The theoretical indispensability of concepts

(BBS commentary on Edouard Machery, 'Précis of *Doing without Concepts*')

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Abstract: Machery denies the traditional view that concepts are constituents of thoughts, and more provocatively argues that concepts should be eliminated from our best psychological taxonomy. I argue that the constituency view has much to recommend it (and is presupposed by much of his own theory), and that the evidence gives us grounds for pluralism, rather than eliminativism, about concepts.

What are concepts? A long tradition in philosophy and psychology takes them to be the constituents of thoughts. Machery rejects this, defining them instead as bodies of knowledge stored in long-term memory and used by default in a range of higher cognitive processes (p. 12).

His arguments against the constituency view, however, aren't compelling. He suggests that the notion of a constituent is ill-understood (p. 26). But he also notes that the language of thought hypothesis (Fodor, 1975, 2008) gives us one fairly clear sense of what this might mean (p. 27). So why *shouldn't* we adopt precisely this sense? Moreover, it is hard to understand many of his own claims about conceptual processing without appealing to constituency. Prototypes, exemplars, and theories are all complex representations that bear structural relations to their parts, over which inferences, similarity computations, and the like might operate. He may wish to remain neutral on issues of what the vehicles of thought are, but connectionist and dynamical systems models of these phenomena are notably unpromising. The best candidates for bodies of knowledge that can fill the role he posits are ones organized, *inter alia*, by relations of constituency.

1

Constituency also plays a role in psychological explanation. Not everything about a category in long-term memory is or can be accessed in a single task; only some packets are extracted and used at once. Tokening a complex representation makes its constituents available to working memory for processing. And complex representations may make greater processing demands than simpler ones. The notion of a representational constituent is needed in describing what packets are retrieved from the vast reserves of long-term memory, and how these copies in working memory affect task performance.

So we can safely embrace the notion that concepts are constituents of thoughts. But I agree with Machery that these constituents are heterogeneous ('non-uniform', in my terms). My own provisional list of types of concepts includes prototypes, exemplars, causal models, ideals and norms, and some perceptual and linguistic representations. This is central to the pluralist view of concepts I defend (Weiskopf, 2009a, 2009b). While Machery and I agree on much of the empirical data, we disagree on its import. Where I see evidence for pluralism, he favors eliminativism. I suggest that we should be optimistic about the study of concepts as such.

Concepts are a functional kind, like most in psychology and neuroscience (Weiskopf, forthcoming). Consider how functional explanation proceeds. We decompose cognitive systems into a host of nested and interconnected subsystems, and populate them with representations, processes, and resources such as memory stores. This is obviously true in explaining competencies such as visual perception and numerical cognition, and it is no less true for concepts. Inductive and deductive reasoning, decision making, long-term planning, theory construction and testing, language use, and a host of 'higher' capacities require explanation, and

concepts are the representations, whatever they may be, that are proprietary to the system that underlies these capacities.

Machery argues that concepts have nothing in common beyond this functional description, and hence are not a 'natural kind' in his sense (pp. 243-4). But functional kinds are empirically discovered, and posited in order to explain a (possibly open-ended) range of capacities that creatures possess. And concept possessors are strikingly different from creatures lacking concepts. They have a cognitive repertoire that is flexible, that is sensitive to but substantially independent of ongoing perceptual input in terms of both content and processing, and that displays integration of information freely across domains (Weiskopf, forthcoming b). Concepts also explain the productive character of human thought in virtue of being able to combine open-endedly; Machery does not discuss productivity, but it is widely taken to be a central property of conceptual thought, and one that separates concepts from other types of representation.

The fact that a separate cognitive system is needed to explain these capacities is a discovery, not an *a priori* deliverance. Otherwise we could have predicted from the armchair that Skinnerian behaviorism and its modern descendents (e.g., Brooksian robotics) were doomed to fail. Instead, the limits of these models are demonstrated by their failure to capture the relevant phenomena. Concepts constitute a kind because positing them gives us the needed explanatory leverage over a wide range of creatures and their capacities. If we posit them, we simultaneously gain the ability to account for phenomena that would otherwise have been inexplicable, and to capture similarities among otherwise dissimilar creatures. This is how the functional kinds posited in models of cognitive systems typically earn their distinctive status. If a model containing a

functional category F has greater explanatory and unifying power than ones that lack it, then F is prima facie a kind. The failure of models of human cognition that lack anything corresponding to concepts shows that they satisfy this condition.

But suppose we followed Machery's lead and eliminated the term 'concept', talking only of prototypes, exemplars, and so on. These representations may occur in *many* cognitive subsystems. Visual perception may involve generating and storing such representations; hence we often find talk of 'perceptual prototypes' in the psychological literature. Without distinguishing concepts as such, we would be unable to state the ways in which perceptual prototypes differ from their conceptual kin. Conceptual prototypes, as opposed to perceptual ones, are capable of free recombination with other conceptual representations, are capable of being generated for non-perceptual categories, etc. Talk of prototypes alone will not do this crucial taxonomic work for us. For this we need the theoretical notion of a concept.

Indeed, this explanatory need can be seen even in Machery's own definition of concepts as being involved in 'higher' cognitive capacities. For what makes one capacity 'higher' than another? A tempting answer is that the 'higher' ones are just the concept-involving ones. The fact that we need to appeal to concepts even to isolate these various types of representations in the first place suggests that concepts will be an essential part of our taxonomy of psychological kinds. Happy news for pluralists, but not for eliminativists.

References

Fodor, J. (1975). *The Language of Thought*. Cambridge: Harvard University Press.

Fodor, J. (2008). *LOT 2: The Language of Thought Revisited*. Oxford: Oxford University Press.

Weiskopf, D. A. (2009a). The plurality of concepts. *Synthese*, 169, 145–173.

Weiskopf, D. A. (2009b). Atomism, pluralism, and conceptual content. *Philosophy and Phenomenological Research*, 79, 130–162.

Weiskopf, D. A. (forthcoming a). The functional unity of special science kinds. *British Journal for the Philosophy of Science.*

Weiskopf, D. A. (forthcoming b). Concepts and the modularity of thought. *Dialectica*.