How a Physicist Thinks

During recent years, there has been considerable discussion of philosophical questions raised by the new physics, particularly in its statistical, quantum, and relativistic aspects. Both physicists and philosophers have had their say, and considerable diversity of opinion exists. The book "On Understanding Physics," by W. H. Watson, Assistant Professor of Physics at McGill University, is an important contribution toward clear thinking on "natural philosophy." A few sentences from the introduction and the first chapter will serve to indicate Watson's approach.

"In maintaining that it is necessary . . . to show the limits of achievement to be expected in philosophy, one is certain to incur reproof at the hands of not a few professional philosophers. It may seem an impertinence on my part to write boldly on matters which some of my philosophical friends wish to preserve intact in their traditional muddle. The great philosophers of the past . . . would be appalled at the thought that they had produced an indestructible cud for academic rumination." "The primary concern of philosophy is with the logic of ordinary language. . . . Perhaps the most important function of the philosopher in science is to remove the difficulties of the learner, either of entirely new theory or of the older parts of the subject which often present so many puzzles to teacher and student. In this connection he can do good work by discrediting ingenious but unnecessary theories which are designed by their authors to surmount contradictions and serve merely to hide confusion of thought by their very cleverness." "Problems set by a sense of unclearness are not solved, but removed when the source of confusion of thought has been discovered." "Authority in philosophy is the authority of clear statement as opposed to muddled statement, of clear thought as opposed to intellectual puzzle."

Although this book is intended primarily for readers familiar with physics, the discussion should prove illuminating to scientists in general. The few technical details of physics to which the author refers are used simply as illustrations. This book is not light reading—no penetrating discussion of fundamental problems can be—but the author's lively style and his intolerance of nonsense reward the reader with frequent flashes of insight.—*Harold P. Knauss.*

On Understanding Physics, by W. H. Watson. xii + 146 pp. London, Cambridge University Press; in New York, The Macmillan Co., 1938.