

Explanation and the Indispensability of Representation

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Abstract: Draft-2

The notion of representation is once again at the center of discussion in cognitive science, as it has been every decade since the 1950s. It was a theoretical and naturalistic posit in the philosophical and psychological frameworks notably of Descartes and Hume, and their predecessors and followers. As per the familiar basic take, representations are *re*-presented informational bits of the presented items. While the notion is generally taken as indispensable because of its explanatory values, many argue that it is imprecise, deflationary, reducible, replaceable, or eliminable. The game is familiar and enjoys fandom among new generations of students of cognition, but new players add sophisticated elements to the game, making the old guidebooks look obsolete. Of these recent takes on the notion of representation, I address the concerns raised by two articles.

In the first article under consideration, Luis Favela and Edouard Machery, based on a survey, claim that “researchers exhibit uncertainty about what sorts of brain activity involve representations or not; they also prefer non-representational, causal characterizations of the brain’s response to stimuli.” In response to this and similar icy takes, I argue that a closer look at the nature of explanation and an understanding of the need for an intellectual ordering of the world suggest a more perky take that serves important explanatory purposes. In particular, I argue that intelligibility of explanations is the epistemic aim of our cognitive orderings of the world and experiences. And once we recognise the need for intelligibility of explanations the usual question of the reality/anti-reality/irreality of theoretical term and the associated pronouncements of deflationary, instrumental, anti-real, reducibility, eliminative claims outstay their welcome. The leitmotif of realism-anti-realism façade has lead, it seems, many to pronounce that ‘representation’ has to be deflated, eliminated, reduced to, or replaced with the terms of science of the art. To make the first point point of the article more persuasive, I discuss the nature of explanation as the central theme of Kenneth Craik’s book *The Nature of Explanation*, Noam Chomsky’s remarks on explanation and explanatory theories in his works including *Aspects of the Theory of Syntax*, and Peter Strawson’s conceptions of intelligible description in the book *The Bounds of Sense*. I end the new ballgame, thus, with the interpreted inputs from the three cordon bleu thinkers of the field.

In the second part of the essay, I discuss Rosa Cao and Jared Warren’s recent article, which is another welcome addition to the increasingly lively field and to the present concern. After giving an account of the indispensability of the notion of representation, the authors argue that the common way of cashing it out in terms of “standing in” is unsatisfactory. I agree with them. They further suggest that it is unsatisfactory because it is uninformative and misleading. I cut a different line here, arguing for a non-referential notion of representation and a philosophical and scientific account of the represented. Finally, I reject what Cao and Warren propose as an alternative to the familiar encashment of the notion of representation. I suggest

and outline a developmental notion of “representation” with three differing realisations of it—indication, representation, and derivation—as a more persuasive alternative.

Keywords: Explanation, Representation, Recognition, Language of Thought, Intelligibility, Indication, Derivation.

Contents:

Reference:

- Antoine, A.& Nicole, P. (1662/1996). *Logic or the Art of Thinking*, translated by Jill Vance Buroker, Cambridge University Press.
- Boring, E. (1942). *Sensation and Perception in the History of Experimental Psychology*. D. Appleton-Century Company.
- Cao, R. & Warren, J. (2023). Mental representation, “standing-in-for”, and internal models. *Philosophical Psychology*. <https://doi.org/10.1080/09515089.2023.2207594>
- Chomsky, N. (1965). *Aspects of the Theory of Syntax*. MIT Press.
- Craik, K. (1943) *The Nature of Explanation*. Cambridge University Press.
- Jenkins et al. (2011). Variability in photos of the same face. *Cognition*. <https://doi.org/10.1016/j.cognition.2011.08.001>
- Fodor, J. (1975). *The Language of Thought*. New York.
- Favela, L. & Machery, E. (2023) Investigating the concept of representation in the neural and psychological sciences. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2023.1165622>
- Mandelbaum et al. (2022). Problems and mysteries of the many languages of thought. *Cognitive Science*. <https://doi.org/10.1111/cogs.13225>
- Sablé-Meyer, M. Ellis, K. Tenenbaum, J. & Dehaene, S. (2022). A language of thought for the mental representation of geometric shapes. *Cognitive Psychology*. <https://doi.org/10.1016/j.cogpsych.2022.101527>
- Strawson, P. (1966). *The Bounds of Sense*. Methuen & Co.
- Walls, G. (1942/1963). *The Vertebrate Eye and Its Adaptive Radiation*. Hafner Publishing Company.