

# Theories: Tools versus Models

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## Abstract

In “The Toolbox of Science” (1995) together with Towfic Shomar we advocated a form of instrumentalism about scientific theories. We separately developed this view further in a number of subsequent works. Steven French, James Ladyman, Otavio Bueno and Newton Da Costa (FLBD) have since written at least eight papers and a book criticising our work. Here we defend ourselves. First we explain what we mean in denying that models derive from theory – and why their failure to do so should be lamented. Second we defend our use of the London model of superconductivity as an example. Third we point out both advantages and weaknesses of FLBD’s techniques in comparison to traditional Anglophone versions of the semantic conception. Fourth we show that FLBD’s version of the semantic conception has not been applied to our case study. We conclude by raising doubts about FLBD’s overall project.

**Keywords:** Physics, models, structures, superconductivity, instrumentalism

[General Issues: Models and Idealization](#)

**Subjects:** [General Issues: Realism/Anti-realism](#)

[General Issues: Operationalism/Instrumentalism](#)

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