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### CONSTRUCTS AND FICTIONS

### DAVID GRUENDER

The issues of realism and ontologically more chaste views are discussed within the context of constructivist as opposed to non-constructivist approaches to scientific theories. Although many take nonconstructivistic interpretations to require the existence of all the elements of theories, this essay argues against that conclusion. A consideration of the use of the analytic-synthetic distinction and the greater fruitfulness of theories interpreted realistically both arrive at negative results. And since no simple criterion of reality is known, it is concluded that no simple methodology for pruning or for justifying elements of theories can be found.

## SCIENTIFIC METHOD AS A STAGE PROCESS

## DONALD S. LEE

The scientific method can be understood as a sequence of stages of types of activity undertaken to construct explanatory hypotheses which are verifiable. These stages, origination, deduction, experimentation, and confirmation, are each subdivided into several phases. The stages and phases are related by an order of precedence in which any given phase has to be preceded by the one before it but does not necessarily lead to the one after it. Such a dynamic outline of the growth of a scientific idea is a general scheme for rendering an explanation of it. As a consequence, the general historical development of a scientific idea is traced at the same time that its logical structure and operational significance is indicated.

## THE PARADOXES OF ANALYSIS AND IDENTITY

## ROBERT W. BEARD

The paradoxes of analysis and identity each consist of a pair of statements sharing the same referents, but differing in their informativeness properties. CARNAP employs a different solution for each of these paradoxes. CHURCH, DAVIDSON, and others have maintained that the two paradoxes can, and should, be resolved by a single method, viz. one based on the Fregean distinction between sense and reference.

The present paper argues that Carnap's solution for the paradox of analysis is unsatisfactory on several counts, but primary among these is that Carnap is driven to hold that no semantic distinction can be drawn between the informativeness properties occurring in this paradox. Nevertheless, the paper shows (i) how the required distinction can be formulated within the general framework of Carnap's extensional-intensional system of semantics, and (ii) that such a distinction provides a single solution for both paradoxes.

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