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BOOK REVIEWS

Methoden der Organischen Chemie (Houben-Weyl). Band I/1. Vierte, Völlig Neu Gestaltete Auflage. Unter Besonderer Mitwirkung von O. BAYER, Leverkusen, H. MEERWEIN, Marburg, and K. ZIEGLER, Mülheim. Allgemeine Laboratoriumspraxis. Edited by EUGEN MÜLLER, Tübingen. Georg Thieme Verlag, Stuttgart, 1958, xlii + 1049 pp., 18·5 × 26 cm, DM 198 (Subskriptionspreis DM 178.20).

FOR many years Houben-Weyl's *Methoden* was a reliable and much consulted source of guidance and reference for the practising organic chemist. Unfortunately the third edition of the work became sadly outdated and was being relegated to more and more remote shelves of our libraries. It is gratifying that since 1953 a greatly expanded and fully revised fourth edition has been appearing, of which the volume at hand is the most recent instalment.

Under the editorship of Prof. Eugen Müller, with an editorial board composed of Profs. Otto Bayer, Hans Meerwein and Karl Ziegler, eight volumes had been issued before the inception of *Tetrahedron*, dealing with analytical and physical methods, general chemical methods and with parts of the discussions devoted to compounds of nitrogen, of oxygen and of sulphur, selenium and tellurium. Since complete coverage of the literature is neither possible or desirable, the editorial policy adopted is to include only tried, reliable and significant procedures, necessitating critical selection from an abundance of material. This task is being accomplished with the aid of numerous colleagues, active in academic institutions as well as in industrial laboratories, from the files of which hitherto unpublished material has frequently been contributed.

The most recent half-volume is devoted to "General Laboratory Practice", from gram-scale preparative work to operations of pilot-plant size. This is particularly true of manipulations like filtration, pressing of filter cakes, solvent extraction, adsorption, drying, distillation and centrifugation. The specific pieces of equipment referred to are, not surprisingly, of preponderantly German or European manufacture. The second half-volume will cover *inter alia*, micro-preparative methods and vacuum work.

A further distinguishing feature of the present treatise is the inclusion of several chapters dealing essentially with laboratory craft: glasses and their properties; assembly of glass apparatus; the use of ceramics, plastics and metals in the laboratory; cements and glues; general notes on laboratory planning.

Space does not permit reference to all of the subjects covered, but mention will be made of chapters that seemed to have particular interest. A. Lüttringhaus's contribution on "Crystallization" endeavors to present in systematic form the manifold methods and tricks by which chemists have coaxed molecules to arrange themselves in the orderly fashion of a lattice. A unique presentation of the use of inclusion compounds is given by W. Schlenck, and a chapter by F. Cramer and O. Bayer on the use of complexes and molecular compounds will be welcomed by many. G. Hesse has dealt with chromatography and K. Bratzler with gas adsorption. Gas chromatography has advisedly been omitted, until "its development for preparative purposes has been achieved." Ion exchange is treated in an extensive chapter by R. Griessbach and S. Naumann, and the more recently developed redox resins are discussed by A. Manecke. A thorough discussion of extraction and multiplicative distribution in columns or batches is given by O. Jübermann. Electrophoresis in its preparative aspects is described by W. Grassmann and K. Hannig.

Throughout the work, the theoretical principles for each method are clearly set forth to enable the reader intelligently to apply the practical examples to his own problems.

Physical appearance and typography are of a high calibre. Older chemists will welcome the resumption of a great tradition and younger colleagues will surely benefit from becoming acquainted with this thorough and authoritative treatise.

HANS HEYMANN