

BOOK REVIEWS

E. WALDSCHMIDT-LEITZ: **Chemie der Eiweisskörper** (2nd Ed.). Ferdinand Enke, Verlag, Stuttgart 1955. 222 pp., 56s.

THE second edition of the book covers published work up to and including 1955. It follows the same general outline of the first edition whose main object was to introduce German readers to results published in other countries in a corresponding period. The emphasis throughout is again on the chemical rather than the physico-chemical or physiological properties of proteins. In this respect it is without doubt a worthy successor to the old edition and will be welcomed by the many chemists and biochemists who profited from the first edition. The vast amount of material—there are some 1650 references, many multiple—has been authoritatively and clearly reviewed. The numerous references to older work still important in modern development form an especially valuable contribution.

The five chapters in the first half of the book deal with amino acids as units of proteins, peptides, properties and reactions of proteins, hydrolysis of proteins and briefly with some points of protein structure. The rest of the book comprises only one additional chapter which is concerned with a more detailed discussion of the important members of the seven general groups of proteins, namely albumins, globulins, prolamines and glutelins, histones and protamines, sclero-, conjugated and physiologically active proteins. These discussions on individual proteins form valuable summaries not usually found in books of this type. The strict adherence to the chemistry of proteins produces certain anomalies. There is, for example, a detailed account of the chemistry of haemoglobins from different animals but no mention of the rather more interesting variants of human haemoglobin. Presumably this selection arose because at the time of writing differences in human haemoglobin were demonstrated largely by physical and not chemical techniques. However, this sort of thing must always arise where an author is concerned primarily with one particular aspect of a subject. In this case it in no way detracts from the success of the treatment of the main topic of the book.

E. M. SHOOTER

A. M. LOVELACE, W. POSTELNEK and D. A. RAUSCH: **Aliphatic Fluorine Compounds**. American Chemical Monograph Series, Reinhold, New York, 1958. x + 370 pp., £5, \$10.00.

ON the dust cover a very high claim is made, namely "complete coverage of all reported aliphatic fluorine compounds". This claim does not quite coincide with the statement of the authors themselves, who give a more accurate assessment of the book when they write in the Preface "The literature has been extensively reviewed from Moissan's time up to and including the year 1955. . . . However, every published paper on the subject is not included in the bibliographies, nor has every organic fluorine compound prepared been included in the tables. But quite a representative number of the contributions to the subject have been incorporated in the book". The work as a whole must indeed be considered as giving a most useful summary of the literature. The book is concerned with the treatment of the preparation and properties of different classes of aliphatic fluorine compounds. The first chapter describes various fluorination processes that may be employed for the introduction of fluorine into an organic compound. Each succeeding chapter is devoted to a specific class of aliphatic fluorine compounds namely fluoroalkanes, fluoroalkenes and fluoroalkynes, fluoroalcohols, fluoroethers, fluoroaldehydes and fluoroketones, fluorocarboxylic acids, acyl halides and fluoroanhydrides, fluoroesters, fluoronitrogen compounds, fluorometallic and organometalloidal compounds, fluorosulphur compounds.

Each chapter contains extremely useful tables (there are over 60 in all) describing the physical properties of fluorine compounds and giving an array of literature references.

The book is clearly printed and it is a simple matter to obtain quickly information about a

particular compound by reference to its empirical formula. The emphasis throughout is on synthetic methods and physical properties. This large compilation is not entirely free from misprints. In the statement, for example, on p. 37 "treated $\text{CH}_2\text{FCH}_2\text{Cl}$ with PBr_3 at 100° and obtained $\text{CH}_2\text{FCH}_2\text{Br}$," " $\text{CH}_2\text{FCH}_2\text{Cl}$ " should read " $\text{CH}_2\text{FCH}_2\text{OH}$ ".

Although a large range of fluoronation methods is described, these are generally treated in a non-critical manner. This perhaps is not a drawback in a book which attempts to cover so much ground. The presentation is good and conforms to the usual high standards of American Chemical Society monographs.

It should be said that all workers in the fluorine field should possess this most valuable work of reference.

B. C. SAUNDERS

MILOŠ HUDLICKÝ: *Chemie Organických Sloučenin Fluoro*. Československé Akademie Ved., Prague 1958. 360 pp., Kcs 38,50.

THIS interesting book on organic fluorine compounds, written in the Czech language, is published by the Czechoslovakian Academy of Sciences. The reviewer would like to emphasize at the outset that a reader of no particular linguistic ability, but equipped with an inexpensive Czech dictionary will find no difficulty in translating this useful book even though it is written in one of the less known European languages. The author's style is simple and direct. Paragraphs are pleasantly short and the description of almost every chemical reaction is accompanied by an equation, which moreover indicates reagents, conditions and yields obtained. In addition, every equation is accompanied by a number giving reference to the original literature.

In an introduction, the author is at pains to point out that no single writer can cover the "full breadth and depth" of the subject and he therefore draws attention to a number of books on specialised aspects of fluorine chemistry. This list, though very useful, does not go beyond 1954. In general, literature references are complete up to 1956.

Ten chapters cover a wide range of topics in which both aliphatic and aromatic compounds are concerned. To begin with the author deals briefly with the history of fluorine chemistry and with safety measures required in laboratory work. The second chapter deals with the resistance of various materials towards fluorine and hydrogen fluoride. Then follows a chapter on fluorinating agents and one on methods of introducing fluorine into organic compounds. A chapter is devoted to details of the preparation of selected organic fluorine compounds.

A very useful chapter describes the more important reactions of organic fluorine compounds. Such processes as hydrogenation, reductions by sodium, zinc and lithium aluminium hydride, halogenation, nitration and hydrolysis are dealt with.

Physical properties are given in considerable detail, but only passing reference is made to the outstanding physiological properties of certain organic fluorine compounds.

Analytical methods are discussed and the final chapter deals with the practical applications of organic fluorine compounds.

It is usually the practice (quite correctly in the reviewer's opinion) of authors of original communications to place their names in alphabetical order at the head of a paper. Nevertheless this may often mean that the work of a senior author, whose name occurs late in the alphabet, may be difficult to trace in the general literature. To overcome this difficulty Dr. Hudlický has given a subsidiary author index which enables the reader to trace the papers of a senior author when such papers are not immediately obvious in the main bibliography (which gives 806 references).

Every worker in the fluorine field should be in possession of this most useful book.

B. C. SAUNDERS

JOHN C. SHEEHAN (Editor-in-chief): *Organic Syntheses*. Vol. 38. John Wiley, New York, 1958. vii + 120 pp., \$4.00

OVER the course of the years few books have been of more importance to organic chemists throughout the world than the many volumes of *Organic Syntheses*. Not only have these books provided chemists with a large number of tested procedures for the synthesis of generally useful organic compounds,