

## *Why Bother With Mental Representations?*

Review of *What are Mental Representations?* Edited by Joulia Smortchkova, Krzysztof Dołęga, and Tobias Schlicht. Oxford University Press, USA Published: 17 November 2020  
ISBN: 9780190686673

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In ‘What is a Theory of Mental Representation?’, Stich (1992) suggested two very different approaches to the question of his title. By doing some *a priori* conceptual analysis, you might try to pin down necessary and sufficient conditions for claims of the form *mental state M has the content p*. Despite the enormous literature of the 1980s in this vein little consensus, if any, was achieved. Discouraged by this lack of progress, Stich suggested an alternative approach: we must first look to our best ongoing cognitive theories that invoke the notion of representation in their favored explanations of psychological states, events, or processes, and then ask *what must representation be if it is to play that role?* As Stich pointed out, sometimes a science will “use a concept quite successfully without providing a fully explicit or philosophically satisfying account of that concept”, and when this is so, “philosophers of science often step in and try to make the notion in question more explicit” (1992, 251). Though Stich thought this is clearly how we ought to approach the question of mental representation, almost no one, at the time, was pursuing such a strategy. The times have changed. Stich’s approach has been especially thriving of late, as evidenced by the essays collected in the current volume.

Though there is a healthy amount of disagreement to be found in the volume, the contributions can almost all be seen as helping to address some aspect of the question of mental representation as conceived by Stich.

The volume takes up a number of central themes, but two stand out and will be our primary focus: first, does cognitive psychology need a substantive, non-deflationary

account of mental representations?, and, second, if so, what will such an account look like; what *are* mental representations?

(i) *What are mental representations?*

Light reflects off the grass and stimulates your retina. A series of neural events then unfolds. Some subset of these events might be taken to represent grass. One long-standing question concerns how a particular event in your brain comes to represent grass, rather than, say, cow food, undetached grass parts, or nothing at all. But just as we can ask what makes an inscription *a word*, we can ask, in virtue of what does some brain state or process count as *a representation*. Notice that this is a distinct question from the content-fixing question.

Suppose we start with a simple Fodor-inspired tracking story on which *m* is a representation just in case it nomically co-varies with some state of affairs. Without further complications, counterexamples are forthcoming. Take the helpful example from Orlandi's contribution, 'Representing as Coordinating with Absence':

The firing pin in a gun [...] is designed to reliably strike the detonator when the trigger is pulled. The position of the pin reliably co-varies with the pulling of the trigger, and the pin is designed to so co-vary [...]. But it seems wrong to say that the firing pin is a signal of the pulling of the trigger. The firing pin does not perform its function by signaling that the trigger has been pulled and by "communicating" this fact to the detonator. A representation-heavy description of gun firing is superfluous since an explanation in terms of mechanisms that are reliable causal mediators works just as well in this case. (114-5)

Orlandi provides a detailed discussion of what more we might want to add to our account. According to Orlandi, representations are "stand-ins" that continue to guide behavior even when the world fails to provide stimulation. In the example of the gun, there is no stand-in in the face of absence.

A similar approach animates Piccinnini's 'Nonnatural Representation'. He addresses the limits of familiar informational approaches to intentionality and argues for supplementing them with "off-line simulation". While informational approaches might be promising for natural representations, it is harder to see how to extend the view to beliefs and other non-natural representations and Piccinnini makes a compelling case that off-line simulation helps fill the gap. Piccinnini and Orlandi are, in many important ways, on the same page. To better see the idea, compare the trigger and pin to a helpful example discussed by Newen and Vosgerau ('Situating Mental Representations') who, like Orlandi, aim to explain why we should bother going beyond stimulus-response patterns. They recall a telling and important example involving the homing behavior of desert ants. Desert ants return to their nest by keeping a running total of their distance and direction from the nest. Using path integration the ants acquire a home vector that guide them home. But if the ant is blown off course, a systematic search for the nest begins.

Focus on the ant's relation to the nest. Intuitively, it is hard to deny that the ant represents its nest. And we can substantiate that there is a difference between the firing pin and the ants. In the case of the nest, when it isn't found, something must explain not only why the ant begins its systematic looping search but also when that looping ceases. An attractive explanation is that the ant has something like a placeholder for 'home'. Notice that there is

no corresponding temptation to seek such explanations in the case of the trigger and firing pin: positing the presence of representation would add nothing. Or as Newen and Vosgerau argue: “If the behavior is not flexible but reflex-like and only elicited in the presence of the stimulus, behavioristic explanations without the posit of mental representations will suffice.” (179).

Other authors touch on similar themes. In their far-reaching contribution, ‘Error Detection and Representational Mechanisms’, Bielecka and Milkowski seek to give a more general account of the availability of mental representations to ‘a cognitive agent (or its part)’ (p. 292). These authors argue that an essential function of our mental representations is to help make information “available” to the cognitive system. Likewise, Newen and Vosegrau argue that no account based solely on outward looking causal connections between a subject and her environment can be the full story regarding mental representation; facts about the availability and *use* of the representation in the agent’s cognitive economy must also be taken into consideration.

Even if one or other of the foregoing accounts can be made to work, there are still further metaphysical questions regarding the metaphysical status of mental representations: exactly, what *kind* of thing are they? In his contribution, ‘Reifying Representations’, Rescorla offers a plausible answer: mental representations are reifications, or types, of specific token representational capacities. The central idea is that predicating representational types of mental events is a way of classifying and categorizing them, a view very much in keeping with recent work by philosophers on the metaphysics of propositions.

(ii) *Do we need a substantive theory of mental representation?*

While the foregoing authors are unified in assuming that we need to provide a substantive, non-deflationary account of mental representation, Egan, in her contribution, disagrees. According to Egan, talk of the wide, representational features of a particular computational state can sometimes be useful, but content is not individuating of that state. Instead, our mental representations are individuated solely in terms of their computational profile (she speaks of a state’s ‘mathematical content’ as a way of indexing this profile). Content, in the more familiar externalist sense, is merely a helpful “gloss”. According to Egan, a particular computationally individuated state will usually be correlated (in its normal environment) with various distal property instantiations. Our choice of how to “gloss” the (wide) content of this state depends on our explanatory interests.

One highlight of the present volume is the engagement with Egan’s unique brand of deflationism about content. Although both Ramsey (“Defending Representation Realism”) and Hutto and Myin (“Deflating Deflationism about Mental Representation”) do more still in their essays, in our estimation, one of the most interesting threads in the book is the three-way debate among them (Newen and Vosgerau also enter the fray). According to Ramsey, while Egan gets much right, her deflationism isn’t warranted. One way of seeing Ramsey’s criticism is as an instance of a more general concern about realism in the philosophy of science. Explanations of the goings on of a system feature content, the explanations look to be very good ones, so why not think that content is as much a part of reality as any other good scientific posit? When we look at, for example, descriptions of vision and the computational processes involved, we are steeped in ‘wide-armed’ explanations before theorizing even begins. From Ramsey’s point of view, content isn’t merely a gloss, but is essential to an explanation of, for example, seeing *the cup on the table* or detecting *an edge*. Come down on this dispute how you like, we think one upshot

of this debate is the way in which it becomes a debate within the broader landscape of realism and antirealism. This is progress: the question collapses into another known debate in the philosophy of science.

Given their other work in this area, one might expect to find in Hutto and Myin the view that Egan doesn't go far enough – talk of representations is a mistake. But they take up an interesting and more nuanced approach. *If* one follows Egan, there is no way to prevent a collapse into a broader eliminativism (see Newen and Vosgerau's contribution for a similar point). In other words, Egan's view (and other deflationary approaches we won't attend to in this short review) is argued to be unstable. As written, one might read their paper as a cautionary tale – realist or bust – and we think that for many readers, this will be the takeaway. But for those who think trafficking in representations is mistaken through and through, one might now find an ally of sorts in Egan – she provides the first step in an argument leading to eliminativism. This wide appeal makes the essay an exciting one.

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The volume comes in a little over three hundred pages and offers rich discussions beyond the two themes on which we focused above. As a result, in this short review, we have not been able to give each essay equal treatment and we have so far not mentioned a few contributions, including those by Smortchkova and Murez (“Representational Kinds”), and Shea (“Functionalist Interrelations among Human Psychological States *Inter Se*, Ditto for Martians”). Suffice it to say, these papers, in tandem with those discussed above, make this volume essential reading for anyone with an interest in the philosophy of Cognitive Science.

## **Bibliography**

Stich, Stephen (1992). What is a theory of mental representation? *Mind* 101 (402):243-61.