Missing Systems and the Face Value Practice

Thomson-Jones, Martin (2007) Missing Systems and the Face Value Practice.

Full text available as:
PDF - Requires a viewer, such as Adobe Acrobat Reader or other PDF viewer.

Abstract

Call a bit of scientific discourse a "description of a missing system" when (i) it has the surface appearance of an accurate description of an actual, concrete system (or kind of system) from the domain of inquiry, but (ii) there are no actual, concrete systems in the world around us fitting the description it contains, and (iii) that fact is recognised from the outset by competent practitioners of the scientific discipline in question. Scientific textbooks, classroom lectures, and journal articles abound with such passages; and there is a widespread practice of talking and thinking as though there are systems which fit the descriptions they contain perfectly, despite the recognition that no actual, concrete systems do so — call this "the face value practice." There are, furthermore, many instances in which philosophers engage in the face value practice whilst offering answers to epistemological and methodological questions about the sciences.

This paper addresses three questions: (1) How should we interpret descriptions of missing systems? (2) How should we make sense of the face value practice? (3) Is there a set of plausible answers to (1) and (2) which legitimates reliance on the face value practice in our philosophical work, and can support the weight of the accounts which are entangled with that practice? I proceed by considering a range of answers to the first of these questions, including the proposals that descriptions of missing systems pick out abstract objects of various sorts (including mathematical structures), that they are implicitly counterfactual, and that they are little fictions, semantically and pragmatically on a par with descriptive passages from works of ordinary fiction. I also rebut an argument to the effect that, as philosophers of science, we need not concern ourselves with the first two questions. The result is to highlight the importance of developing a satisfactory understanding of descriptions of missing systems and the face value practice, to put pressure on philosophical accounts which rely on the practice, and, along the way, to raise some serious difficulties for Giere′s views about models, theory structure, and scientific representation.

Keywords:	models, representation, idealization, theory structure, fiction, Giere
Subjects:	General Issues: Structure of Theories General Issues: Models and Idealization
ID Code:	3519
Deposited By:	Thomson-Jones, Martin
Deposited On:	14 September 2007
Additional Information:	A shortened version of this paper will be appearing in Synthese.