Seismic Prospecting for Oil

By C. Hewitt Dix. (Harper's Geoscience Series.) Pp. xx+414. (New York: Harper and Brothers; London: Hamish Hamilton, Ltd., 1953.) 63*s*.

AMONG geophysical prospecting methods, the seismic has now, and will probably retain, a favoured position ahead of all others. Gravity, magnetic and electric methods have their value; but successful interpretation is very uneven. Recently, airborne magnetic surveys have given some useful general indications, but too much should not be claimed; Dr. Dix writes that their value "can hardly be overestimated", surely an over-statement of considerable splendour.

The success of the seismic method has been outstanding; but failures have also been many and costly. Where conditions are simple and favourable, high-grade reflexions are obtained and no great skill is required to read the records, as with echo-sounding at sea where there is only one reflector and one simple medium. At the other end of the scale, structure and strata may be so complex that the method must accept defeat; but the average experience is intermediate. Many apparent seismic failures are, in fact, failures of interpretation; the more complex the conditions the more the skill required of the operator and the greater the personal factor in the final appraisal. The chapters on interpretation, embodying the author's considerable experience, are the important practical contributions of this book; for the rest it has the marks of hasty assembly and, by the author's own admission, was dictated around his text figures. The concluding section is a summary of the basic physics "written primarily for seismologists interested in the interpretation of seismic results"—implying that many are not so interested.

[The late] G. M. LEES

General Chemistry

By Prof. W. F. Luder, Dr. Arthur A. Vernon and Prof. Saverio Zuffanti. Pp. xiii+595. (Philadelphia and London: W. B. Saunders Company, 1953.) 30*s*.

IN this introductory chemistry for American university students, the authors cope with the vastness of the science by laying special emphasis on those theoretical ideas which are of great significance for the understanding of chemical behaviour. Accordingly, after five chapters on elementary terms, processes and definitions, they build into a light framework of illustrative matter a thorough treatment of the periodic system, the electronic theory of valency and the new conceptions of the terms acid and base. Other points of theory are included but not treated so fully. Moreover, for their instructional value, attention is directed to the worth of Gardner's form of the periodic table—more customary forms are also given; to the system of exhibiting the properties and relationships of the elements by the author's atomic structure chart; and to such helpful generalizations as the classification of the elements based on the positions of the differentiating electrons.

The conception of an acid is treated in an equally thorough way and includes the discussion of the water, the proton and the electronic definitions. Then, in the next twenty chapters, appropriately intermingled with more theory, the elements in their periodic groups are briefly studied. After this we find four chapters on organic chemistry, one on analysis, and six on the metals. The lanthanide and actinide series are included, and there is a good and unusual chapter on the systematic properties of related and similar metals. Copious illustrations, sets of questions, numerous references to supplementary reading—many from the *Journal of Chemical Education*—and the use of the electronic theory throughout the book, combine to make this a stimulating text for first-year university students or for those studying for university scholarships. G. FOWLES

Detailed Descriptions of Varieties of Wheat, Barley and Oats recommended by the National Institute of Agricultural Botany

Pp. 98. (Cambridge: National Institute of Agricultural Botany, 1954.) 20*s*.

THIS publication, giving the full descriptions of the fifty cereal varieties on the Recommended Lists of the National Institute of Agricultural Botany for 1954, takes the form of a loose-leaf pocket handbook. A single page is devoted to each variety so that reference is simple, and additions or deletions readily made, for it is hoped to prepare further pages when new varieties appear on the Lists. Since it is primarily intended for use by inspectors of seed crops for identification purposes, the greater part of the information is concerned with the detail of the inflorescence and grain. Excellent explanatory diagrams showing the main recognition characters, and a glossary of the more important botanical terms are included to help the less highly trained reader. The publication should also be valuable as a general reference book, for under the heading "General Information" a brief account is given of the origin of each variety and its properties, such as maturity date, disease resistance and tendency to lodge or sprout in the ear. In addition, there are comments on milling, baking, malting and brewing qualities. It does not, however, attempt to replace the current leaflets of the Institute, to which reference for full particulars of the use of the varieties should continue to be made. The handbook is a convenient size, printed on good paper, with a strong, serviceable cover. K. W.

The Pocket Guide to Nests and Eggs

By R. S. R. Fitter, assisted by the Hon. Guy Charteris. Pp. xv+172+48 plates. (London: William Collins, Sons and Co., Ltd., 1954.) 21*s*. net.

THE beginner in bird study, whether young or not so young, has no lack in these days of books to help him on his way. This book is frankly for the tyro, to whom it should be of considerable assistance; but experienced field naturalists will also find it of interest. However, it was obviously the needs of the novice that the author had in mind, as witness the way his descriptions are divided into "Land Birds", "Waterside Birds" and "Water Birds", and each section is further subdivided into 'very short', 'short', 'medium short', 'medium', etc. Mr. Fitter's descriptions of nests and eggs, in which he has been assisted by Mr. Guy Charteris, are concise and accurate, while Mr. R. A. Richardson has supplied excellent colour plates, black-and-white plates and line drawings in the text, though the exigencies of colour reproduction have been a little unkind to the artist here and there; for example, the much too scarlet breast of the robin and the bright red flank of the redwing. Nevertheless, the book should achieve its object and help the novice name the nest and eggs he discovers in the course of his rambles.

FRANCES PITT