

Making Contact with Observations

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Abstract

A stalwart view in the philosophy of science holds that, even when broadly construed so as to include theoretical auxiliaries, theories cannot make direct contact with observations. This view owes much to Bogen and Woodward' s (1988) influential distinction between data and phenomena. According to them, data are typically the kind of things that are observable or measurable like "bubble chamber photographs, patterns of discharge in electronic particle detectors and records of reaction times and error rates in various psychological experiments" (p. 306). Phenomena are physical processes that are typically unobservable. Examples of the latter category include "weak neutral currents, the decay of the proton, and chunking and recency effects in human memory" (ibid.). Theories, in Bogen and Woodward' s view, are utilised to systematically explain, infer and predict phenomena, not data (pp. 305-306). The relationship between theories and data is rather indirect. Data count as evidence for phenomena and the latter in turn count as evidence for theories. This view is becoming increasingly influential (e.g. Prajit K. Basu (2003), Stathis Psillos (2004) and Mauricio Suárez (2005)). In this paper I argue contrary to this view that in various significant and well-known cases theories do make direct contact with the help of suitable auxiliaries.

Keywords: confirmation, observation, theory, data, phenomena, novel predictions, inferential relations.

[General Issues: Confirmation/Induction](#)

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