

REVIEWS.

ORGANIC MEDICINAL CHEMICALS. By M. BARROW-CLIFF and FRANCIS H. CARR. *Industrial Chemistry Series, edited by S. RIDEAL. 1 p. xvi. + 331. (London: Baillière, Tindall and Cox. 1920.) Price 15s. net.*

In taking stock of the literature dealing with chemical industry, it is somewhat remarkable that the oldest branch, that relating to the manufacture of drugs, should be so scantily represented. One reason is undoubtedly the fact that the subject is complicated, an immense variety of substances of different classes having to be considered; another, that the operations performed are on a relatively small scale and perhaps hardly appeal so much to the technical man as the larger industries, heavy chemicals, tar distilling, or even the manufacture of dyestuffs. Indeed, when one deals with many of the synthetic drugs, one is forcibly reminded that their economic manufacture should be carried out in conjunction with the dye industry; the very trade-mark "Aspirin" is the property of the *Farbenfabriken vormals Friedrich Bayer and Co.*

The appearance of the work now under review is all the more welcome since its authors have been successfully associated with some of the largest British works engaged in the manufacture of drugs, whilst their reputation as scientific chemists is such as to guarantee the absence of slavish reprinting of antiquated processes or the unqualified acceptance as gospel of all the statements made in patent specifications.

One paragraph in the authors' preface may well be commended to those engaged in the industry, namely, that relating to the supply of important synthetic chemicals during the war and the lack of economic basis on which such supply was established. In many cases this could not be helped at the time, but now that the war is over and the desire to retain the young industry in the country is a very real one, "it is of outstanding importance to perfect processes so that the most economical methods are used and the best possible yields obtained." If the directors of chemical firms were generally as well-versed in chemical knowledge as the authors, the desirable result would be attained more rapidly.

The Introduction, occupying only six pages, is apt and interesting. The subject matter is divided into sections arranged according to the uses of drugs rather than to their chemical relationships. This division has many advantages, but it cannot always be strictly adhered to, as is apparent when we turn to the natural alkaloids.

Narcotics and General Anæsthetics form the subject matter of the first section. Ether is dealt with at considerable length, and a good account is given of the manufacture as carried out at H.M. Factories at Pembrey and Gretna. Several diagrams illustrate the beautiful Barbet plant which succeeded in giving 94.3 per cent. of the theoretical yield during a period in which over 5000 tons of ether was manufactured. Following ether, we find methylal, paraldehyde, acetophenone and the simpler halogenated aliphatic compounds dealt with, whilst the section concludes with an account of the sulphone hypnotics and urea derivatives such as adalin and veronal.

Section II., dealing with Naturally Occurring Alkaloids and their Derivatives, is illustrated by several diagrams and is followed by Section III., in which an account is given of Natural and Synthetic Local Anæsthetics: one could wish that more than 24 pages could have been spared for an account of the interesting and varied compounds included. Antipyretics and Analgesics follow in Sec-

tion IV., and here, as in the preceding section, one is struck by the diversity in structure of the compounds used to produce very similar physiological results.

In the case of Organic Antiseptics and Disinfectants (Section V.), phenol, other phenolic compounds and derivatives are taken first. The order followed is rather difficult to understand, for tribromophenol is separated from other phenolic compounds by an account of substances of the type of Chloramine-T: presumably the idea is to keep halogenated compounds together. After formaldehyde and hexamine, certain dyestuffs-antiseptics are dealt with, and the section finishes with the consideration of tannic acid and santalol derivatives.

Purgatives form the subject of Section VI., and Vaso-Constrictors and Vaso-Dilators of Section VII., a considerable amount of attention being paid to synthetic tyramine, histamine and adrenaline. Section VIII., dealing with Diuretics and Uric Acid Solvents, will prove very interesting to many organic chemists even if the subject is not as topical as that of the next section (IX.), viz., Organometallic Compounds.

Section X. gives an account of the digitalis group, skin irritants, glucosides and neutral principles, whilst pituitary and thyroid extracts, vitamins and other substances of interest, not finding any other place in the book, are dealt with in the eleventh and concluding section.

In a new edition, one or two rectifications will doubtless be made. On p. 188, Prolavine is described as 3:6-diamino-acridine sulphate, and on p. 190 Acrillavine is oriented 2:6. According to the system adopted in numbering the acridine ring, both should be 3:6 or 2:8, though the latter is now more commonly used. On p. 294, thiosinamin is referred to in brackets as allyl thiocarbamate, whilst the formula given is that of allyl thiocarbamide.

The book is written in an interesting manner and is well indexed; the printing and diagrams are clear; and as a guide to a good general knowledge of organic medicinal chemicals the work may be warmly recommended.

J. T. HEWITT.

THE YEASTS. By A. GUILLIERMOND. *Translated and revised by F. W. TANNER. Pp. 424. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. 1920.) Price 33s. net.*

In 1912 Professor Guilliermond contributed to the Section of Cryptogamic Botany of the *Encyclopédie Scientifique*, edited by Dr. Toulouse, a volume entitled "Les Levures," which forms the basis of the work under review.

So great has been the progress made in the domain of microbiology during recent years that Dr. Tanner of the University of Illinois, who had undertaken the English version, realised that it would be necessary to revise that which had been written, and to add much new matter, in order to produce a book adequate to the needs of those for whom it was originally intended. From the preface one gathers that the translator has been responsible for the revision of the chapters dealing with the physiological side of the subject, whilst the task of the original author has been that of bringing up to date the chapters on Morphology, Phylogony and Description of Species.

Prof. Guilliermond is so well known for his investigations in this department of mycological science that his name is a sufficient guarantee that the more purely descriptive part of the subject has been dealt with adequately and well, and such will be found to be the case. The author has, in fact, placed all zymotechnologists (it is to be hoped that the exceedingly objectionable word "fermentolo-