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HEMPEL *vs.* LAKATOS

The Methodology of Scientific Research Programs
and the Problem of Provisos

Abstract

The methodology of scientific research programs provides an improvement of the original Popperian methodology within the same epistemological tradition which is able to face the Kuhnian challenge and to solve the methodological problems raised by epistemological holism. Yet neither the MSRP nor any methodology which trusts the adequacy of the hypothetical-deductive model (that is to say, at least, any Popperian methodology) can face what recently Hempel has called the problem of provisos. The argument of provisos has a story which goes back to a short writing published in 1961 by Canfield and Lehrer and involves some other authors, among which Lakatos himself. It deepens in one sense both Kuhn's and holistic arguments as far as it stresses the nature, the amount and relevance of the assumptions scientists must, almost tacitly, accept as a context to their reasoning (explanation and prediction) and therefore shows the complexity of the logical structure of this very reasoning. The central point is that provisos are necessary, but indefinite in number and only a part of them can be expressed by means of the theoretical language available, so that according to the rules of logical calculus they cannot be included in a valid deductive inference, which explanation and prediction were supposed to be. We argue in some details that the problem of provisos has withstood all the attempts of solution and 'dissolution' proposed so far and particularly that it cannot be solved, as it is often been suggested, by means of an adequately formulated *ceteris paribus* clause, as the introduction of such a clause makes the laws which are involved in the explanation or prediction pure tautologies. Then we show that the problem of provisos makes the Popperian and Lakatosian definitions of empirical content, corroboration, adhocness, and therefore the respective criteria of scientific progress inapplicable.