

JENKINS (R.). *An introduction to X-ray spectrometry*. London and Rheine (Heyden & Son, Ltd.), 1974. xi+163 pp., 87 figs. Price £5.00.

This is the latest in a long series of books and papers on X-ray spectrometry by the author, who has played a major part in encouraging the use of the technique through his work in the Phillips application laboratories and as editor of *X-Ray Spectrometry*. In a previous book (*Practical X-ray spectrometry*, by Jenkins and De Vries: A.M. 54-1227) the author and his collaborator gave the basic practical information necessary for the use of the technique for chemical analysis. In this new work, the author provides background information on the physics of X-ray spectrometry, thus complementing the more practical approach of the earlier book.

The principal chapters are on X-ray spectra, the physics of X-rays, instrumentation, qualitative analysis, errors in X-ray analysis, quantitative analysis, and the study of chemical bonding. The chapter on spectra describes very clearly the origin of the various lines in the X-ray spectrum, and illustrates the differences between the spectra of different elements. The longest chapter, on instrumentation, is particularly interesting in discussing the choices to be made in arriving at the most efficient instrumental configuration for analytical purposes, and deals with methods of excitation, designs of X-ray tube, X-ray detectors, and with crystal and energy-dispersive spectrometers. The last chapter, on the study of chemical bonding, compares X-ray emission and absorption with the various kinds of electron spectroscopy, and lists the applications and relative merits of each technique.

The book is well written and illustrated, and anyone concerned with the use of X-ray fluorescence in rock and mineral analysis will find much of interest therein.

A. HALL

FOX (WILLIAM). *Tin. The working of a commodity agreement*. London (Mining Journal Books Ltd.), 1974. 418 pp., 16 figs., 17 tables. £9.25 (£11.00 air post paid).

This book describes the economic background to the mining of tin, and shows very clearly how the exploitation of mineral deposits is governed by economic factors. After a detailed review of the world's major tinfields, the development of tin mining up to 1971 is treated within a historical framework. The major producing tinfields at present are in S.E. Asia, Nigeria, Zaïre, and Bolivia. Most of the production is from alluvial deposits, except in Bolivia where lode mining is still dominant.

A. HALL

TILL (R.). *Statistical methods for the earth scientist*. London (Macmillan), 1974. 154 pp., 50 figs. Price £5.00.

This is an introduction to the principles of statistics, and describes the application of some of the simpler and more widely used statistical tests. It is intended as a textbook for an elementary course in statistics for students of geology. It is not clear why such a