Advances in Electronics and Electron Physics

Vol. 10. Edited by L. Marton, assisted by Claire Marton. Pp. x+320. (New York: Academic Press, Inc.; London: Academic Books, Ltd., 1958.) 10 dollars.

A DIVERSITY of subjects has always been a feature of previous volumes of the series of reports on "Advances in Electronics and Electron Physics" (the last three words having been added after Vol. 5). Papers on physical effects and on the preparation and properties of materials have been freely intermingled with others describing the methods of designing, making and using devices and with theoretical analyses. The tenth volume is no exception; indeed, the diversity may be thought to be excessive. Thus, the paper on the logical organization of computers, well written though without recourse to a single diagram or mathematical expression, is perhaps too remote from another which analyses electron flow in magnetically focused cylindrical beams and which is unlikely to attract the attention of anyone not engaged in designing or using micro-wave valves. Three papers should be widely approved. The first deals with defects in crystals of semi-conductors with the diamond lattice, a subject which has benefited from the availability of large crystals of germanium and silicon. The second shows how micro-wave engineers have adapted, and can still further adapt, techniques from optics. The third describes recent progress with the design of cathode ray oscilloscopes (Is this the one remaining use of the words 'cathode ray'?). Partly because their early role of presenting recurrent wave forms has long been extended to transient phenomena, and they are easy to use, these flexible instruments are now found in almost all branches of science, and a few of the arts, and their design, capabilities and limitations deserve the widest recognition. The sixth paper, on the reliability of valves, can for the most part be appreciated only by valve engineers, but the sections dealing with reasons for failure and action to improve life are of more general interest. J. R. TILLMAN

Second Symposium on Coal Preparation, Department of Mining, University of Leeds

21st to 25th October, 1957. Pp. xii+513. (Leeds: The University, 1959. Distributed by the Coal Preparation Plant Association, 301 Glossop Road, Sheffield 10.) 20*s*.

COAL preparation may be regarded as a collective term for those processes, mainly physical and mechanical, to which coal may be subjected in order to make it suitable for specific use. These processes include hand cleaning, hand selection, blending, screening, breaking, crushing, pulverizing, wet cleaning, dry cleaning, de-dusting, dust proofing, drying, de-watering, froth flotation and briquetting. Aspects of several of these processes were discussed at a Symposium held at the University of Leeds, the proceedings of which contain eighteen papers, a detailed record of the discussions on each paper and summaries of rapporteurs on each of the four groups of subjects in which the papers may be classified.

The subjects dealt with range from trends in the pattern of coal preparation to traffic control and wagon marshalling at colliery and coal preparation sidings, and include size distribution equations, sampling, problems of moisture and moisture retention in coals, aspects of certain processes—including dense-medium cleaning and stratification in jig washers, principles and practice of froth flotation, washery water, testing and performance of coal preparation plants, and briquetting.

There is a balanced combination between the various papers of basic principles, research and industrial practice. The publication is a valuable addition to the literature of coal preparation.

S. G. WARD

A History of Western Technology

By Friedrich Klemm. Translated from the German by Dorothea Waley Singer. Pp. 401+24 plates. (London: George Allen and Unwin, Ltd., 1959.) 32*s*. net.

THIS is a book of much interest, but its title is misleading. It is in fact an anthology consisting of 219 passages on technological topics selected from contemporary writings. Since inventors and engineers have not always written about their work or writers concerned themselves with contemporary technological developments, a history based solely on original writings must appear somewhat defective and unbalanced. The compiler, who is the librarian of the Deutsches Museum, Munich, has therefore attempted to give a continuous account by supplying connecting passages and an introduction to each chapter.

The extracts are chosen with the view of depicting the atmosphere in which technological advance took place rather than describing the technology itself. Owing to the lack of earlier material the story only begins with ancient Greece; and, on the other hand, the treatment of the past hundred years is very selective and brief.

The reader is offered much interesting material which he may not know of or trouble to translate for himself. Thus there is Filarete's description of a visit to an ironworks in 1464, the extracts from the proceedings of the Nuremberg Council in relation to the inconvenient inventiveness of two of the red-metal turners living there in the second half of the sixteenth century, and the observations of Fischer, Schinkel, Beuth, and Harkort, German visitors to Britain in the nineteenth century. The book is well illustrated with 59 line drawings and 24 half-tones.

K. R. GILBERT

Principles of Geochemistry

By Prof. Brian Mason. Second edition. Pp. viii+310. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1958.) 68*s*. net.

THE second edition of this excellent introduction to geochemistry follows the same general lines as the first, but although no major changes have been made, changes in detail are numerous. Many of the data in the first edition have been replaced where possible by the more reliable figures that have become available during the past six years, and results of recent work have been incorporated in the text. The number of tables and text-figures has been increased and the bibliographies at the end of each chapter have been revised and brought up to date. A new and welcome feature is the introduction of two appendixes, one giving atomic weights, atomic numbers and ionic radii of the elements, the other giving a geological time-scale.

This is a useful text-book for students, and it is unfortunate that the price has had to be increased to such an extent. S. R. NOCKOLDS