the explanatory advantages that had made that old picture's account of perception appealing.

2 The old picture's metaphysics

The to-be-rejected picture was primarily a hypothesis about processing architecture, but it was imbued with ideas about the metaphysics of the psychological entities that this architecture was supposed to explain. More specifically, it was a picture in which facts about perception and facts about cognition are both grounded, more or less directly, in facts about the representations that are handled by computational processes taking place in the brain (and perhaps also by processes taking place in some more extended system of which the brain is a proper part, but extendedness is not the point that is currently at issue).

The advocates of this to-be-rejected picture took one's *perceiving* that P to be grounded in the fact that one has some representation of P among the set of representations that one's perceptual processes are now outputting. They took one's *believing* that P to be grounded somewhat similarly, in the fact that one has some representation of P in a memory store from which it can be summoned for use in reasoning. The representations in these two cases might have very different formats, and the processes in which they participate might be computationally very different, but, in each case, there would be a personal-level fact about psychology – that some thinker is having an experience as of it being the case that P, or that the thinker believes that P – and this fact would be metaphysically grounded in a sub-personal fact about a representation being held in a store of the right sort. Advocates of this view were therefore willing to speak as if the brain contained, *inter alia*, a 'belief box' and a 'perception box'.

When deciding how radically to depart from this picture, a crucial choice-point is whether to retain these two claims about the metaphysical relationship between the personal and subpersonal levels. I would like to use this opportunity to encourage Stokes to be explicit about his own choice at this point. Both of the old picture's metaphysical claims can be retained in a theory that follows Stokes in rejecting the encapsulation of perception from cognition, just by allowing the contents of the belief box to serve as arguments for the function that is computed by the process that generates the contents of the perception box. But some of the remarks in Stokes's epilogue suggest that, when arguing for the rejection of encapsulation, he is hoping to point us towards a picture in which the relationship between facts about beliefs and facts about representations in the brain is metaphysically different in kind from the relationship between facts about perceptual experiences and such facts about the brain. Perhaps the facts about perception are indeed grounded in facts about the right sort of representation being present in the right sort of box, whereas the facts about propositional attitudes stand in a metaphysically different sort relationship to those facts. Perhaps those attitudes are instead grounded in facts about the most rational interpretation of a person's overall behaviour (in the style of [Dennett, 1987](#)). Perhaps they are grounded in facts about that person's position in the interpersonal game of giving and asking for reasons (in the style of [Brandom, 1994](#)). Or perhaps they emerge in some very

different way. The brain might still contain representations of some of the propositions to which these attitudes are taken, and these representations might make a notable contribution to the behaviour that is to be interpreted, or to the way in which reasons are given and asked for, but the role of those representations, in providing a metaphysical grounding for facts about a person's attitudes, would be different in kind from their role in providing a grounding for the facts about that person's perceptual experiences.

The picture of perception that Stokes is rejecting was advanced as part of a larger Fodorian programme in the philosophy of mind, which had views like Dennett's and Brandom's as its opponents. All of these theorists face the challenge of explaining how attitudes can be causally efficacious. If Stokes's malleability claim is right then this is a challenge that needs to be faced sooner rather than later, since attitudes already have causal work to do in bringing the thinker into perceptual contact with her surroundings, even before that thinker starts to act on those surroundings. Answering this challenge might seem to be relatively straightforward work for a theorist who takes the less radical route of retaining Fodor's idea that attitudes and perceptions are alike grounded in facts about the presence of representations in boxes: representations in one box can exert a causal influence on the process that delivers representations to the other box, merely by serving as inputs for the computation that this process implements. That much requires nothing metaphysically *recherché*.

But this challenge looks more severe on a Dennettian or Brandomian account of the way in which the attitudes are grounded since, for these theorists, the influence of the attitudes on perception will already be a case of interaction between entities from metaphysically distinct categories. If facts about belief are grounded in normative facts (such as facts about one's entitlement to make moves in the game of giving and asking for reasons) then Stokes's malleability claim will require such normative facts to exert a causal influence on the facts about representation that ground perception. Something metaphysically *recherché* does seem to be required here. And so it can seem like metaphysical complications are avoided by taking the less radical path, at the choice-point that was identified above, by retaining the Fodorian conception of the way in which attitudes are grounded. I nonetheless want to suggest that the way is open for Stokes to take the more radical path, without thereby running into metaphysical difficulties.

3 The perceptual benefits of expertise are not effects of conscious beliefs as such

One takes this more radical path by adopting a normative account of the facts in which attitudes are grounded. These facts about normative standing will not map directly onto any merely descriptive facts about the brain, but those facts about the brain will still make some difference to that standing, by making a difference

to the way in which a thinker plays the game of giving and asking for reasons (or by making difference to the way in which that thinker behaves, and thereby making a difference to the way in which their behaviour is best interpreted). On either of these views, the attitude-grounding facts will include facts that are in the right place to do the causal work that Stokes's malleability claim requires. But the literature on mental causation has made us familiar with the idea that being in the right place is not enough: having a rook on one's chess board may play a role in grounding the normative status of having checkmated one's opponent, and it might also put this rook in the right place to exert a causal influence outside of the game, without the normative standing that it grounds being relevant to those extra-ludic effects. The dog that chokes on a checkmating rook has not been incapacitated by a winning-move *as such*. To explain the efficacy of the mental *as such*, it is not enough for the states that ground the attitudes to enter into causal relations. We want them to do so 'qua mental'. And this seems to make a familiar sort of trouble for a Dennettian or Brandomian version of Stokes's picture. The point that I want to bring to light here is that, whether or not that trouble is soluble, for Stokes it is trouble that can be avoided.

To see why, notice that the empirically-demonstrated effects that provide Stokes with his reasons for claiming that thinking exerts a virtuous influence on perception are derived from studies of the perceptual benefits that come from the acquisition of expertise. The latter half of his book examines the ways in which an expert's thinking (about fingerprints, or radiological scans, or greebles) is found to have a virtuous influence on the speed and accuracy of their perception. That thinking will include the formation of propositional attitudes concerning these various topics of expertise. But it is not obvious that the virtuous influence of this thinking is as an influence of these attitudes *as such*. A counterfactual test for causal relevance suggests otherwise: suppose that a fingerprint expert has been so thoroughly bamboozled by some global sceptic that she no longer *believes* any of the propositions that she learned when acquiring her expertise. Perhaps she even acquired this expertise while remaining resolutely agnostic about the theories on which it was based. If she nonetheless remained motivated and attentive then the lack of a believing attitude seems unlikely to deprive this expert of the perceptual abilities that her expertise explains. And this suggests that, even for the expert who avoids falling into scepticism, it was never the attitude of belief *as such* that was explanatory of their perceptual performance. It was instead some subdoxastic body of stored information that figured in the grounding of such an attitude, when accompanied by an appropriate background. But if it is not belief *as such* that explains the expert's perceptual abilities then the qua-problem is toothless as an objection to the idea that that expert's attitudes have a different metaphysical grounding from the perceptual states that show the influence of her expertise.

A similar point can be made about the expert's consciousness of the contents of the attitudes that are concomitant to the acquisition of her expertise. A 2002 study by Fahle and Daum (2002) suggests that at least some patients with profound

anterograde amnesia can improve their performance in a visual discrimination task at the limits of their acuity, and that they can retain this benefit for some time. The perceptual benefits of such learning must involve some stored information, but they seem not to depend on that information being accessible to working memory, since these benefits are present even when amnesia prevents such access. Perhaps, in the normal case, the states that represent this information might play a role in grounding some conscious attitude to the propositions represented, but the effects of these representations on perceptual performance seems not to be an effect that they have *qua* grounders of a subject's conscious propositional attitudes.

The effects of expertise that Stokes cites can therefore be taken as support for his claim that thinking has a beneficial effect on perception, but they should not be taken as establishing that the processes of perception are influenced by one's conscious beliefs *as such*. The way is therefore open for him to adopt a position in which conscious attitudes stand in a relationship to the brain that is metaphysically different in kind from the relationship that is seen in the case of experiences. Rather than departing from the Fodorian picture merely by allowing the contents of the belief box to exert an influence on the processes that output representations to the perception box, Stokes can make the more radical move of rejecting the idea that facts about belief are grounded in facts about the appropriate boxing of representations.

Such a move is unlikely to be welcomed by the diehard Fodorian. It nonetheless enjoys some of the advantages of the Fodorian picture with which we began. By allowing that the states influencing perception are not conscious beliefs *as such* (even if they are representations that do typically play some role in the grounding of such beliefs), the version of Stokes's picture that I have sketched allows the explanation of perception to be disentangled from the explanations of consciousness, and of the abductive inferences in which beliefs characteristically participate. It therefore warrants some of the same explanatory optimism that accompanied the picture with which we started.

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