

# Scientific Representation and the Semantic View of Theories

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## Abstract

It is now part and parcel of the official philosophical wisdom that models are essential to the acquisition and organisation of scientific knowledge. It is also generally accepted that most models represent their target systems in one way or another. But what does it mean for a model to represent its target system? I begin by introducing three conundrums that a theory of scientific representation has to come to terms with and then address the question of whether the semantic view of theories, which is the currently most widely accepted account of theories and models, provides us with adequate answers to these questions. After having argued in some detail that it does not, I briefly explain why other accounts of scientific modelling do not fit the bill either and conclude by pointing out in what direction a tenable account of scientific representation has to be sought.

**Keywords:** Semantic view of theories, scientific representation, isomorphism, structure, models, similarity.

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