

Metabolizing cognition

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ANTW 108 (2): 179–182

DOI: 10.5117/ANTW2016.2.SAUE

In his programmatic paper *De intuïties voorbij. Een biologische interpretatie van cognitie*, Fred Keijzer makes two broad claims: the first is the *methodological* claim that the scientific and philosophical study of cognition should be conducted non-intuitively. In particular, this means that we should leave demonstrably unreliable armchair methods such as introspection behind in favor of scientifically respectable naturalistic methods that provide cognitive science with a solid ‘material domain’. I have a lot of sympathy for this recommendation, and think that it is essentially correct.

To be sure, this plea is not without problems of its own. For one, there is the question of whether a thoroughly non-intuitive investigation of cognition is even possible, since some intuitions must surely figure in the *identification of the subject matter* which we can then conduct empirical research about. Even in the natural sciences, our explananda do not fall into our laps and labs. Secondly, one could worry about whether the revisionary approach recommended by Keijzer – one of the main characteristics of which is its dismissal of intuitive constraints on the concept of cognition – is really worth the costs. Upon reading the paper, I was reminded of Niklas Luhmann’s borderline desperate insistence on finding a criterion of demarcation for the discipline of sociology, only to find that the one he proposed – communication – implied that human beings were not part of society, and that a plane crash was not to be considered a social event unless communicated about. Keijzer justifies his own insistence on finding such a criterion with the allegedly embarrassing fact that compared to molecular biology, for instance, cognitive science has been unable to make any significant cumulative progress. But I doubt that this is an appropriate analogy, since one could easily argue that biologists, too, have no clear demarcation for what defines ‘life’ or what counts as a living thing, just as cognitive scientists do not have an uncontroversial concept of

cognition to work with. Obviously, this does not entail that no progress can be made on particular issues such as spatial perception, grammatical understanding, probabilistic thinking or cognitive delusions. Perhaps the sciences simply do not need to wait for philosophers to clean up their conceptual act before starting to work on things?

The second claim, and the one I wish to focus on in this commentary, is a *substantive* one. Keijzer argues that regardless of our methodological commitments, cognition is best described as ‘the thing that makes us intelligent’, which is an embodied capacity that allows organisms to function in a certain way (interact with their environment), a capacity that is continuous with and not neatly distinguishable from other biological processes. More precisely, his proposal is the following: ‘Cognition is a widespread biological phenomenon that consists in systematic external organism-environment interactions including the corresponding organismic organization on the basis of which organisms manipulate their external living conditions’. This proposal is explicitly modeled after metabolic processes, which is why Keijzer refers to his account as ‘cobolism’.

My first question, then, is whether this account has any serious prospects of being able to explain the connection between cognitive processes and the *truth* of their output. These *normative* questions are the ones philosophy is traditionally interested in (which, in itself, doesn’t mean much, of course), and I see very little reason why my – or any other animal’s – cobolism should be interested in whether the cognitive processes that allow me to interact with my environment produce anything that deserves to be called correct or (epistemically) justified. With moral cognition – which, as it happens, is conspicuously missing from Keijzer’s account, more on which below – it seems clear that in order for morality to perform its adaptive function, none of my beliefs about what it requires need to be true, as long as they allow me to pass on copies of my genes to the next generation. With non-moral beliefs, it does seem to be the case that some very basic ones will have to be true for me not to kill myself or get killed by other organisms; in principle, however, there is no reason why cobolistic processes should not be able to facilitate successful organismic interaction with the environment by generating false, unjustified or unreliable outputs.

This question is especially interesting in light of the fact that for one of the dominant research paradigms in current cognitive science, namely *dual process* psychology and its focus on heuristics and biases, the normative question is constitutive: the systematic study of thinking biases and errors simply cannot do without a notion of truth and correctness, and it

would be undesirable, I think, for an account of cognition such as Keijzer's cobolism to declare one of cognitive science's most successful and exciting research programs to be based on a false assumption. At the very least, this is a question I would like to see addressed.

My second question regarding Keijzer's substantive claim is about the *variety of cognitive processes* and whether cobolism can account for it. What about forms of cognitive behavior that are very far removed from our constitution as biological beings? For instance, what about trying to outsmart someone in a competitive bid for an expensive piece of art you wanted to complete your collection with for years? Deliberating about how to deal with the trade-off between fighting for diversity without wanting to decide solely on the basis of gender when it comes to selecting speakers for a discussion panel on immigration reform? Thinking about whether a solution where companies are allowed to pay for the right to cause pollution is preferable, overall, to banning pollution completely? Deciding how much credence to assign to priming studies after many of them turned out to be difficult to replicate?

Of course, biology has *something* to say about these things; but how likely is it that we learn anything genuinely enlightening about such matters from evolutionary informed accounts of cognition as a biological phenomenon we share with many other species? Not very much, I presume. Keijzer claims that cognition is done 'for the sake of [an organism's] metabolism'. But how illuminating is this description for the aforementioned examples? I suspect that Keijzer's somewhat impoverished account of cognition stems from a focus on sensorimotor phenomena – how living things move around and perform basic tasks within a perception-action cycle. The reason why the cobolism proposal seems convincing at first may have less to do with its independent plausibility than with the fact that the paradigm behaviors a theory of cognition is supposed to account for are preselected to be precisely the ones we share with other, even very primitive, animals: namely the ability to move around in an environment of potential threats and challenges to our organismic integrity. It is no surprise, then, why cobolism is able to capture those phenomena. But the more distinctively human a cognitive process becomes – and the distinctively human ones are what got people interested in how cognition works in the first place – the less fruitful a theory becomes that casts human cognition in the same light as the kind of cognition all other, non-human animals are capable of as well.

Over de auteur

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