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## An Indirect Defense of Direct Realism

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Smythies and Ramachandran (1997) claim that the direct realist theory of perception has been refuted by recent psychophysics. This paper takes up the psychophysics, and the definition of direct realism employed by Smythies and Ramachandran, to show that direct realism has not been so refuted. I argue that the direct realist may grant that perceptual images are constructed (or reconstructed) by the central nervous system, without treating those images as “phenomenal objects.” Until phenomenal objects are shown to be (a) distinct from extra-mental objects, and (b) the only objects of perception properly so-called, the direct realist will remain generally edified (but uncarfulled) by the relevant psychophysics

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In their paper “An Empirical Refutation of the Direct Realist Theory of Perception,” Smythies and Ramachandran (1997) argue that a psychophysical experiment performed by Kovács, Papathomas, Yang, and Fehér (1996) refutes the direct realist theory of perception. Though Smythies and Ramachandran cite no particular advocate of direct realism, they attribute the theory to “most contemporary philosophers” (p. 437). And it is true that direct realism has attracted notable philosophical adherents.<sup>1</sup> So, were the theory of direct realism refuted in the laboratory it would indeed be big philo-

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<sup>1</sup>One prominent, self-styled, direct realist is Hilary Putnam. See, for example, “Sense, Nonsense, and the Senses: An Inquiry into the Powers of the Human Mind” (Putnam, 1994, pp. 445–517). Other prominent (self-styled) direct realists are D.M. Armstrong (1993), John McDowell (1994), and John Searle (1983). The accounts of perception provided by these philosophers are radically different from one another. I will be concerned solely with direct realism as presented by Smythies and Ramachandran.

sophical news. Smythies and Ramachandran's argument to this effect is worthy of philosophical consideration.

Smythies and Ramachandran define direct realism as the doctrine that, ". . . the visual field contains the physical object itself, and thus the phenomenal object is identical to the physical object" (p. 437). They contrast this with a kind of representationalism whereupon, ". . . the phenomenal object is a construct of the central nervous system and thus phenomenal objects are not identical to physical objects, but rather represent them . . ." (p. 437). For the sake of argument, let us adopt their definitions.

The experiment of Kovács et al., and as reported by Smythies and Ramachandran, involves four pictures: A, B, C, and D. Pictures A and B present distinct and recognizable images. Picture C is composed of a patchwork of A and B. Picture D is also composed of a patchwork of A and B, but picture D is constructed such that it is the exact complement of picture C. Wherever C shows a portion of A, there D shows a portion of B, and vice versa. Wherever C shows a portion of B, there D shows a portion of A, and vice versa. It is well known that a binocular subject, if he or she views non-matching pictures simultaneously (for instance one eye views picture A and the other views picture B), first sees the image depicted for the one eye, and then the image depicted for the other, in alternation. This phenomenon has traditionally been called *binocular rivalry*. But what happens when one eye is displayed picture C and the other eye picture D? According to Kovács et al., and as reported by Smythies and Ramachandran, the subject witnesses exactly the same phenomenon: first the image depicted by A, then the image depicted by B, alternating. This is an important and potentially surprising scientific result; in particular, binocular subjects do not see the patchwork images of C and D in alternation.

Unlike the "binocular rivalry" resulting from viewing pictures A and B, the rivalry phenomenon when viewing pictures C and D cannot plausibly be explained by mere eye competition. The rivalry in this case is clearly not between what is presented discretely to each eye, but rather between two distinct images, pieces of which have come from each eye and are being quilted back together by the brain. The result undermines the explanation of the rivalry phenomenon as strictly "binocular." It is the image as a coherent pattern, rather than as the view of a particular eye, that is important. The reciprocal inhibition of monocular neurons is no longer a plausible explanation for a phenomenon that must involve the brain's detection of pattern coherency in visual information.

Smythies and Ramachandran draw two conclusions from this result that Kovács et al. do not draw.<sup>2</sup> Their first conclusion is that it would be "most

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<sup>2</sup>Kovács et al. present their own conclusions: "In summary, interocular grouping is a novel way of binocular stimulus combination. It clearly indicates that binocular rivalry can be driven by

implausible” for the rivalry produced by C and D to involve a mechanism significantly different from the one produced by A and B. I am in complete agreement with Smythies and Ramachandran on this point. It would be “most implausible to suggest that we see only what the brain computes to be probably out there when looking at C and D, but not when we are looking at A and B” (Smythies and Ramachandran, 1997, p. 438.) The data of the experiment do not directly support this conclusion, but it is sufficiently motivated by parsimony. A second, stronger conclusion is that Kovács et al. have shown that we “see only what the brain computes to be probably out there when looking at C and D” (p. 438). Smythies and Ramachandran take this second conclusion to be an expression of representationalism, and to be inconsistent with the direct realist theory of perception. It is this second conclusion, the supposed refutation of direct realism, that is unwarranted.

Direct realism, even as defined by Smythies and Ramachandran, is compatible with the psychophysics.<sup>3</sup> According to Smythies and Ramachandran, when the subject is shown pictures C and D, the “Direct Realist theory would have to predict that the subject would see C and D [rather than the images depicted by A and B] in retinal rivalry . . .” (p. 438.) But that is incorrect. The direct realist, even on the definition provided by Smythies and Ramachandran, need not have predicted the erroneous result. It does not follow from the claim that “the visual field contains the physical object itself, and thus the phenomenal object is identical to the physical object,” that the subject would see C and D in retinal rivalry. As defined by Smythies and Ramachandran, direct realism is not committed to any particular prediction about the results of the experiment. Direct realism instead merely offers a claim about the relationship between physical objects and phenomenal objects (that they are identical.) Such a claim is not tantamount to “the simultaneous display of non-matching pictures would result in a rivalry between the images depicted by each individual picture.” Smythies and Ramachandran presume that direct realists must deny the (now scientifically

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pattern coherency, not only by eye of origin. The reported phenomena show that the brain has many different ways to assemble new “realities” from competing pieces of concurrent external and internal events” (Kovács et al., 1996, p. 15511). The phrases “can be driven,” and “not only by eye of origin,” indicate a greater (though to my mind unnecessary) caution than Smythies and Ramachandran’s first conclusion. The scare quotes around “realities” suggest that Kovács et al. did not mean to broach the philosophical question that Smythies and Ramachandran have answered with their second conclusion.

<sup>3</sup>Though he does not broach the particular psychophysics under discussion here, J.J.C. Smart (2002) makes a similar claim about the compatibility of direct realism and the “physical and neuroscientific account of perception” (Smart, 2002, p. 239).

established) fact that “retinal rivalry” occurs between images constructed (or reconstructed) by the central nervous system, but that is a mistake.<sup>4</sup>

To see that this is so, consider what Smythies and Ramachandran’s direct realist might say, were she to speak more directly to the psychophysical result. She might endorse the claim that the physical pictures, the pictures as physical artifacts (regardless of the images depicted by them), are located in the visual field and are hence the *phenomenal objects*.<sup>5</sup> Were we to press such a realist, insisting that she see not merely the lighted computer screens in the experimental set-up, but also the images depicted by those screens, she would invariably give some ground. Of course, she would allow, the colloquial usage of “sees” is sufficiently broad to include seeing a forest when one merely has a picture of that forest (rather than some actual trees) before one’s eyes. Of course, she would allow, human beings have an uncanny ability to see images depicted by physical artifacts in addition to the artifacts themselves. Often-times seeing involves ignoring the material nature of a thing in favor of attending to what it depicts. But given that ground, the direct realist might also demand something in return: that this extended usage of “sees” be distinguished from a more technical one. The colloquial usage, which covers our ability to see what is depicted by pictures in addition to the physical pictures themselves, is dependent upon certain causal relations holding between a subject and some physical entity doing the depiction. Cases of “seeing” in the broader sense require relations of *seeing* in a narrower one: the perceptual relation (in the veridical case) between a subject and a physical entity.<sup>6</sup> It is those physical entities, and nothing besides, that the direct realist will call

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<sup>4</sup>This is not to say that Smythies and Ramachandran’s own perceptual theory, the psychologically sophisticated representationalism, is mistaken. The mistake is only in claiming that direct realism (as defined) has been refuted by the psychophysical result (as reported.) To be sure, it is only a minor vindication for the direct realist theory (I am offering only an “indirect” defense of direct realism); it is no evidence against representationalism.

<sup>5</sup>Smythies might here disapprove of my use of “visual field.” (Please notice, however, that I am using it in exactly the way it is employed in Smythies and Ramachandran’s definition of direct realism.) Smythies (1996) argues that the “visual field” should be distinguished from the “(external) stimulus field.” Not all perceptual theorists make such a distinction; and lest we think the equation a failing of philosophers exclusively, Smythies (1994) diagnoses it in no less a scientist than Francis Crick. Smythies suggests that the “main cause for this confusion” (1994, p. 273; 1996, p. 370) is the grip of the direct realist theory of perception. An equally plausible suggestion is that we are direct realists insofar as we do not make the distinction. (Crick, for example, seems to have considered the distinction and rejected it.) On the direct realists’ behalf, I am pressing the point that the physical pictures are in the visual field, or just as much in the visual field as the images depicted by them. The physical pictures, after all, are not invisible.

<sup>6</sup>A more technical treatment of seeing, such that it is a relation between a seer and an extramental entity in the veridical case, is not exclusively a doctrine of direct realism. It is now fairly common in philosophical discussions of perception. For *loci classici* see Chisholm (1957, pp. 142–67) and Dretske (1969, pp. 4–75).

“phenomenal objects.” The direct realist might deny that we “see only what the brain computes to be probably out there when looking at C and D.” She might claim that we see (in her more technical sense) not only those images, but also the physical pictures in the experimental set-up. She might claim that we see the physical pictures C and D, the ones that are actually doing the depicting.

A direct realist of this sort need not deny the myriad mental events that make up perception, including the construction (or reconstruction) of images by the brain. The central nervous system is under constant bombardment by sensory information, which must be processed judiciously and selectively, integrated despite disparate sources, often carefully ignored. If the direct realist were to deny any of that, then she would be on the wrong side of the psychophysical facts. But that is not, even on the account offered by Smythies and Ramachandran, what the direct realist denies. The direct realist, according to Smythies and Ramachandran, merely denies that those images are “phenomenal objects,” that there is a phenomenal object other than the physical picture on the far side of the sensory process. Therefore, direct realism cannot be refuted without an investigation into the nature of the putatively phenomenal objects, without clearly showing that they cannot be the physical pictures themselves. The plausibility or “directness” of such a realism is not for me to say here; that it has not been refuted by the psychophysical result reported by Kovács et al., *contra* Smythies and Ramachandran, is.

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