## The Annual of the British School at Athens

No. 57, 1962. Pp. xii+242+53 plates. (London: The British School at Athens, 1963.) 105*s*. net.

THE 1962 *Annual of the British School at Athens* is dedicated to the great British epigraphist, Marcus Neibuhr Tod; thus it is that of twelve articles on Greek archæology five are concerned with inscriptions. The most substantial, by L. H. Jeffery, is on "The inscribed gravestones of archaic Attica". Miss Jeffery provides a detailed catalogue of these inscriptions, establishes between six and ten masons operating in the sixth century B.C. and briefly puts together what is known of the named sculptors of this period. Of the other epigraphical contributions, Daphne Hereward publishes ten Greek inscriptions from the Khersonese and P. M. Fraser "Two Dedications from Cyrenaica", the first showing religious links between Cyrenaica and Crete, the second between Cyrenaica and Samothrace. The other two articles use inscriptions to demonstrate historical theses, that by D. M. Lewis to show that the Island of Keos possessed a federal constitution in the first part of the fourth century B.C., that by A. M. Woodward to show connexions between the famous oracle of Ammon in the Libyan desert and the establishment of a sanctuary of Ammon at Athens, also in the fourth century B.C.

There are two site publications. Jones, Sackett and Graham publish their excavation of the Classical house lying near the Aigaleos-Parnes wall, north-west of Athens and used for a very short period, about 420–410 B.C. The article contains much meticulous information on Classical Greek houses, and relates this house to the standard publications of those at Olynthus and Athens. The other site is the Byzantine basilica church at Knossos in Crete, built early in the sixth century A.D. on top of an earlier Christian cemetery extending back perhaps as far as 200 A.D. This excellent publication of Frend and Johnston (with fine photographs of the mosaics) throws light on a little-known period of Cretan history and relates the Knossos basilica church to others in the Island.

Of the other contributions, D. M. Metcalf gives a study of Byzantine history in the Aegean from coin hoards of Heraclius I (610-641), J. Boardman publishes miscellaneous finds of the seventh and sixth centuries B.C. from Knossos, and D. M. Bailey the Greek and Punic Lamps from Tharros in Sardinia. The only prehistoric articles this year are by John Chadwick with "Further Linear B tablets from Knossos" and by Hope Simpson and Lazenby with another of their topographical studies, this time of various islands in the Dodecanese. PETER WARREN

## Neutron Diffraction

By G. E. Bacon. Second edition. (Monographs on the Physics and Chemistry of Materials.) Pp. xii+426. (Oxford: Clarendon Press; London: Oxford University Press, 1962.) 55*s*. net.

THE use in research in solid-state physics of the powerful method of neutron diffraction dates from about 1950, when, with the advent of nuclear reactors, intense beams of neutrons became available. Neutron diffraction complements and supplements X-ray diffraction, and has particular applications in the study of magnetic and molecular structures and the lattice dynamics of crystals.

Prof. Bacon ranks as a pioneer and as a leading authority in the construction and use of neutron diffraction apparatus. When the first edition of his monograph appeared in 1955 it was the first comprehensive text-book on the subject. The wealth of unique practical experience described in it and the important information that the use of the method had obtained or was capable of obtaining soon spurred others to make use of the technique, and it is therefore not surprising that the second edition quotes some 500 instead of 300 references to published work.

The main structure of the first edition has not been altered. The monograph is still divided into two parts. The first chapters—now with the addition of a chapter on inelastic scattering—deal as before with the physical principles of neutron diffraction, the experimental methods, and the determination of fundamental data for structural investigations. The remaining nine of the sixteen chapters in the second edition discuss the increasing number of applications of neutron diffraction, in the determination of the atomic positions of light elements, the study of molecular structure, the investigation of magnetic materials, and the examination of diffraction by gases, liquids and amorphous solids. The sections in the first part have been revised and brought up-to-date, and much of the second part has been re-written to conform with the great increase in application of neutron diffraction during the seven years between the two editions.

The monograph is excellently produced, and the text and diagrams are easy to read. It is the standard and authoritative text-book on the subject of neutron diffraction, and it is warmly recommended to the honours physics undergraduate and to the research worker who are interested in the atomic architecture of materials, whether physicist, chemist or metallurgist.

S. WEINTROUB

## Encyclopedia of Chemical Technology

Vol. 1: A to Aluminium. By Kirk-Othmer. Pp. xix+990. (London and New York: John Wiley and Sons, Ltd., 1963, second edition, completely revised.) 260*s*. per volume for subscribers to the complete set of 18 volumes.

THE first edition of "Kirk-Othmer" in fifteen volumes published between 1947 and 1956 has won international acclaim for the authority of its information and amply fulfilled the original editors' intention of presenting the entire field of chemical technology for professional chemists and chemical engineers who wish to know about specialized practices and materials, particularly outside their own immediate experience. The editorial board has now embarked on the publication of the second edition, which, they claim, is more than a mere revision of the first. All the technological articles have been rewritten, some by the same, some by a different, author. Each author is a specialist and each article has been reviewed by one or more other specialists.

The first edition concentrated on presenting United States technology; the second is to contain contributions from other countries. This is most welcome, particularly if it leads to the inclusion of European trade names and chemical specifications, the lack of which was a drawback to British readers seeking comparisons between American and European products.

The new volume contains forty-six articles. They range from "Abherents", a more sophisticated term for release agents used in moulding, casting and baking, through "Ablation", which is concerned with the re-entry problems of missiles, to "Aluminium", where mention is made of the new carbothermic and reduction-distillation processes now being studied in France and Canada. The article on "Alkyd resins" reflects the changes in the meaning of the term since the first edition was written. "Acetate and triacetate fibres" have been separated from "Rayon", and a useful, though not over-extensive, survey of the aerosol industry is included. He who seeks information on industrial alcohol must now wait for "Ethanol" to appear.

Changes in format are minor. An index is not provided, but those readers fortunate enough to have access to and experience of the first edition should be able, by judicious comparison of the two editions, to overcome this drawback to a large extent.

The first edition appeared over a ten-year period. The editors propose a similar schedule for this enlarged edition. W. D. MANIECE