for example, furniture beetles and clothes moths. A smaller initial section serves to introduce the subject of entomology with the structure, classification, anatomy, physiology and ecology of insects all dealt with at some length. In between the two sections of the book are three important general chapters concerned with all the different aspects of preventive and control measures, including legal and commercial aspects.

The numerous insecticides available today are described in some detail with chemical formulae, formulations and methods of application all given prominence. Resistance to insecticides and concern about the widespread contamination of man's environment with stable toxic chemicals has led in recent times to consideration of other methods of control. Some of these involving genetical manipulations and the release of sterilized insects are referred to, as well as the use of parasites and predators.

This is the second edition of a work first published in 1951 and then aimed at those concerned with domestic hygiene in Great Britain. Now it is considered equally applicable to most of the temperate regions of the world. With only a little more elaboration it could have been made applicable to the tropics as well. Already many references are made to the importance in the tropical hygiene field of many of the pests dealt with, and it can be argued that insect pests are hardly of sufficient consequence in public health considerations in temperate climates to warrant a book as detailed and well presented as this one.

G. DAVIDSON

FIBRE SCIENCE

Man-Made Fibres

By R. W. Moncrieff. Fourth edition. Pp. ix+742. (London: Heywood Books; New York: John Wiley and Sons, Inc., 1966.) 75s. net.

THIS impression of *Man-Made Fibres* carries on the general pattern of its preceding editions in standard and presentation. With the passing of time the information available about man-made fibres is increasing, and so is the number of man-made fibres available. Hence the volume of the publication is increasing, although this second impression contains only slight variations on the 1963 edition.

The great virtue of this publication is the uniformity of the standard of presentation. The work purports to be a general description of man-made fibre manufacture and properties, and the early chapters which deal with the fundamentals of "fibre science" are simply presented. X-ray structure is given an elementary treatment, as is viscosity of polymer solutions and also the general physical properties of fibres. The techniques of infra-red and electron microscope studies of fibres might have had some mention in a new edition, and this could well have applied also to chromatography and other new chemical and physical techniques.

It is unlikely that any normally used man-made or regenerated fibre is not mentioned and a greater or lesser description of its properties given. Allied groups of fibres are treated chapter by chapter, and in an appendix table the known trade-names of various yarns are given. At the end of each chapter an additional reading list is given which is probably of great value. As a work of reference the book suffers from the fact that no adequate reference system is introduced. The text is almost the sole source of information, but the information is voluminous. Having passed through numerous editions since its introduction, there is little doubt that it is finding increased use in textile circles, both industrial and academic. Provided, therefore, that the reader is not looking for extensive reference coverage, the book can be recommended to all sections of interest in man-made fibres.

F. H.

ADVANCES IN THE ANALYTICAL SCIENCES

Analytical Chemistry

Vol. 4. Edited by Carl E. Crouthamel, D. C. Stewart and H. A. Elion. (Progress in Nuclear Energy, Series 9.) Pp. 166. (London and New York: Pergamon Press, Ltd., 1966.) 70s. net.

THIS, the fourth volume in the *Analytical Chemistry* series of *Progress in Nuclear Energy*, contains four useful review articles, two of which might be said to be on the periphery of the subject and two nearer to the main area of interest.

The first article, on solid state charged particle detectors, by N. J. Hansen, is one of the peripheral type but nevertheless is valuable in that it gives a broadly based review of the solid state and nuclear physics as well as of the electronics theory behind the use of these detectors in nuclear spectroscopy. The applications are described only briefly and, as the title indicates, are limited to the detection of alpha particles, deuterons, protons, heavy ions, electrons and fission fragments.

Advances in neutron activation are discussed by V. P. Guinn in the second article, which though short (only fourteen pages) really does describe advances made in the period 1958-64 in this now widely used method. It discusses improvements in equipment, that is neutron sources, pulse-height analysers and counters; advances in technique, and new applications in a range of industry and science including scientific crime detection and space studies. Though very good in what it covers, the article was presented at the Geneva Conference in August and September 1964, and describes only those advances made in the United States. It seems a pity that what was quite properly presented as a national contribution to a United Nations conference is now given permanence two years later in a series which prides itself on its international and up to date coverage.

Slow electron interaction with adsorbed gases is discussed by D. Lichtman and R. B. McQuistan in the third, and the other "peripheral", review. It describes one approach to the problem of providing information about the surfaces of materials, especially metals, by bombardment with electrons (and possibly photons and ions) in conditions where the atoms, molecules and ions desorbed during the bombardment can be identified by mass spectrometric analysis. The examination of surfaces is a very important area of growth in the analytical sciences, and the article is very useful in giving information about one approach to the problems.

Use of neutron generators in activation analysis is the subject of the fourth review by J. E. Strain. This again is quite short (twenty pages) but is valuable and realistic. After describing the general requirements and how these are met, several examples of neutron generator application are given, by element, with some excellent practical information on sensitivity attainable, interferences, advantages and disadvantages. This article will be of much interest to the increasing number of industrial users of neutron generators, though unfortunately it does not cover the fairly recent sealed-tube generators where shielding can be so much easier.

Altogether a useful assembly of topics, the present volume continues to show the wide range of interests of modern analysis.

A. A. SMALES

ERRATUM. In the review by Dr. H. Lehmann last week (*Nature*, 213, 552; 1967) of Georges Sandoz's *Serum Proteins in Health and Disease*, lines 4 and 5 of the first paragraph should read "that there are few people left who—like the author—span the history from the past to the present day". In the printed version, "like me" was unfortunately substituted for "like the author".