

Manual of Elementary Practical Chemistry

By Dr. R. D. Brown and Dr. T. A. O'Donnell. Pp. ix+185. (Melbourne: Melbourne University Press; London: Cambridge University Press, 1955.) 30s. net.

THE practical work dealt with in this book is that arranged for first-year students at the University of Melbourne. The syllabus consists of familiar gravimetric and volumetric determinations, qualitative analysis, including the identification of cations occurring in the same group, the purification of substances, and the preparation and analysis of some typical organic compounds. In both the organic and inorganic analysis semi-micro methods are exclusively used. There are no inorganic preparations and no exercises in physical chemistry. The scheme of work, therefore, does not quite meet the requirements of Intermediate examinations in Britain. The syllabus is intended to be worked in conjunction with a course of lectures on the relevant physical chemistry.

An uncommon feature is the singular use of the Brönsted-Lowry concept of acid throughout the book. This theory is first clearly expounded and then, in due course, applied to the work in hand: that is, to neutralization and redox reactions, solvated and complex ions, the calculation of *pH*, the construction of titration curves, indicator action and solubility-product phenomena. The scope of the practical work is not extensive, but what is done is integrated with the theory and done thoroughly. Thus preparations and determinations are limited to typical examples, and mixtures for analysis are deliberately restricted in difficulty. The idea, a sound one, is to avoid confusing a student with overmuch technical detail, so that he may be encouraged to devote his energy to the mastery of the underlying principles.

Students using this book on such a course should emerge with an understanding of elementary analysis well calculated to help them make rapid progress with more advanced work. G. FOWLES

Treatise on Inorganic Chemistry

By Prof. H. Remy. Vol. 1: Introduction and Main Groups of the Periodic Table. (Translated by Prof. J. S. Anderson. Edited by Prof. J. Kleinberg.) Pp. xxi+866. (Amsterdam: Elsevier Publishing Company; London: Cleaver-Hume Press, Ltd., 1956.) 105s.

THIS English version of a successful German work, with modifications and improvements by the translator, has many good features. It is based on the periodic system and has chapters on many aspects of theoretical and physical chemistry which are essential in a proper understanding of inorganic chemistry. These include valency, crystal structure, bond types and resonance, co-ordination, and the modern theory of acids and bases. Industrial methods and uses are given. Physical properties and mineral compositions are tabulated.

The straightforward treatment of inorganic chemistry is generally good, but is uneven: some topics (for example, the peroxy carbonates) are dealt with superficially and not always in accord with modern knowledge, while others (for example, the lower oxides of iodine) are not even mentioned. Perhaps these latter will be included in the second volume. The modern view of the composition of bleaching powder is not given. A few minor errors were noticed: for example, S_2O_3 is green, not blue, and

the melting point of ClO_2 is -59° , not -76° . References to literature are given in the text and short bibliographies at the ends of chapters.

This is a valuable and important book, which can be recommended for study and reference.

Topological Dynamics

By Prof. Walter Helbig Gottschalk and Prof. Gustav Arnold Hedlund. (American Mathematical Society Colloquium Publications, Vol. 36.) Pp. vii+151. (Providence, R.I.: American Mathematical Society, 1955.) 5.10 dollars.

THOPOLOGICAL dynamics might claim to have its roots in the dynamical astronomy of the late eighteenth century; but its present developments spring from the qualitative, topological methods introduced by Poincaré to replace quantitative methods of tackling some of the intractable problems of celestial mechanics. A further major contribution was made by G. D. Birkhoff in his systematic study of topological methods in dynamics. The subject has now become a branch of topology, wherein are studied those topological properties of transformation groups which can trace their origin back to problems in classical dynamics. References to orbits, periodicity, flows, all used in highly technical senses, only faintly recall the dynamical origins.

Profs. W. H. Gottschalk and G. A. Hedlund have organized their material admirably, so that definitions, axioms, notations and proofs are clearly identifiable, and arguments are efficient and precise. But so concise a treatment of so austere abstract a topic has made the book difficult to read, and in order to keep the volume within reasonable compass, some knowledge of set theory and of topological groups is assumed; in fact, the relevant parts of Bourbaki should first be mastered. It is thus a book for the expert, not the novice. T. A. A. BROADBENT

What Flowering Tree Is That?

A Handbook for the Tropics. By Edwin A. Menninger. Pp. 110+4 plates. (Stuart, Florida: Edwin A. Menninger, 1956.) Cloth, 3 dollars; Paper (without colour plates), 1.50 dollars.

FLORIDA has the good fortune to possess a climate and a variety of soils ideally suited for the cultivation of flowering tropical trees. She has also produced a refreshingly original and enterprising person in the author and publisher of this little book, which describes a thousand such trees now growing in his garden at Stuart, where he keeps open house on Sunday afternoons. For many years he has imported seed of unusual and showy trees and shrubs from every tropical country in the world, and now 'The Flowering Tree Man', as he is called, hopes that other residents of Florida, the 'State of Flowers', will follow the example set by his initiative.

The trees are arranged by families in alphabetical sequence, and the common name is given precedence, followed by the Latin name and a short informal description. A few spectacular vines are listed separately at the end of the book, which is illustrated by many small black-and-white photographs and a few full-page plates in 'Kodachrome'. The botanical names are not of importance to the author, though he claims they are correct: "I don't care what you call these trees; my sole interest lies in the beauty they can produce". His enthusiasm is infectious, and the Sunday callers may be envied their unique experience with the author and his book as their guide. N. Y. SANDWITH