

Every student is taught that the Deacon chlorine process is obsolete, and his teacher has probably never heard of an older and even more obsolete Dunlop process, yet both these are to-day of considerable technical interest. In the case of sodium production, it is by no means improbable that the old thermo-reduction with carbon may assume importance, and something is rightly said in the present volume of such processes.

Disquisitions of purely theoretical interest are not very prominent, but enough is said to indicate where further information can be found. In some cases they could with advantage have been further reduced, as in the discussion of alloys in the section on lithium alloys. There is really a good deal of theory in the book, and the treatment is commendably well balanced. The numerical information is very detailed and there are many clear graphs and phase diagrams, and some illustrations of technical apparatus. The type was set up on a 'Varitype' machine and the work reproduced and printed by offset lithography. The result is clear and free from flaws, although some may prefer conventional typography. The price is reasonable in view of the enormous amount of factual information provided, much of it available only in large libraries and there to be acquired only by expenditure of costly time and effort. The book is one which every practical chemist must have available, and all concerned in its production deserve congratulation for the result of their careful and skilful work.

J. R. PARTINGTON

SCIENTIFIC METHOD

The Development of Scientific Method

By W. S. Fowler. (The Commonwealth and International Library of Science, Technology and Engineering. History of Science and Technology Division, Vol. 1.) Pp. xiii+116. (London and New York: Pergamon Press, 1962.) 10s. net.; 1.75 dollars.

SOME fifty volumes of the Commonwealth and International Library of Science, Technology and Engineering are planned for this year, and by 1967 it is hoped that the total will reach one thousand (see *Nature* of May 19, p. 631). The vision behind such an enterprise in scientific literature is matched by the experience and standing of those associated with it. Sir Robert Robinson is chairman of the Honorary Editorial Advisory Board and Prof. W. H. G. Armytage is general editor of the History of Science and Technology Division.

The table of contents of the book under review covers five pages and may well act as an index: it has the advantage of presenting a summary of the material contained in each of the eight chapters. As the title suggests, emphasis is on the method of the sciences, though this is not divorced from the history of science on one hand, or from contemporary philosophy on the other. The book should therefore appeal to a wide circle of general readers as well as to the man of science; it is specially to be recommended for its numerous quotations from sources.

Chapter 1, aptly headed "The Heroic Age of Science", covers the Greek period from Thales to Plato. The importance of Aristotle in relation to method is discussed in Chapter 2. The unusual title, in a book on science, "Theology the Queen of the Sciences", is justified as Mr. Fowler unfolds the influence which Neoplatonism had on scientific

method. After reference to the practical aspect of Islamic science, the author returns to the main theme as illustrated by the Schoolmen. This naturally leads to a survey of the Copernican revolution and its results. Another chapter is devoted to "Method and Metaphysics", beginning with Descartes and extending to Kant. Chapter 6, "Revolution and Experiment", surveys the practical approach, in physics, chemistry and biology, of the eighteenth and nineteenth centuries. In a chapter devoted to the exploration of Nature, Mr. Fowler takes the reader into the heart of twentieth-century theory, whether of the atom or of the universe. The book closes with a stimulating approach to the "Nature of Method".

The thoughtful reader cannot fail to be impressed by the way the author presents a comprehensive survey within the confines of a relatively small book. To assist those members of the public who would like to read further, Mr. Fowler has added a book-list arranged under the three headings: "History of Science", "Method of Science", "Philosophy and Science". This bibliography has the merit of comparative brevity. There is, in addition, a valuable "Glossary of Principal Names". The book is illustrated and well produced.

H. D. ANTHONY

SPELEOLOGY IN BRITAIN

British Caving

An Introduction to Speleology. Edited by C. H. D. Cullingford. Second edition (revised). Pp. ix+592+48 plates. (London: Routledge and Kegan Paul, Ltd., 1962.) 75s. net.

THE publishing of *British Caving* in 1953 marked a great advance in the development of scientific speleology in Britain. This much-enlarged second edition of the book, compiled by members of the Cave-Research Group, shows the amount of work which has taken place in the past nine years. The revision is somewhat uneven. Two chapters, Chapter 4 ("Cave Formations and Deposits"), and Chapter 9 ("Cave Fauna and Flora"), have been both rewritten and enlarged. All the other chapters have been simply reprinted, but many of the more important ones are followed by extensive new supplements and bibliographies indicating the scope of the work that has taken place since 1953. Thus more than 30 pages are added to the chapter on the caving regions of the British Isles and the length of accompanying bibliography is increased by 13 pages. A similar long supplement occurs at the end of the section on archaeology and palæontology. Many of the other chapters have short supplements but one or two are completely unchanged. This method of revision means that the new material is not well integrated into the text, but it was probably adopted to keep down the price of this second edition.

The value of the book has been increased by more extensive reference to present-day European and American developments. This is indicated in the comprehensive bibliographical collections, but I still maintain, as I did in 1954, that the value of these would be even greater if brief notes were added. The good format of the book and the high standard of the plates and diagrams have been maintained. The index has been thoroughly revised; but the lists of "Caves, Mines and Resurgences" and of British caving organizations given in Appendix B have not been revised.

M. M. SWEETING