

neighbouring areas) are of distinct value to the field geologist wherever he may be working.

K. F. G. HOSKING

WILSON (A. J. C.). *X-ray Optics*. Second edition. London (Methuen's Monographs on Physical Subjects), 1961. 141 pp. Price 21s.

The subtitle of this book was, and is, 'The Diffraction of X-rays by Finite and Imperfect Crystals'. On its first appearance in 1946 it was a classic in its field and a new edition is to be welcomed. The new edition has been revised throughout to incorporate work of the last fifteen years, without any great expansion and without changing the simplicity and clarity of the approach. A full modern bibliography is given with each chapter.

R. J. DAVIS

FISCHER (W.). *Gesteins- und Lagerstättenbildung im Wandel der wissenschaftlichen Anschauung*. Stuttgart (E. Schweizerbartsche Verlagsbuchhandlung), 1961. viii+592 pp., 12 plates, 12 figs., 24 tables. Price DM 84.

This book provides a clear and concise survey of the development of petrology and economic geology from the earliest beginnings in the sixteenth century up to the present day. Russian, German, and French sources are used to a large extent.

An introductory chapter deals with the first attempts of petrographic classification (Agricola, 1546; Werner, 1787), and its further development until about 1850. The neptunist-plutonist controversy receives a lucid and comprehensive treatment in the following section. The chapter on igneous rocks (51 pp.) begins with a survey of petrographic techniques. The various systems of petrographic classifications from Loewinson-Lessing to CIPW, Niggli, and Tröger are explained in simple terms. The same applies to the section on 'The origin of igneous rocks', which devotes special attention to problems of magmatic differentiation and to the history of the granite controversy.

The chapter on sedimentary rocks (135 pp.) incorporates sections on weathering, clastic sediments, sulphate- and chloride-rocks, carbonate rocks, phosphate rocks, and siliceous sediments. Nearly thirty pages are devoted to coal petrology; the most recent results obtained in this field are reported. A special section deals with the historic development of views on oil genesis.

The specific character of metamorphic rocks was not fully recognized until the introduction of the petrological microscope in the 1860's