Scientific Representation, Smilarity and Prediction

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Abstract

In this paper, I consider how different versions of the similarity account of scientific representation might apply to a simple case of scientific representation, in which a model is used to predict the behaviour of a system. I will argue that the similarity account is potentially susceptible to the problem of accidental similarities between the model and the system and that, if it is to avoid this problem, one has to specify which similarities have to hold between a model and a system for the model to be a faithful representation of that system. The sort of similarity that needs to hold between the model and the system, I argue, is a "second-order" similarity rather than simply a " first-order" similarity. This will not only avoid the problem but hopefully will contribute to dispelling the impression that an account of representation based on similarity is hopelessly vague.

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