

Introduction

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BIBLID [0495-4548 (2006) 21: 55; p. 5]

Many philosophers, realists and antirealists alike, agree with a characterisation of science as an activity aimed at representing (selected aspects or parts of) the world. But what does it mean to scientifically represent something? The contributions to this special issue approach this question from different angles. They naturally fall into two groups: the first three papers defend particular accounts of scientific representation while the latter two take issue with influential positions.

In ‘Defending the Structural Concept of Representation’ Andreas Bartels argues that scientific representation is based on homomorphism and addresses different criticisms that have been levelled against this view, which leads him to introduce the distinction between potential and actual representations. Andoni Ibarra and Thomas Mormann’s ‘Scientific Theories as Intervening Representations’ takes up ideas going back to Pierre Duhem and Heinrich Hertz and develops a theory construing representations as complex commutative graphs, which serve as the basis for a discussion of the *in vivo/in vitro* problem in biochemistry. Mauricio Suárez and Albert Solé, in ‘On the Analogy Between Cognitive Representation and Truth’, point to communalities between the minimalist conception of truth and their own pluralist account of cognitive representation, from which they muster support for a deflationary attitude towards scientific representation in general.

In ‘Scientific Representation and the Semantic View of Theories’ Roman Frigg first introduces three problems that every account of scientific representation has to come to terms with and then argues that the widely-held model-theoretic approach to theories does not provide a valid response to any of them. The last paper of this special issue, Craig Callender and Jonathan Cohen’s ‘There Is No Special Problem About Scientific Representation’ offers a radically sceptical perspective on the entire debate by arguing that scientific representation is only a special case of a more general notion of representation, and that nothing over and above a well worked-out theory of the latter is needed to account for what happens in the sciences.

Finally, we would like to thank the editor of *Theoria* for supporting this project and Andrew Goldfinch for his invaluable assistance in the production of the final version of the papers.

