

## Sensorimotor Chauvinism?

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O'Regan and Noe present a wonderfully detailed and comprehensive defense of a position whose broad outline we absolutely and unreservedly endorse. They are right, it seems to us, to stress the intimacy of conscious content and embodied action, and to counter the idea of a Grand Illusion with the image of an agent genuinely in touch, via active exploration, with the rich and varied visual scene. This is an enormously impressive achievement, and we hope that the comments that follow will be taken in a spirit of constructive questioning. Overall, we have two main reservations.

The first, which we are sure others will pursue in more detail, concerns the claim to have dissolved or side-stepped the 'hard problem' of visual qualia. Even if the contents of our conscious visual experiences reflect ways of acting in the world, the hard problem surely remains. A good Ping Pong playing robot, which uses visual input, learns about its own sensorimotor contingencies, and puts this knowledge into use in the service of simple goals (e.g. to win, but not by too many points) would meet all the constraints laid out. Yet it seems implausible to depict such a robot (and they do exist- see e.g. Andersson 1988) as enjoying even some kind of modest visual experience. Certainly, someone could buy into all that O'Regan and Noe offer as an account of how certain visual experiences get their contents without thinking that this in any way makes progress with the hard problem of why it feels like anything at all to be thus in command of a set of well-poised SMCs.

But more important, to our mind, is a reservation concerning the account even as a story about the determination of experiential content. The worry is that by pitching the relevant SMCs at quite a low level (they concern, after all, such things as the precise way the retinal image shifts and distorts as we move our eyes etc) the authors invite a kind of sensorimotor chauvinism. By this we mean that they invite the conclusion that every small difference in the low-level details of sensing and acting will make a difference to the conscious visual experience. Thus imagine a being whose eyes saccade fractionally faster than our own. Some of the 'apparatus-related' SMCs will then vary. But will the conscious experience itself vary? (It may come quicker- but that is not the point. The question is: will it seem any different to the perceiver?).

We are not sure how such a question is to be resolved one way or the other. But there seems no a priori reason to believe that every difference in SMC's will make a difference to the experienced content, even if the SMCs (some of them, at some level) are indeed active in determining the content (compare, e.g., work on discriminable Vs non-discriminable differences in color).

Moreover, though we cannot defend this view in detail here (see Clark (forthcoming)), there is some evidence to suggest that conscious visual experience is rather deeply tied up with the uptake of information in a form geared not to fine-tuned sensorimotor control but to memory, thought, reason and planning (think of a somewhat weakened version of the dual visual systems hypothesis defended by Milner and Goodale (1995), and indeed mentioned by O'Regan and Noe). To whatever extent this is the case, it may be that the need to put the SMCs to use in the service of planning, reason and intentional action (a need properly stressed by the authors) serves as a kind of filter on the type and level of the SMCs especially relevant to conscious visual experience. The suspicion is thus that the important links between action and conscious visual content are mediated (and for more on this, see Prinz (2000)) by systems geared towards memory, planning and reason.

The challenge, then, is for the authors to either refute the charge of sensorimotor chauvinism, or to show convincingly that every difference in SMC (both apparatus - related and object-related) yields a difference in visual experience.

References.

Andersson, R.L 1988 *A Robot Ping-Pong Player* (MIT Press, Ca. Ma)

Clark, A (forthcoming) "Visual Experience and Motor Action: Are the Bonds Too Tight?"  
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Milner, D. and Goodale, M. 1995 *The Visual Brain in Action*. Oxford: Oxford University Press.

Prinz, J 2000 "The Ins and Outs of Consciousness". *Brain and Mind* 1 (2) :245-256