

logy'. From this strip the applied mathematician or mathematical physicist could easily range the seismological field and find suitable targets for attack with his mathematical weapons. The book would be most useful to university teachers of these subjects who are in search of problems for their advanced and research students. In this case chapter 1 and part of chapter 2 could be omitted.

The format is very pleasing and the printing is bold. The line diagrams are good but the reproduction of the photographic illustrations might be improved in a later edition. There is an adequate index.

E. TILLOTSON.

## TEACHING OF PHARMACOGNOSY

### A Text-Book of Pharmacognosy

By George Edward Trease. Fourth edition revised with the assistance of Dr. H. E. Street and E. O'F. Walsh, with Contributions by Dr. R. Bienfang, H. M. Hirst, H. O. Meek and A. H. Ware. Pp. viii+800. (London: Baillière, Tindall and Cox, 1945.) 27s. 6d.

MR. TREASE can justly claim to be one of the foremost exponents of pharmacognosy in Britain. His work at Nottingham is well known, where he is head of the Department of Pharmacy and responsible for the teaching of pharmacognosy. He is also an examiner in this subject for the Pharmaceutical Society and for the University of London.

Teachers and students will welcome this fourth edition of an already well-used text-book, and those familiar with the previous editions will readily recognize the improvement brought about by a complete revision of the subject-matter. Mr. Trease has gone to considerable pains to incorporate, up to the time of writing, the results of recent research, and also the material the use of which in medicine has been permitted owing to the exigencies of war. The result is a volume packed with useful information presented in an attractive manner and profusely illustrated.

One of the major alterations is the extension of the chapter on cell-structure. To his credit, Mr. Trease has not hesitated to draw upon those who have special knowledge of different aspects of his subject. A good working knowledge of plant histology is essential to success in the higher branches of pharmacognosy, where microscopy is so important in the identification of drugs in powder form. Many students have to approach it equipped only with the botanical training of the standard required for the Pharmaceutical Society's Intermediate Examination. Such students do not extend their knowledge of plant structure in further botanical work except as afforded by pharmacognosy. Teachers of this subject are therefore compelled to devote considerable time to plant histology. Therefore Dr. Street's account of cell-structure, and his well-executed drawings illustrating various types commonly met with, will be much appreciated.

It is questionable whether, with his limited botanical knowledge, the student can appreciate the arrangement of the official drugs of vegetable origin according to the systematic classification of plants. For teaching purposes it appears to be more convenient to classify the drugs themselves according to their morphological nature. Such arrangement enables the student to compare and contrast similar

organs both macro- and microscopically and to remember more easily the points of difference for diagnostic purposes. One advantage of the present arrangement is to emphasize that similarity of chemical constituents in drugs does not necessarily imply close phylogenetic relationship.

The publishers are to be congratulated on having been able to produce a work of this magnitude, relatively free from errors, under war-time restrictions of labour and materials.

W. O. HOWARTH.

## ADVANCED ORGANIC CHEMISTRY

### Organic Chemistry

By Louis F. Fieser and Mary Fieser. Pp. xii+1091. (Boston: D. C. Heath and Co.; London: George G. Harrap and Co., Ltd., 1944.) 30s.

WITHIN the limits of this treatment the authors have undertaken a survey of the vast field of organic chemistry at the level of students reading for an honours degree in the subject. This ambitious project has been carried through with conspicuous success in a single volume of forty chapters and a little more than a thousand pages. The book is written in a clear and easy style, flowing naturally from one topic to the next. The dual authorship is so effective that it shows little sign of the numerous joints indicated in the preface; nor would the reader suspect, apart from the statement in the same place, that a large part of the writing of the senior author was done "in trains, planes, hotels, and army camps in the course of more than one hundred trips".

Starting with hydrocarbons and alcohols, the account leads through other common aliphatic types to Chapter 11 on stereochemistry. Following this, chapters on ring formation, rubber, carbohydrates, fats and waxes, and proteins, are succeeded by specialized reviews of microbiological processes, the role of carbohydrates in biological processes, and the metabolism of fats, proteins and amino acids. The next thirteen chapters are devoted to aromatic chemistry, and the work ends with further chapters on dyes, synthetic fibres, synthetic plastics and resins, steroids, isoprenoid compounds, accessory dietary factors, and advances in chemotherapy.

The work affords a valuable and up-to-date treatment of organic chemistry, in which due stress is laid on technological, biological and medical aspects of the subject. Modern theories of organic chemistry are well developed as the book unfolds, and this object has been achieved unobtrusively without an undue display of electronic symbolism to delay the narrative or obfuscate the reader. The text is well documented with a list of reading references at the end of each chapter; there is a good index; and the letterpress, diagrams and formulæ are admirably printed. An unusual feature is the statement of the yields obtainable in many of the reactions quoted. With so much to applaud, it would perhaps seem ungracious to suggest that more space could have been allocated to one specific theme at the expense of another—as, for example, to terpenes at the expense of aromatics—but it is difficult to advance any other criticism of moment. Taking it all in all, this work provides one of the best surveys of organic chemistry to be produced in recent years for advanced students of the subject, and it is bound to achieve popularity among this overburdened section of the modern community.

JOHN READ.