

Karl Popper

The Myth of the Framework: In Defence of Science and Rationality. Edited by M.A. Notturmo.

New York: Routledge 1995.

US \$22.95. ISBN 0-415-11320-2.

This volume contains a series of addresses and lectures that the late Sir Karl Popper delivered to several institutions world-wide between 1959 and 1976. Although most of those were meant for non-specialist audiences, they offer a deep, lucid and systematic exposition of Popper's conception of science and its growth, thereby rendering *The Myth of the Framework* a valuable guide to the elements of Popperianism.

One of the central themes of this volume is this: how can one defend the rationality and objectivity of theory-change in science while acknowledging that theory-change can be best characterised as 'revolution in permanence'? Popper's approach to this problem was to conceive of rationality in science as a matter of attitude towards one's own theories and views. It is the critical discussion of one's own pet theory, its subjection to severe tests, its attempted refutation and, should it clash with observations, its elimination that renders theory-change rational. In Sir Karl's own words: 'As to the *rationality of science*, this is simply the rationality of critical discussion' (160). But even if rationality rests well on critical discussion, progress and objectivity require something more than open-mindedness and critical spirit. For in order to judge progress and safeguard objectivity amidst a state of permanent succession of theories, one needs ways to compare the abandoned theory with the successor one and show that the latter is doing, in some sense, better than the former. Popper devotes most of his 1973 Herbert Spencer lecture 'The Rationality of Scientific Revolutions' to this issue. He admits that a certain dose of 'conservativeness' should be injected to the 'Revolution in Permanence' thesis: the successor theory, however revolutionary, should always be able to explain and improve on the successes of its predecessor.

The issue of comparability, or commensurability, between theories and conceptual schemes is discussed in detail in the paper that gave its title to the volume. There Popper takes on some of the most central themes in the relativists' repertoire, for instance the so-called indeterminacy of translation, the alleged relativity of truth and the implications of the theory-ladenness of observation, and sets out to show that they fail to undermine the possibility of rational deliberation between the proponents of different theories. His own view is that rational discussion does not aim to establish, justify or prove a theory (or a framework) from admitted premisses. In fact, he suggests, if this was taken to be the aim of rational deliberation, then we would ultimately face the dilemma of either dogmatism ('insist dogmatically upon the truth of a framework of principles of axioms') or relativism ('there are different frameworks and [...] there is no rational discussion between them'). On the contrary, the Popperian aim of rational deliberation is to improve under-

standing by eliminating theories or frameworks with unacceptable, and ultimately false, consequences (cf. 60).

Isn't it the case, however, that since — as Popper time and again stresses in the volume at hand — all observations are theory-impregnated, no theory can be threatened with refutation? Isn't it the case, in other words, that since all observation is an interpretation of facts in the light of some theory, no empirical result can fail to be inscribed within this theory? And if this is so, how can Popper's model of rational deliberation (and of science in general) work? Popper devotes his address 'Science: Problems, Aims and Responsibilities' to these matters. He carefully and systematically distinguishes (by means of a series of theses) between inductivism and his own falsificationism. The differences are many and well-known, but the one that Popper focuses on is the claim that science does not begin with observations, nor with generalisations established on their basis. Rather, on Popper's view, science begins with problems and proceeds with severe scrutiny of the theoretical conjectures that are offered as tentative solutions to these problems. Conjectures that are falsified give way to fresh ones, while those that stand up to severe tests get corroborated (cf. 93-101). Popper suggests that this model of scientific growth sits well with the thesis that observation is always theory-laden. For, he suggests, the latter thesis does not preclude the possibility that a theory can be refuted by an observation, even though the latter is an interpretation of the facts in the light of theory. Still, we do not have here an adequate answer to the Duhem-Quine problem, and, I think, Popper has never really offered such an answer: from a logical point of view, falsification can always be avoided by either re-interpreting the recalcitrant fact or by putting the blame to the auxiliaries.

Arguably, the best pieces in *The Myth of the Framework* are 'Philosophy and Physics' and 'Models, Instruments and Truth'. In the first piece, Popper offers an admirable, if brief, historical illustration and defence of his well-known thesis that scientific theories emerge as attempts to concretise, articulate and render testable metaphysical programmes about the structure of the physical world. 'Models, Instruments and Truth', on the other hand, is a rare piece in that it advances Popper's views on model-construction in the natural and social sciences. He distinguishes between two kinds of problems, i.e., explaining a *singular* event and explaining a *type* of event, and suggests that whereas the first can be solved without constructing a model, the second is most easily solved by means of a model. Both kinds of explanation are broadly subsumed under the Deductive-Nomological pattern, but the relevant difference is purported to be that while the explanation of singular events requires specification of certain initial conditions, the explanation of a type-event dispenses with initial conditions; the latter can be replaced by a model incorporating, for instance, some typical assumptions about the physical event under consideration.

All in all, *The Myth of the Framework* is an important collection that no-one interested in Popper's philosophy can afford to miss.

Stathis Psillos, King's College, London, UK