

## BOOK REVIEWS

*CHEMICAL INDICATORS*, by O. Tomiček. Pp. x + 258 (including Index). Butterworth's Scientific Publications, London. 1951. 21s.

Too often the choice of indicator for a titration is a haphazard affair depending upon the application of one or two empirical rules learnt by the student during his first year. Few students (or for that matter—teachers) pay sufficient attention to the principles underlying the choice of indicator, and even fewer have much idea of the possibilities of adsorption or fluorescent indicators in everyday analysis. "Chemical Indicators" succeeds brilliantly in explaining in simple terms the underlying principles of indicators both for titrating and for "spotting," and the worked examples in the text make the whole procedure crystal-clear even to the non-mathematically-minded. After reading this book one is left gasping at the conservatism of the average chemist whose quantitative world is viewed through helianthin-phthalein-tinted spectacles.

The first five chapters deal with the application of indicators to acid-alkali titrations in aqueous and non-aqueous media and to the determination of  $pH$ , and it comes as a surprise to learn that a single universal indicator with a range from  $pH$  1.2 to  $pH$  12.7 has an accuracy of 0.1  $pH$  units. The very useful titration exponent  $pT$  will be unfamiliar to most British students. This section of the book alone contains 25 tables. Chapter VI on oxidation-reduction indicators is slightly heavier going but should present no difficulty to final degree students. The author rightly stresses the effect of varying  $pH$  on the  $E_0$  values of redox systems, an aspect upon which most students are somewhat hazy. Polarographic analysis is briefly dealt with in this chapter and the similarity of polarographic curves to potentiometric curves is explained. Chapters VII to IX deal briefly but adequately with adsorption, fluorescent and miscellaneous indicators, and here again the tables are invaluable.

A few small errors should be corrected in future editions. The  $pK_a$  for acetic acid is given as 4.75 on page 8, 4.8 on page 10, and 4.7 in the Brönsted equation on page 29. The  $\alpha$ ,  $\beta$ ,  $\gamma$  notation for dinitrophenols is not common in England, and on p. 107 "Titration of weak acids and bases" should read "Titration of strong acids and bases." Finally, the composition of a phthalate solution of  $pH$  4.0 given on page 74 is wrong, as  $pH$  4 is defined in "British Standard 1647: 1950  $pH$  Scale" as the  $pH$  of a solution of 0.05M potassium hydrogen phthalate at 15°C. These are minor blemishes in a book which will probably attain a permanent place in chemical literature; every student of chemistry should read it and to the analyst "Chemical Indicators" is an essential. L. K. SHARP.

*THE CLINICAL APPLICATION OF ANTIBIOTICS (PENICILLIN)*, by M. E. Florey. Pp. xiii + 730 (including 115 illustrations, Bibliography and Index). Oxford University Press, London, E.C.4. 1952. 84s.

This volume is one of a series intended originally by the Oxford workers to cover the whole field of antibiotics, laboratory techniques (chemical, bacteriological, pharmacological), as well as clinical uses. The two volumes published in 1949 (*Antibiotics*, Florey *et al.*) are the classical textbooks on laboratory investigations and findings up to that date. A French monograph on the same subject published in 1946 has long been outdated. In the present volume Lady Florey presents different aspects of the clinical use of penicillin only. The size of the volume and the completeness with which the subject is dealt are

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sufficient proof that the author's decision to reserve for a separate volume the subject of the therapeutic usage of other antibiotics was a wise one.

Under general considerations the author deals briefly with the antibacterial action of penicillin and its pharmacological and physical properties, and especially with allergic manifestations after penicillin administration and their management. The chapter on the administration of penicillin gives a detailed account of the routes of parenteral injection and of methods of inhalation and topical application, and the many illustrations, tables and graphs in this chapter are an invaluable guide to those who are not familiar with the various possible routes of administration. Five chapters deal with the penicillin-sensitivity of micro-organisms, including bacteria, actinomyces, fungi and protozoa, causing localised or systemic disease in man. The remainder of the volume deals with the treatment of diseases of specific organs: infections of the cardiovascular system, skin and soft tissue, joints and bones, central nervous system, thorax, abdomen, the genito-urinary system, nose, ear and throat, eyes, and infections occurring in obstetrical and gynaecological conditions. The final chapter is devoted to battle casualties, of which the author had wide experience in the last war.

The author has provided a detailed and authoritative account of the mode of administration and action of this first and still most valuable antibiotic in every field of medicine and surgery; it is a volume of interest to the pharmacologist and pharmacist no less than to the clinician. The comprehensive bibliography (over 70 pages) adds greatly to its value as an important reference book for anyone concerned with the therapeutic uses of penicillin. J. UNGAR.

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### ABSTRACTS (continued from page 210).

**Treburon, Preliminary Studies on.** D. A. Scholz and N. W. Barker. (*Proc. Mayo Clin.*, 1952, **27**, 332.) Treburon is the sodium salt of sulphated polygalacturonic acid methyl ester methyl glycoside and has an anticoagulant action similar to that of heparin. The effects of treburon were studied in 15 patients; it was given sublingually to 3 patients and intravenously to 12. A dosage of 500 mg. was given sublingually to 2 patients and of 1000 mg. to a third. Intravenously, 3 patients received 150 mg. and 6 patients 200 mg.; the remaining 3 patients were given varying doses of treburon intravenously followed by protamine sulphate intravenously. The coagulation time of the patients receiving treburon sublingually was unaffected. In those receiving 150 mg. intravenously a significant prolongation of coagulation time had developed within 30 minutes, but at the end of 2 hours coagulation time was returning to normal and at the end of 4 hours had returned to normal. In those receiving 200 mg. intravenously the coagulation time of 3 of the patients at the end of 3 hours was still at least twice the normal coagulation time. 50 mg. of protamine sulphate given to 2 patients after 150 mg. of treburon intravenously returned coagulation to normal within 30 minutes, but the same dose given 30 minutes after an injection of 200 mg. of treburon caused a prompt decrease in coagulation time but did not return it to normal. Serious toxic reactions were not observed in any of the patients. S. L. W.

**Triethylene Melamine for Treatment of Polycythæmia Vera.** N. Rosenthal and R. L. Rosenthal. (*Arch. intern. Med.*, 1952, **90**, 379.) Triethylene melamine has an action resembling that of nitrogen-mustard and is effective when given

(continued on page 214).